

RARE AND ENDANGERED VERTEBRATES AND PLANTS OF OKLAHOMA



Prepared by

RARE AND ENDANGERED SPECIES OF OKLAHOMA COMMITTEE

Assisted by

U. S. Department of Agriculture, Soil Conservation Service

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PREFACE

This report has been developed to make the public, as well as public servants charged with land and water management programs, aware of plants and animals that deserve consideration in land use planning in Oklahoma. The list of Oklahoma's rare and endangered vertebrates and plants is designed to augment the United States lists developed by the Office of Endangered Species, U.S. Fish and Wildlife Service, Department of the Interior. The state of knowledge about distribution and populations of some groupings of plant and animal life, for example insects, is not yet advanced enough so that we can develop a listing of those which are endangered.

Most of the plants and vertebrates listed in this report are not threatened throughout their range. However, we hope that representatives of all species now present in Oklahoma can be retained as residents. Consequently, Oklahoma was envisioned as an island and any species whose population was in jeopardy within the state was listed, regardless of the species' status in bordering states. Maps of Oklahoma's Counties and Land Resource Areas mentioned in this report are found on pages **iii** and **iv** for easy reference.

The definitions utilized by the committee as they developed this report are as follows:

Endangered - Any species or subspecies occurring in Oklahoma threatened with extinction through the destruction, drastic modification, or severe curtailment, or the threatened destruction, drastic modification or severe curtailment of its habitat, or its over-utilization for commercial or sporting purposes, or the effect on it of disease or predation, or other natural or man-made factors affecting its continued existence. Continued survival of this species is unlikely without implementation of special protective measures.

Rare-1 - A rare species or subspecies is one that, although not presently threatened with extinction, is in such small numbers that it may be endangered if its environment worsens.

Rare-2 - A species or subspecies that may be quite abundant where it does occur but is known in only a few localities or in a restricted habitat within Oklahoma.

Status Undetermined - A species or subspecies that has been suggested as possibly rare or endangered, but about which there is not enough information to determine its status. More information is needed.

These lists are the first developed for Oklahoma. Some species worthy of listing have undoubtedly been inadvertently left off the list. Publication of this report will undoubtedly stimulate field investigations that will clarify the status of many species. Further studies may indicate that the populations of some species we have listed are not in as precarious a condition as available information suggests. For these reasons the list should be revised within a few years. Persons with data for the revision or questions about this report should write to the State Resource Conservationist, Soil Conservation Service, U.S. Department of Agriculture, USDA Building, Farm Road, Stillwater, Oklahoma 74074.

The authors gratefully acknowledge the Soil Conservation Service for publishing and distributing this report. Fred J. Fortney, State Resource Conservationist, Soil Conservation Service, an active committee member throughout our efforts, made the arrangements for the final editing, typing, and publishing of the report.

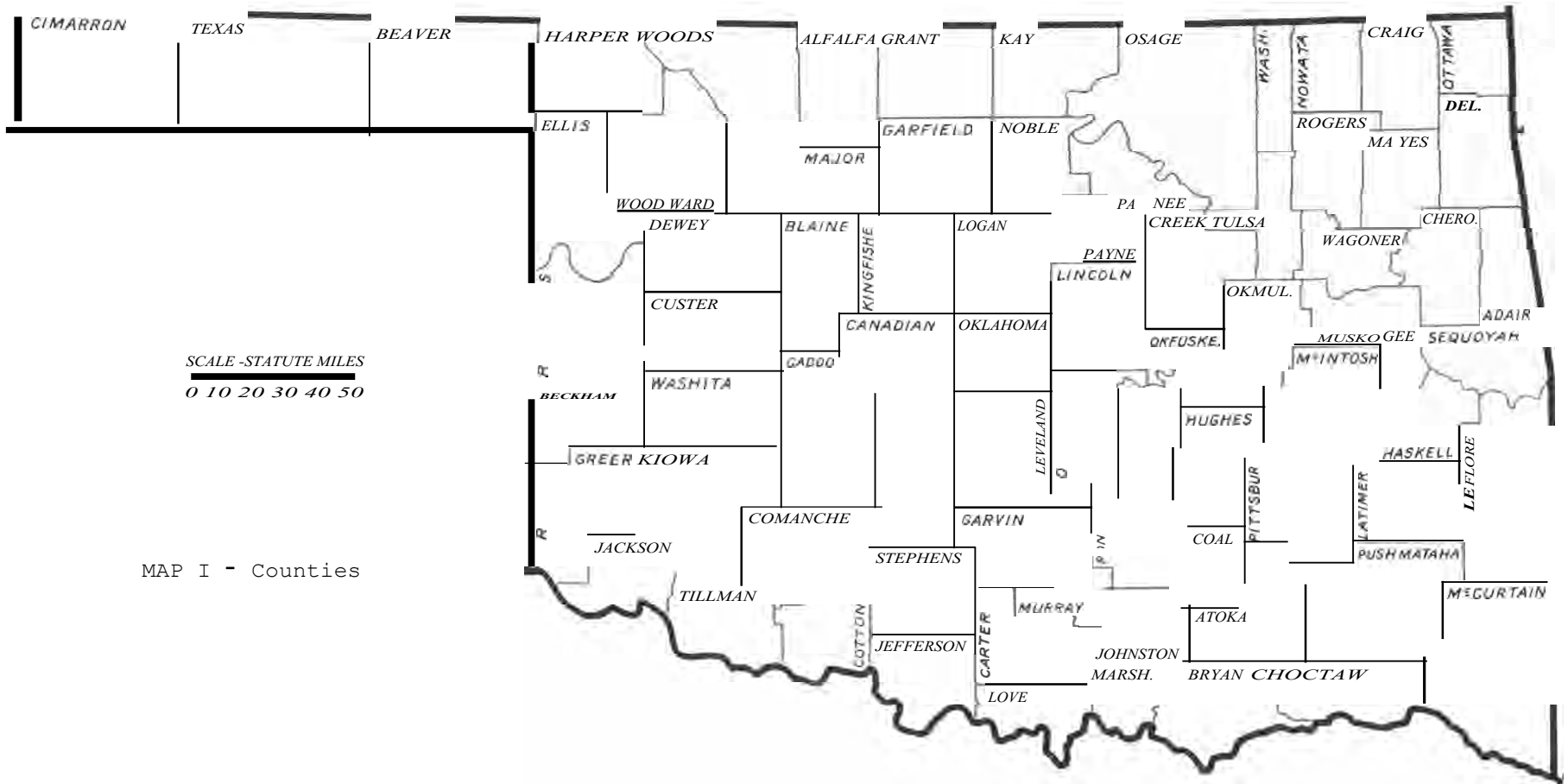
The U.S. Fish and Wildlife Service is acknowledged for providing the cover photograph.

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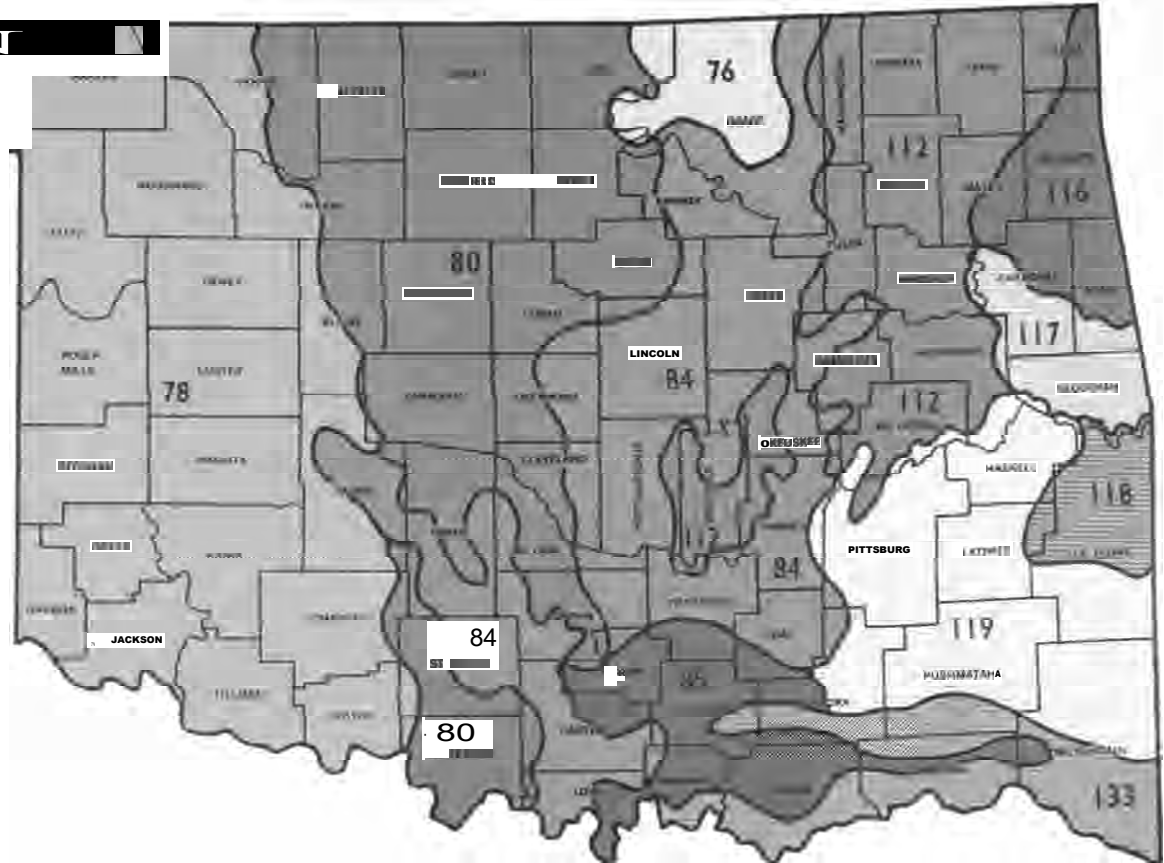
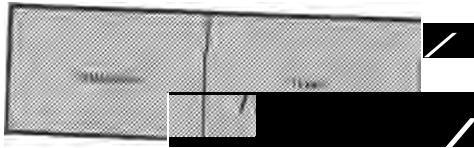
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








OKLAHOMA



MAP I - Counties



LEGEND

- 76—B luestem Hills
-  77—Southern High Plains
-  78—Central Rolling Red Plains
-  80—Central Rolling Red Prairies
-  84—Cross Timbers
-  85—Grand Prairie
-  112—Cherokee Prairies
-  116—Ozark Highland
-  117—Boston Mountains
-  118—Arkansas Valley and Ridges
-  119—Quachita Mountains
-  133—Southern Coastal Plain

**LAND RESOURCE AREAS
IN SOIL CONSERVATION**

OKLAHOMA
U. S. DEPARTMENT OF AGRICULTURE
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STILLWATER, OKLAHOMA



FISHES

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A species may be rare and/or endangered in one geographical area of its range, while relatively common and, apparently, safe in another area. It is the responsibility of the concerned scientist to elucidate the status of locally threatened species and subspecies in order to initiate appropriate legislative action for the protection and perpetuation of these threatened forms. As Miller (1972) pointed out, recognition that a species or subspecies is threatened constitutes a primary step that can lead to the perpetuation of many of them. The abundance of individual species may change, often dramatically, if proper steps are taken. The opposite of this is also possible with continued decline and eventual extinction being the fate of neglected populations.

Factors responsible for diminution of fish faunas as presented by Miller (1972) were pollution (industrial, agricultural, and domestic, including toxic chemicals and pesticides), excessive damming of rivers, deforestation and overgrazing, channelization, excessive removal of ground water, and introduction of exotic species. Certainly many of these factors are at work in Oklahoma, sometimes with disastrous results. Miller's (1972) list acknowledged only three fish species as threatened in Oklahoma. The three, Scaphirhynchus platorynchus (the shovelnose sturgeon), Etheostoma cragini (the Arkansas darter), and Percina pantherina (the leopard darter), were all considered to be rare and endangered.

Fish collections and field notes representing over 20 years of collecting effort housed at Oklahoma State University, University of Oklahoma, and Tulsa University have been examined. We are aware of recent extensive collections made primarily in the Kiamichi basin, but the results of this work were not available to us. When such data are made available, some emendations of the status accorded several species (such as Hiodon tergisus, Carpiodes velifer, Cycleptus elongatus, and Notropis ortenburgeri) may be in order.

Use of scientific names follows Bailey et al. (1970), except that we follow Moore (1957) in retaining the genus Crystallaria rather than Ammocrypta for the crystal darter (C. asprella).

Of a total of 167 species of fishes known from Oklahoma, 34 forms are considered endangered or rare. None of these 34 are included in the current listing of threatened fishes published by the U.S. Fish and Wildlife Service.

Endangered Species

Scaphirhynchus platyrhynchus (Rafinesque) Shovelnose sturgeon

Distribution: Eastern portion of Arkansas and Red rivers including some of their larger tributaries.

The shovelnose sturgeon is an inhabitant of the main rivers, entering the smaller streams in the spring to spawn. Confined primarily to eastern Oklahoma, westward distribution may be limited by dams on these rivers (Miller and Robison 1973). Construction of future dams may further prevent access to necessary spawning areas and bring about decline of this species.

Notropis chalybaeus (Cope) Ironcolor shiner

Distribution: Lower Mountain Fork River.
Ortenburger and Hubbs (1927) in the first report of this species in Oklahoma referred to 10 specimens collected from the Mountain Fork River, 10 miles southeast of Broken Bow, as Notropis nux. Hubbs (personal communication) has re-examined the specimens and concluded that they are N. chalybaeus. We know of no other Oklahoma records. Further drainage of swampy areas in McCurtain County may spell doom for the ironcolor shiner in Oklahoma if indeed it is not gone already.

Etheostoma cragini Gilbert Arkansas darter

Distribution: Neosho River drainage.
The Arkansas darter is confined to an extremely specialized habitat of spring-fed streams containing watercress in the Neosho River drainage in Oklahoma. Completion of Grand Lake destroyed populations of E. cragini occurring in the lake basin.

Etheostoma fusiforme barratti (Holbrook) Scaleyhead darter

Distribution: Little River system.
The scaleyhead darter is one of the rarest of Oklahoma's fishes. Only a handful of specimens are known from the state. Drainage of oxbow lakes in McCurtain County could adversely affect E. fusiforme barratti and conceivably eliminate this species from the state.

Endangered Species Continued

Percina pantherina (Moore and Reeves) Leopard darter

Distribution: Little River system.

Recent collecting in Arkansas and Oklahoma has revealed a much wider distribution of P. pantherina in the Little River system than in the headwaters of the Mountain Fork River, as previously believed (Moore and Reeves 1955). Discovery of additional populations establishes this species more firmly in Oklahoma.

Esox niger Lesueur Chain pickerel

Distribution: Oklahoma.

Known only from Pushmataha County and Lake Texoma. Extremely rare in Oklahoma.

Rare Species R-1.

Alosa alabamae Jordan and Evermann Alabama shad

Distribution: Known only from the Poteau River (Arkansas River system) and the Little River system.

Hutchins and Hall (1951) first reported A. alabamae in Oklahoma from the stilling basin below Wister Dam. Cross and Moore (1952) incorrectly reported young specimens of A. alabamae as Pomolobus (=Alosa) chrysochloris, thus providing evidence that Oklahoma streams are used as spawning areas by this species.

Hiodon tergisus Lesueur Mooneye

Distribution: Little River system.

H. tergisus was first reported from the Little River system by Hall (1956), and is known also from the Kiamichi River. The mooneye seems to prefer larger clear streams and rivers; it appears to have little tolerance for turbid waters. Because it ascends streams to spawn, further damming of these rivers may seriously affect the abundance of this species in Oklahoma.

Hybopsis amblops (Rafinesque) Bigeye chub

Distribution: Confined primarily to the eastern edge of the state in the Arkansas River drainage.

While never collected in great numbers, the bigeye chub is known from localities throughout the eastern Arkansas River drainage in Oklahoma. It has not been collected as often in recent years. Trautman (1957), and Zahuranec (1962) have called attention to dwindling abundance of H. amblops in Ohio, attributable to recent accumulations of silt over stream bottoms that were formerly composed of clean sand or gravel. H. amblops prefers clear streams with moderate gradients in the Ozark Region and should be regarded as rare in Oklahoma.

R-1 Continued

Notropis amnis Hubbs and Greene Pallid shiner

Distribution: Eastern tributaries of the Arkansas River including the Poteau River, Lee's Creek, and the Red River system extending west to Clear Boggy Creek.

Cross and Moore (1952) reported *N. amnis* as a conspicuous member of the Poteau River ichthyofauna. However, the pallid shiner is rarely taken throughout its range in Oklahoma and then only in small numbers. In Missouri *N. amnis* has shown a marked decline in abundance (Pflieger 1971), probably due to increased siltation and turbidity, and may possibly be extirpated from the state.

Notropis atrocaudalis Evermann Blackspot shiner

Distribution: Little River and Red River systems (Gates Creek and some other tributaries).

First reported from Oklahoma by Moore and Cross (1950). *N. atrocaudalis* is known from only a few localities in southeastern Oklahoma, where it may be locally abundant. Destruction or alteration of these sites could precipitate a change from its present rare to an endangered status.

Notropis blennius Girard River shiner

Distribution: Arkansas and Red River systems. This typically large river shiner is seldom taken in Oklahoma waters, although it has been collected from the Arkansas and Red rivers and occasionally is found as a wanderer in larger tributaries of these rivers. Zahuranec (1962) noted increased abundance of *N. blennius* in the Scioto River in Ohio and associated the increase with a decrease in silt and/or other pollutants.

Notropis perpallidus Hubbs and Black Colorless shiner

Distribution: Little River system and Kiamichi River. Snelson and Jenkins (1973) reviewed all past material of *N. perpallidus* from Oklahoma, where it is limited to the lower reaches of tributary streams of the Little River system and the Kiamichi. It should be regarded as rare.

Notropis spilopterus (Cope) Spotfin shiner

Distribution: Known only from the Illinois River. The first specimen of the spotfin shiner from Oklahoma was actually taken in July, 1936 by W. F. Blair and F. A. Blair, although it was then misidentified as *N. whipplei*. Moore collected *N. spilopterus* in 1941. Gibbs (1957) reported on all Oklahoma material of *N. spilopterus*. Subsequent collecting in Oklahoma has revealed few specimens of the spotfin shiner.

R-1 Continued

Noturus eleutherus Jordan

Mountain madtom

Distribution: Little River system.

The mountain madtom was known in Oklahoma only from the Mountain Fork River until Adams (personal communication) discovered an additional population in the Little River proper. These populations constitute the western edge of its known range.

Amblyopsis rosae (Eigenmann)

Ozark cavefish

Distribution: Cave streams in northeastern Oklahoma.

Amblyopsis rosae is the most recent addition to the Oklahoma ichthyofauna (Black 1971, Tafanelli and Russell 1972). Only 23 specimens are known from the state (1-OSUMZ 7105, 1-OSUMZ 7106, 20-OSUMZ 7271, and 1 uncatalogued specimen) and all are from its northeastern corner.

Typhlichthys subterraneus Girard

Southern cavefish

Distribution: Cave Spring near Peoria, Ottawa County. Hall (1956) first reported the southern cavefish from Oklahoma on the basis of one specimen (KU 3210) taken from Cave Spring in Ottawa County. This single specimen was later used by Woods and Inger (1957) as the lone Oklahoma record of this species in their study of the Amblyopsidae. Subsequent collecting has yielded only a handful of specimens from the state.

Crystallaria asprella (Jordan)

Crystal darter

Distribution: Little River system.

Only two specimens of the crystal darter were known from Oklahoma prior to the recent collection of 27 specimens in the Little River by Adams (personal communication). Even with the discovery of the new specimens, C. asprella must be regarded as rare in Oklahoma. The crystal darter is extremely sensitive to siltation and pollution, and continued damming of the tributaries of the Little River system could place this species on the endangered list. C. asprella has already been extirpated from much of its range in eastern United States (Ramsey et al. 1972).

Etheostoma parvipinne Gilbert and Swain

Goldstripe darter

Distribution: Southeastern Oklahoma.

The goldstripe darter is known only from Gates Creek in Choctaw County and the Mountain Fork River in McCurtain County; it is not abundant in either location.

R-1 Continued

Percina maculata (Girard) Blackside darter

Distribution: Eastern Oklahoma.

A fish of deep riffles, P. maculata is nowhere abundant in collections. Blair (1959) reported it from only two locations in northeastern Oklahoma.

Percina nasuta (Bailey) Longnose darter

Distribution: Known only from the Poteau River and Lee's Creek (Arkansas River drainage).

The longnose darter is quite rare in Oklahoma. Its close relative P. phoxocephala, is much more common. While we currently regard P. nasuta as rare in Oklahoma, its status may be changed to endangered in the near future. Warren Adams (personal communication) reports that attempts to collect this species in Lee's Creek were fruitless after large-scale spraying of pesticides in the area caused a huge fish kill there. However, more recent collecting by one of us (R.J.M.) has yielded three specimens of P. nasuta from Lee's Creek.

Rare Species R-2

Carpiodes velifer Rafinesque Highfin carpsucker

Distribution: Of sporadic occurrence in larger streams of the Arkansas River system (Neosho, Poteau, and Illinois rivers) and the Red River system.

The highfin carpsucker is usually found in larger streams or the main channel of large rivers; however, it is uncommon to find great numbers anywhere. Branson (1967) reported that it was abundant in Ft. Gibson Reservoir, but did not occur in any of the other reservoirs of the Neosho drainage.

Cycleptus elongatus Lesueur Blue sucker

Distribution: Lake Texoma and Grand Lake

The blue sucker is an inhabitant of deep, swift channels in large rivers. Moore and Cross (1950) presented the first Oklahoma records of Cycleptus elongatus from Lake Texoma shortly after its impoundment. Young Cycleptus have also been collected by Gordon Hall from Grand Lake. Riggs and Bonn (1959) reported the blue sucker as rare from Lake Texoma and only slightly more common in the tailwaters. Pflieger (1971) reported the blue sucker as less abundant in neighboring Missouri in 1971 than in the early 1900's. Construction of impoundments which result in decreased current velocity and increased siltation is unfavorable to C. elongatus. A decline

in *C. elongatus* was noted by Coker (1930) in the upper Mississippi River following construction of a dam in Iowa. It is taken occasionally from the service generator tubes of Denison Dam. We regard the blue sucker as rare in Oklahoma.

Moxostoma macrolepidotum

pisolabrum Trautman and Martin Pealip redhorse

Distribution: Clear eastern tributaries of the Arkansas River system; one record from the Red River system.

The pealip redhorse is generally confined to clear, continuously flowing, eastern tributaries of the Arkansas River system, although it is known in areas west of the Ozark Region. One recent record comes from Lake Texoma (Red River system) (Riggs and Moore 1963).

Notropis camurus (Jordan and Meek) Bluntnose shiner

Distribution: Northeastern corner of the state (Neosho and Illinois River drainages, Greenleaf Creek, and Bayou Monard); several records extend its range to Kay County.

It has been taken primarily in the Illinois and Neosho River drainages of eastern Oklahoma with several records west to Kay County.

Notropis maculatus (Hay) Taillight shiner

Distribution: Little River drainage.

The taillight shiner, though uncommon, has been found in oxbow lakes and backwater areas in McCurtain County. Warren Adams (personal communication) reports that at least one oxbow lake in McCurtain County has been drained in order to use its bed for raising cotton. Further drainage of backwater areas in McCurtain County could eliminate *N. maculatus* from Oklahoma.

Notropis ortenburgeri Hubbs Kiamichi shiner

Distribution: Kiamichi River, Little River system, and Poteau River of the Arkansas River system. Also reported from the Verdigris and the Illinois River drainage (Spavinaw Creek).

Disjunct populations of this species make interpretation of its distribution and status difficult. Specimens from the Verdigris River (Wallen 1958) could be bait releases because, since first reported, *N. ortenburgeri* has not been collected there. Generally, *N. ortenburgeri* is confined to the southeast corner of the state where it inhabits the Kiamichi, Little River system and the Poteau River (Arkansas River drainage).

R-2 Continued

Noturus placidus Taylor

Neosho madtom

Distribution: Neosho River drainage and lower Illinois River. The Neosho madtom, first described by Taylor (1969), is the only member of the furiosus species group found west of the Mississippi River. It occurs as an endemic species in the main channels of the Neosho and Illinois rivers.

Ictalurus nebulosus (Lesueur)

Brown bullhead

Distribution: Kiamichi River and Little River system. Meek (1896) first reported Ameiurus (=Ictalurus) nebulosus from Oklahoma in the Kiamichi River. Hall (1956) later reported specimens from the Little River system. Except for Meek's (1896) record, McCurtain County is the only area where this species has been taken in the state. While I. nebulosus in Oklahoma should be treated as rare, considerable stocking in stripmine lakes, oxbows, and river cutoffs in Arkansas, Missouri, and Kansas may result in the appearance of I. nebulosus in other areas of the state.

Fundulus sciadicus Cope

Plains topminnow

Distribution: Neosho and Illinois River drainages. Hubbs and Ortenburger (1929) first reported the plains topminnow from Oklahoma. It was not reported again until Branson (1967) described three collections from the Neosho River drainage. We have discovered a population of F. sciadicus in Cloud Creek, a tributary of the Illinois River.

Morone mississippiensis Jordan and Eigenmann

Yellow bass

Distribution: Eastern and southeastern portions of Oklahoma in a few lakes in Wagoner, Muskogee, and McCurtain Counties.

Information regarding the yellow bass in Oklahoma is scarce. Apparently M. mississippiensis is a lake species and continued damming of streams could conceivably contribute to an increase in its abundance in Oklahoma.

Etheostoma microperca Jordan and Gilbert

Least darter

Distribution: Eastern Arkansas River drainage and Blue River of Red River system.

The least darter occurs in a habitat similar to that of E. cragini, i.e. clear, spring-fed streams with dense vegetation at the edges of pools or backwater areas. E. microperca may not be able to compete successfully with the more common E. proeliare. Cross and Moore (1952) found E. microperca to be supplanted by E. proeliare in the Poteau River.

Status Undetermined

Hiodon alosoides (Rafinesque)

Goldeye

Distribution: Arkansas and Red River systems in eastern Oklahoma; occurs as far west as Fort Cobb Reservoir (Washita River).

During its first ten years of impoundment Lake Texoma supported an abundant population of the goldeye (Riggs and Bonn 1959). Although H. alosoides apparently experienced a decline in abundance in past years (Carl Riggs, personal communication), it has been taken regularly, though in small numbers, in recent years (Loren Hill, personal communication). Records elsewhere in the state are few.

Hybopsis gracilis (Richardson)

Flathead chub

Distribution: South Canadian and western Cimarron Rivers. This uncommon large river minnow has been collected in Oklahoma only from the South Canadian and western Cimarron Rivers. Found primarily in turbid mainstreams of these rivers, H. gracilis will probably not be greatly affected by increased siltation and other factors increasing the turbidity of the plains streams. In future years the flathead minnow may actually increase in abundance. The present scarcity of collections of H. gracilis may be a reflection of improper sampling methods.

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MAMMALS, REPTILES, AND AMPHIBIANS

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Endangered Species

Mammals:

Myotis grisescens

Gray myotis

Found in the limestone cave region of Delaware and Adair Counties, possibly also in Cherokee, Mayes, and Sequoyah Counties. The species is gregarious, nursery colonies are usually large, and when accessible they incur considerable disturbance from humans. They apparently gather into a relatively few, very large, hibernating groups in Missouri, Arkansas, and Oklahoma, and these are particularly vulnerable to human disturbance.

Myotis sodalis

Indiana myotis

This species is on the endangered list of the U.S. Department of the Interior. Oklahoma is on ~~the~~ the extreme edge of its range, which lies mainly in the north central and northeastern states. Ninety percent of the population hibernates in only four caves in Kentucky, making the species extremely vulnerable to disturbance and vandalism. The species has been taken once in Adair County and once in LeFlore County.

Sylvilagus aquaticus

Swamp rabbit

Occurs in approximately the eastern half of Oklahoma. The species is adapted to living in river bottom habitat where it hides in dense thickets and under flood debris, often resting on stumps and fallen logs. Stream channelization and clearing of bottomland for agriculture, pecan orchards, etc. have greatly reduced its habitat.

Mustela nigripes

Black-footed ferret

This species is on the list of rare and endangered species published by the U.S. Department of the Interior. It is known to have occurred in Cimarron, Cleveland, Texas, and Woods Counties in the past. Its distribution is linked to its principal food, the prairie dog. The species probably has been rare throughout historic time. Intensive prairie dog poisoning is its greatest threat. Recent intensive surveys for this species have failed to document its presence in Oklahoma and it is probably extinct here.

Endangered Species Continued

Lutra canadensis

River otter

This species has long been thought extinct in Oklahoma. The first specimen reported in many years was captured accidentally in February 1975 along the Arkansas River near Spiro, Oklahoma, LeFlore County.

Felis concolor

Cougar

Occurs sparingly throughout the state. Occasional sightings attest to its continued presence. Instances are known from Cimarron, Major, Noble, Logan, and Okfuskee Counties, and there are reports indicating the species still survives in the Ozark and Ouachita Mountains. The most recent specimen in Oklahoma was found along the shores of Lake Eufaula, McIntosh County in 1968.

Reptiles:

Alligator mississippiensis

American alligator

The natural range of the alligator in Oklahoma includes only the Red River and Little River drainages in the southeast. The alligator is listed as threatened in the Red Book. They are protected by law in Oklahoma. Human disturbance is probably the main cause of low numbers. Stream channelization and swamp drainage could be a major factor in further reduction of numbers.

Rare Species R-1

Mammals:

Notiosorex crawfordi

Desert shrew

Known from west and southwest of a line drawn from Harper County to Pushmataha County. Very rare. Usually identified from skulls found in owl pellets. Probably commensal with wood rats. Known positively from Cimarron, Comanche, Harmon, Pushmataha, and Woodward Counties.

Plecotus townsendi ingens

Townsend's big-eared bat

The eastern race undoubtedly will be placed on the rare and endangered list and rated "rare". It occurs in scattered areas in Oklahoma, Arkansas, Missouri, Kentucky, West Virginia, and Virginia. It lives only in damp limestone caves, and is easily disturbed by spelunkers. Most caves in California have been abandoned by this species because of human disturbance. Cave Springs Cave in Adair County is the only Oklahoma locality now known for the subspecies ingens. The western race pallidus occurs widely but in small numbers from caves in western Oklahoma.

R-1 Continued

Microtus ochrogaster

Prairie vole

Formerly occurred over the northwest quarter of the state. This vole has been largely displaced by northward expansion of the range of its competitor, the cotton rat, and is now extremely rare. When drouth reduces cotton rat numbers, the prairie vole may sporadically increase in numbers.

Reptiles:

Cemophora coccinea

Scarlet snake

A burrowing snake probably commoner than the records would indicate. Known from Creek, Delaware, Logan, Okmulgee, Payne, Pittsburg, Seminole, and Tulsa Counties. Probably confined to uncut woodland areas.

Amphibians:

Ambystoma annulatum

Ringed salamander

Known in Oklahoma only from Adair County. Entire range lies in Ozark region, where it is regarded as quite rare. It breeds in fall and this may explain its rarity in collections.

Hemidactylium scutatum

Four-toed salamander

This species lives only in and around spagnum bogs, and is primarily a northern species. It does occur in relict bogs in Missouri and Arkansas, and was recently discovered in eastern McCurtain County. Flooding or drainage would eliminate it from the state faunal list.

Eurycea tynnerensis

Oklahoma dwarf salamander

Occurs only in Delaware, Cherokee, and Adair Counties, in cold spring-fed streams with rubbly chert bottoms. Abundant in suitable habitat. Endangered by deforestation or other practices that increase siltation because they live in interstices between rubble.

Rare Species R-2

Mammals:

Plecotus rafinesquei

Eastern big-eared bat

Occurs throughout the Southeast, from extreme eastern Oklahoma eastward. Known only from localities in McCurtain and LeFlore Counties. The species regularly inhabits old abandoned buildings whose removal may destroy significant habitat.

R-2 Continued

Myotis austroriparius

Southeastern myotis

Known in Oklahoma only from the Little River drainage in McCurtain County, where it has been seen only while in flight low over water. Its diurnal habits are unknown. Oklahoma lies on the extreme edge of its range.

Myotis lucifugus

Little brown myotis

One of the more abundant and widespread species in the northeast and far west, this species has become strongly adapted to rearing its young in buildings. Consequent persecution and successful attempts at exclusion endanger its numbers. It is known in Oklahoma only from Beaver's Bend State Park.

Bassariscus astutus

Ringtail

This species occurs sparingly but regularly along the southern boundary of Oklahoma from the Arbuckle Mountains westward. Occasional examples from other parts may be escapees. Examples are known from Pontotoc and Kay Counties. It is not known from the Wichita Mountains but probably occurs there.

Conepatus leuconotus

Hog-nosed skunk

This species is found in Colorado adjacent to Oklahoma in the pinon-juniper habitat type. It probably occurs sparingly in the canyon region adjoining the Cimarron River in northwestern Cimarron County.

Vulpes velox

Swift fox

Occurs in Oklahoma throughout the Panhandle in the high plains. Once nearly exterminated by measures used in control of coyotes, it is now making a good comeback. Feeds on kangaroo rats and other small rodents. Agriculture is not as much a deterrent as poisoning or trapping.

Citellus variegatus

Rock squirrel

Occurs only in Cimarron Canyons of the Panhandle. Rock-loving, it is restricted in Oklahoma by habitat limitations. It is fairly common where environment is suitable.

Cynomys ludovicianus

Prairie dog

Distributed over western half of state and Panhandle. Subject to vigorous control measures such as gassing and poisoning. It is adapted to grassland and return of agricultural land to pasture favors the species.

R-2 Continued

Reithrodontomys humulis

Eastern harvest mouse

This species of the southeastern United States is known to occur at Fort Smith, Arkansas, and was taken once at Robbers Cave State Park. It inhabits grassy and marshy areas. Oklahoma lies on the extreme edge of its range. Recently discovered on the Inola Atomic Power site in Rogers County.

Ochrotomys nuttalli

Golden mouse

This is a southeastern species, found in bottomland and dense thickets. Oklahoma lies on the western edge of its range. It is semi-arboreal, nesting above ground in brush, briars and vines. It is known from McCurtain County, and in Arkansas it has been reported from near Siloam Springs. New forest culture methods may restrict the habitat of this species.

Dipodomys elator

Texas kangaroo rat

Found only along Red River Valley between Clay and Hardeman Counties, Texas. It was originally discovered at Chattanooga, Comanche County, but has not been seen since in Oklahoma. It lives in mesquite and prickly pear habitat on hard clay soils. Brush clearance may affect its numbers. In Oklahoma it should be considered rare or endangered.

Oryzomys palustris

Rice rat

Known in Oklahoma only from the Red River Valley between McCurtain and Marshall Counties. It inhabits marshy and reedy areas where it makes its nest in vegetation. It is known from western Arkansas and southeastern Kansas. It is listed because of its limited distribution in the state.

Zapus hudsonius

Meadow jumping mouse

Known in Oklahoma only from one record in Mohawk Park, Tulsa. The species is a grassland form usually found north of Oklahoma. It hibernates in winter, and this may account for its seeming rarity.

Odocoileus hemionius

Mule deer

The mule deer is restricted in its distribution in Oklahoma by lack of suitable habitat. It occurs only in the canyons of the Cimarron River in the Panhandle where rough terrain and foods similar to those of the Rocky Mountain foothills occur.

Chrysemys picta dorsalis

Southern painted turtle

Occurs only in creeks and bayous of southern McCurtain County tributary to the Red River. The records are the westernmost for the subspecies dorsalis.

R-2 Continued

Reptiles:

Chrysemys picta belli

Western painted turtle

Occurs along the southern border of Kansas. Reported from Beaver County, Oklahoma, but no actual specimens known.

Graptemys kohni

Mississippi map turtle

Known from regions adjoining the Arkansas border except for one record from Creek County. Oklahoma lies on the western limit of range.

Graptemys geographica

Map turtle

Known only from one collection made in Delaware County. Probably will be found to have a much wider distribution in the Ozark region. May be confined to the Arkansas River drainage.

Cnemidophorus tessellatus

Checkered whiptail

Confined to the rocky canyons of northwestern Cimarron County where the species is not rare. Oklahoma lies on the eastern limit of its range. This species consists largely if not entirely of parthenogenetic females.

Phrynosoma modestum

Round-tailed horned lizard

Known from a single capture near Lake Etling in Cimarron County. Known from nearby localities in Texas, New Mexico, and Colorado. Oklahoma distribution undoubtedly restricted by limitations of habitat.

Sceloporus undulatus erythrocheilus

Red-chinned fence lizard

Found only in the canyons of northwestern Cimarron County. Eastward range limited by lack of suitable habitat.

Uta stansburiana

Side-blotched lizard

Found only in Harmon County. Occurs widely in Texas south of the Red River. Species is probably a recent immigrant into Oklahoma and probably will spread.

Farancia abacura

Mud snake

Known only from the floodplain of the Red and Mountain Fork Rivers in southern McCurtain County. A southeastern snake that reaches its western limit of range in Oklahoma. Range coincides with that of its principal food the salamander, Amphiuma.

Hypsiglena ochrorhyncha

Night snake

Occurs in southern half of Oklahoma from Pontotoc County westward. It is nocturnal which probably accounts for its rarity in collections.

R-2 Continued

Storeria occipitomaculata Northern red-bellied snake

This woodland species occurs only along the eastern border of Oklahoma. It is rare except in the northeast. It is included in this list because Oklahoma is on the margin of its range.

Virginia valeriae Smooth earth snake

Known from the eastern half of Oklahoma, but uncommon. More abundant in states to the east.

Amphibians:

Amphiuma means Amphiuma

An aquatic species that occurs only in the sloughs and bayous of the Red River Valley in McCurtain County. Abundant in southern swamps. Listed here because Oklahoma is on the extreme edge of the range.

Ambystoma talpoideum Mole salamander

In Oklahoma known only from southeastern McCurtain County. Breeds in early spring, and adults live underground in crayfish burrows, etc. It has been collected only once in Oklahoma, near Idabel. Its occurrence is spotty, but it is more abundant in Louisiana and eastward. Listed here because Oklahoma is on the extreme edge of the range.

Plethodon ouachitae Rich Mountain salamander

Known only from Rich Mountain and adjacent ridges in Oklahoma and Arkansas as far east as Mt. Ida. Not uncommon in suitable habitat, but regarded as rare due to restricted range confined to wooded areas near tops of ridges, where it lives in deep crevices, appearing in rotten wood and other debris only in spring.

Typhlotriton spelaeus Ozark blind salamander

Found as larvae in caves or spring-fed streams. Adults are colorless and live strictly in cave waters. Found occasionally in underground streams. Actual abundance unknown, but restricted habitat renders it vulnerable. In Oklahoma adults have been seen in only a few caves in Delaware, Adair, and Mayes Counties. Has a wider distribution in Ozarks of Missouri and Arkansas.

Manculus quadridigitatus Dwarf four-toed salamander

This is a species of the swampy flatwoods of the deep south. It barely enters Oklahoma in southeastern McCurtain County. Listed here because Oklahoma is on the extreme edge of its range.

R-2 Continued

Siren intermedia

Dwarf siren

This salamander is native to the Gulf Coast and Mississippi Valley. It occurs in Oklahoma from Atoka to McCurtain Counties. It is completely aquatic, and nocturnal. In shallow lakes and ponds it may be quite abundant, but is not often encountered. It is listed here because Oklahoma lies on the extreme edge of its range.

Bufo debilis

Green toad

This toad occurs in the western third of Oklahoma, but is uncommon. Little is known of its habits in the state. Habitat is grassy mesquite flats. It breeds in temporary pools of water.

Scaphiopus hurteri

Hurter's spadefoot

A rare spadefoot toad that apparently emerges from underground to breed only after extremely violent rains. It occurs over the eastern half of the state, but is rare in collections.

Hyla cinerea

Green tree frog

This is a frog of the southern marshes. It abounds in cattails in Texas, but in Oklahoma occurs only in the Red River Valley of Bryan, Choctaw, and McCurtain Counties.

Rana areolata

Gopher frog

A seemingly rare species that habitually lives underground, often in crayfish burrows, and is rarely seen. It is known from Osage County and from the tier of counties bordering Arkansas. Listed because of its apparent rarity and because Oklahoma lies on the western limit of its range.

Rana palustris

Pickerel frog

A common frog of the east and northeast, reaching its western limit of range along the Arkansas border in eastern Oklahoma.

Status Undetermined

Mammals:

Sorex longirostris

Southeastern shrew

May occur along Arkansas border in Ozark region. Known from near Rogers, Arkansas. Ranges east to Atlantic from District of Columbia to Florida. Prefers moist areas. Oklahoma would be on the extreme edge of its range.

Status Undetermined Continued

Lasiurus seminolus

Seminole bat

Range barely enters Oklahoma in McCurtain County. Species is typically found in southern forests. Oklahoma lies on the extreme edge of its range.

Reptiles:

Regina rigida

Glossy water snake

This snake is known from Latimer, McCurtain, Pittsburg, and Pushmataha Counties. It occurs along boggy streams and lakes. It is very shy and secretive, and is rarely found away from water. Stream channelization and drainage of wet lands will undoubtedly be detrimental to this rare species.

BIRDS

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Birds known solely as migrants, accidental visitors, or rarely ever seen in Oklahoma are excluded from the list. The list contains only the names of birds known to nest or winter in Oklahoma. Man, through his land management, can eliminate them or ensure that viable populations remain within our state boundaries.

The author acknowledges the editorial assistance and suggestions of John S. Barclay, Assistant Professor, Oklahoma State University; Jack D. Tyler, Assistant Professor, Cameron State College, and George M. Sutton, Professor Emeritus, University of Oklahoma. The common and scientific names are from the American Ornithologists' Union Check-List of North American Birds.

Endangered Species

The falcons, eagle, and woodpecker are in the federal list of threatened birds of the United States (Office of Endangered Species and International Activities 1973).

Falco mexicanus

Prairie falcon

Nests in Cimarron County on mesa cliffs. May have formerly nested in other mountains of western Oklahoma.

Falco peregrinus

Peregrine falcon

An uncommon winter visitor. Seen occasionally in Alfalfa, Cleveland, Payne, and Oklahoma Counties.

Elanoides forficatus

Swallow-tailed kite

Formerly nested in wooded areas as far west as Woodward and Caddo Counties (Sutton 1974). The most recent sight record was during September 1970.

Dendrocopos borealis

Red-cockaded woodpecker

Nests in pinelands of southeastern Oklahoma. Feeds almost entirely in shortleaf pines (*Pinus echinata*) and nests in diseased pines (Sutton 1967).

Endangered Species Continued

Haliaeetus leucocephalus leucocephalus Southern bald eagle

The last reported nesting attempt was in 1950 in Wagoner County (Sutton 1974). Eagles that nested here are presumed to have been the southern race. The number of the southern race that may still winter in Oklahoma is unknown, but is presumed to be small.

Anhinga anhinga Anhinga

Known to have nested in McCurtain and Sequoyah Counties (Sutton 1974).

Rare Species R-1

Aquila chrysaetos Golden eagle

Small numbers nest on Black Mesa, Cimarron County and the Wichita Mountains, Comanche County. Small numbers winter over central and western Oklahoma.

Auriparus flaviceps Verdin

Resident in mesquite (Prosopis juliflora) woodland along Sandy Creek in Jackson County.

Rare Species R-2

Charadrius montanus Mountain plover

Recent nesting records restricted to Cimarron County but nested over a larger area of western Oklahoma in the 1800's (Nice 1931).

Numenius americanus Long-billed curlew

Nests in Cimarron and Texas Counties, formerly nested over a wider area of northwestern Oklahoma (Sutton 1974). Nests in short grass prairie and sagebrush pastureland.

Asyndesmus lewis Lewis's woodpecker

Nests in large cottonwoods (Populus deltoides) along streams in Cimarron County (Sutton 1967).

Tyrannus vociferans Cassin's kingbird

Nests only in Cimarron County (Sutton 1967) in cottonwoods along the Cimarron River.

Sayornis saya Say's phoebe

Nest records only from Cimarron County.

R-2 Continued

- Aphelocoma coerulescens Scrub jay
Resident on Black Mesa of Cimarron County. Lives in oaks (Quercus spp.), junipers (Juniperus spp.), and pinyon pine (Pinus edulis) on sides and tops of mesas.
- Pica pica Black-billed magpie
Resident in floodplain woods of the western Panhandle (Sutton 1967) nesting in hackberry (Celtis occidentalis), willow (Salix nigra), cottonwood or walnut (Juglans nigra).
- Corvus corax Common raven
Resident on Black Mesa, Cimarron County. Nests in cliffs or bluffs in contrast to windmill nest sites of the white-necked raven (C. cryptoleucus).
- Gymnorhinus cyanocephalus Pinyon jay
Resident in Black Mesa country among pinyons, junipers, and oaks on sides and tops of mesas.
- Parus gambeli Mountain chickadee
Winters in Black Mesa country and in cottonwoods and hackberries along the Cimarron River.
- Parus inornatus Plain titmouse
Resident in Black Mesa country among pinyons, junipers, and oaks on sides and tops of mesas.
- Psaltriparus minimus Common bushtit
Black Mesa country resident of scrubby oak thickets, pinyon pines and junipers on sides and tops of mesas.
- Sitta pygmaea Pygmy nuthatch
Black Mesa country winter resident. May nest along the Cimarron River.
- Toxostoma curvirostre Curve-billed thrasher
Inhabits low-lying pastureland and oak thickets of Black Mesa country. Nests exclusively in large clumps of arborescent cholla cactus (Opuntia imbricata) (Sutton 1967).
- Oreoscoptes montanus Sage thrasher
Nests in Black Mesa country.
- fuscus Brown towhee
Resident of Black Mesa. Nests in cholla cactus, juniper or pinyon pine.

R-2 Continued

Amphispiza bilineata

Black-throated sparrow

Found in Black Mesa country living in pastureland containing scattered mesquite, yucca (Yucca glauca), cholla, and prickly-pear (Opuntia sp.).

Junco caniceps

Gray-headed junco

Winter resident along wooded parts of large streams in the western Panhandle (Sutton 1967).

Grus canadensis

Sandhill crane

Winters in southern Jackson County and occasionally at the Washita National Wildlife Refuge, Cotton County. The wintering population is sometimes 3,000 to 4,000 birds. Changes in riverine habitat could result in the birds discontinuing wintering in Oklahoma.

Centurus aurifrons

Golden-fronted woodpecker

Nests found in Harmon and Greer Counties. Inhabits cottonwoods, elms (Ulmus spp.), hackberries, and willows along streams (Sutton 1967).

Porphyryula martinica

Purple gallinule

Known to nest in Bryan County, observed in several other counties in eastern and central Oklahoma.

Status Undetermined

Sterna albifrons

Least tern

Some nesting records almost statewide. Recent observations suggest populations may be declining rapidly. Nests on salt plains, sand bars, riverbeds and barren shores of large impoundments (Sutton 1967).

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TREES, SHRUBS, VINES, AND OTHER WOODY PLANTS

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The authors have accepted the scientific terminology used by Williams (1974. Atlas of woody plants of Oklahoma. Oklahoma Biological Survey) whenever there was disagreement among some authorities.

Rare Species R-1

Trees:

Cladrastis lutea Yellow wood

This tree is said to be one of America's rarest and most beautiful trees. It occurs in northeast Oklahoma.

Cotinus obovatus Smoke tree

A tree to 30 feet tall, most often a straggling shrub. This tree occurs on rocky hillsides in eastern Oklahoma.

Magnolia tripetala Umbrella tree

In Oklahoma the umbrella tree occurs in McCurtain County near Smithville according to one reference, another reference says it occurs in LeFlore County.

Fraxinus quadrangulata Blue ash

A tree to 60 feet tall occurring in northeast Oklahoma on limestone bluffs and occasionally descending into adjacent bottomlands.

R-1 Continued

Shrubs:

Castanea pumila

Chinquapin

A thicket-forming shrub or tree known to occur in Choctaw and McCurtain Counties, reported from LeFlore County.

Rare Species R-2

Trees:

Aralia spinosa

Hercules club (Devils walkingstick)

A shrub to 35-foot tree which occurs on moist, deep soil. Known to occur in McCurtain County. Reported from Choctaw County.

Carya aquatica

Water hickory

A water-loving tree to 100 feet tall occurring in the Kiamichi and Little River valleys in southeast Oklahoma.

Carya myristicaeformis

Nutmeg hickory

This tree is found, in Oklahoma, only on the flood plains and swamp bottoms of Red River in McCurtain and Choctaw Counties.

Chionanthus virginicus

Fringe tree

A shrub or small tree occurring in eastern Oklahoma.

Hamamelis macrophylla (virginiana)

Witchhazel

A small tree or shrub found in eastern Oklahoma.

Fagus grandifolia

American beech

Said by some to be one of the most beautiful of all trees, summer or winter. The beech occurs from Page, Oklahoma south into the upper branches of the Mountain Fork River.

Ilex opaca

American holly

This tree occurs in southeast Oklahoma on moist sites.

Juniperus monosperma

One-seeded juniper

This tree seldom attains a height of over 15 feet in this state. Its habitat in Oklahoma is restricted to the rough, broken country of western Cimarron County.

Juniperus scopulorum

Rocky Mountain redcedar

Found singly on dry ridges at higher elevations in Cimarron County.

R-2 Continued

Magnolia acuminata

Cucumber tree

Occurs singly among other hardwood trees on the cooler north slopes and coves of Rich and Kiamichi Mountains in southeast Oklahoma.

Pinus edulis

Pinyon pine (Nut pine)

In Oklahoma found only in the western part of Cimarron County on warm slopes or in sheltered locations.

Pinus ponderosa

Ponderosa pine

A large and valuable lumber tree in the southwest and parts of the Pacific northwest. Ponderosa pine occurs in Oklahoma in the extreme west end of Cimarron County.

Planera aquatica

Water elm (Planer tree)

This tree is found in wet flood plains of the larger streams in eastern Oklahoma.

Quercus incana

Bluejack oak

Shrub or tree to 35 feet tall with stout crooked branches. Known to occur in McCurtain and Choctaw Counties. Usually found on dry sandy soils.

Quercus sinuata

Bastard oak

A shrub or small tree of the Arbuckle Mountains.

Quercus virginiana

Live oak

Occurs as a small tree on the slopes of the Wichita Mountains in Kiowa, Greer, and Comanche Counties. The wood of this tree is heavy and strong and at one time was used for structural timbers in sailing ships.

Taxodium distichum

Bald cypress

Bald cypress in Oklahoma is confined to bottomlands of streams tributary to the Red River in southeast Oklahoma. The largest tree in Oklahoma is a bald cypress growing 7 miles east of Broken Bow. It measures 31-1/2 feet in circumference, has a 95-foot crown spread and is 114 feet tall.

Ulmus serotina

Red elm (Black elm)

A large tree reaching 2 to 3 feet in diameter and attaining a height of 70 feet. This tree is found in eastern Oklahoma.

R-2 Continued

Shrubs:

Aesculus pavia

Red buckeye

An attractive flowering shrub occurring mostly along streams in LeFlore and McCurtain Counties.

Alnus maritima

Seaside alder

This alder occurs on streambanks in Johnston and Pontotoc Counties. Known only to occur elsewhere in a far remote locality, namely southern Delaware and eastern Maryland.

Alnus rugosa (Serrulata)

Hazel alder

This shrub occurs along moist streambanks in southeast Oklahoma.

Amorpha glabra

Mountain-indigo

Stout shrub 3-6 feet tall with parts glabrous or sparingly pubescent. Occurs on moist riverbanks or prairies in southeast Oklahoma.

Cercocarpus montanus

True mountainmahogany

A western shrub to 12 feet tall with spreading or upright branches. Known to occur in Cimarron County.

Chrysothamnus nauseosus

Rubber rabbitbrush

Western shrub to 9 feet tall, bearing several erect stems from the base to form a rounded clump. Known to occur in Cimarron County.

Chrysothamnus pulchellus

Southwest rabbitbrush

Densely branched western shrub usually less than 3-1/2 feet tall. Known to occur in Texas County.

Cornus foemina

Stiffcornel dogwood

Large shrub, flowers May-June, known to occur in LeFlore and McCurtain Counties.

Dirca palustris

Atlantic leatherwood

Widely branching shrub to 7 feet tall. Known to occur in McCurtain County.

Fallugia paradoxa

Apache plum

A straggling clump-forming westernshrub known to occur in Cimarron County.

Halesia carolina

Carolina silverbell

Wide spreading shrub or tree to 40 feet tall, occurring in rich well-drained soils of streambanks or wooded slopes. Known to occur in McCurtain, Pushmataha, and LeFlore Counties.

R-2 Continued

- Ilex vomitoria Yaupon (Yaupon holly)
A small broad-leaved evergreen shrub or small tree found along streambanks in McCurtain County.
- Lycium berlandieri Berlandier's wolfberry
Sparingly branched, spreading or reclining shrub to 7 feet tall. Known to occur in Harmon County.
- Lycium pallidum Pale wolfberry
Densely branched, thicket-forming, spreading or upright, spiny shrub to 6 feet tall. Known to occur in Cimarron County.
- Lyonia mariana Staggerbush
A shrub to 6 feet tall with erect, mostly glabrous, black-dotted branches. Known to occur in McCurtain County.
- Myrica cerifera Waxmyrtle
Crooked evergreen shrub or tree known to occur in McCurtain County. Found near sandy swamps and on low acid prairies.
- Physocarpus monogynus Mountain ninebark
A western shrub to 3 feet tall known to occur in Cimarron County.
- Physocarpus opulifolius Common ninebark
A shrub 3 to 10 feet tall reported to occur in Cherokee, Delaware, and Mayes Counties, known to occur in Adair County.
- Quercus gambeli Gambel oak
A thicket-forming shrub or tree to 50 feet tall, known to occur in Cimarron County.
- Quercus undulata Wavyleaf oak
Mostly shrubby, occasionally a small tree. Known to occur in Cimarron County.
- Rhamnus lanceolata var. glabrata Lanceleaf buckthorn
A shrub to 9 feet tall occurring in northeast Oklahoma.
- Rhus microphylla Littleleaf sumac
Clump-forming, intricately-branched shrub attaining a height of 15 feet. Known to occur in Jackson County.
- Ribes cereum Wax currant
Upright, much-branched shrub to 4 feet tall. Known to occur in Cimarron County.

R-2 Continued

Ribes cynosbati

Wild gooseberry

Low straggling shrub with rigid spreading or trailing branches.
Known to occur in LeFlore County, reported from McCurtain County.

Ribes missouriense

Missouri gooseberry

Small or large shrub to 6 feet tall with **thornless** or thorny stems. Known to occur in Ottawa County.

Rosa woodsii

Woods rose

A shrub to 6 feet tall. Known to occur in Beaver County, reported from Cimarron County.

Styrax americana

American snowbell

Widely-branched shrub to 9 feet tall. Known to occur in McCurtain County. Occurs along swamps and streams in rich moist soil.

Symphoricarpos palmeri

Palmer snowberry

A deciduous shrub to 9 feet tall. Known to occur in Cimarron County.

Symphoricarpos occidentalis

Western snowberry

Thicket-forming, erect shrub to 4 feet tall. Found on dry rocky soil bluffs, prairies and plains. Known to occur in Cimarron County.

Symplocos tinctoria

Sweetleaf

This shrub occurs in McCurtain County and is distinguished by its dark green lustrous leaves that persist during the winter.

Vaccinium virgatum

Rabbiteye blueberry

Shrub 1-3 feet tall often found in extensive colonies. Known to occur in McCurtain County.

Vines:

Clematis crispa

Blue jasmine

Known to occur in McCurtain County.

Clematis drummondii

Drummond's clematis

Known to occur in Harmon County.

R-2 Continued

- Clematis glaucophylla Glaucous leatherflower
Known to occur in McCurtain County. Found in moist woods, thickets, and riverbanks.
- Clematis virginiana Virginsbower
Known to occur in Muskogee County.
- Smilax smallii Small's greenbrier
Known to occur in McCurtain County.
- Vitis mustangensis Mustang grape
Known to occur in Love, Marshall, and Bryan Counties.
- Vitis rotundifolia Muscadine grape
Known to occur in McCurtain, Pushmataha, and LeFlore Counties.
- Wisteria macrostachya Kentucky wisteria
Usually found in low wet woods. Known to occur in McCurtain County.
- Other Woody Plants:
- Andrachne phyllanthoides Missouri maiden-bush
An upright or straggling diffusely-branched plant to 3 feet tall. Known to occur in Latimer County, reported from Carter County. Occurs on dry rocky soil ledges.
- Hypericum densiflorum Dense-flowered St. Johnswort
Shrubby perennial to 6 feet tall with many-branched, slender, winged stems. Known to occur in Bryan County, reported from other counties in southeastern Oklahoma.
- Hypericum gentianoides Pineweed
Known to occur in Delaware County.
- Hypericum tubulosum Marsh St. Johnswort
Known to occur in Bryan and McCurtain Counties.
- Opuntia davisii Jeff David cholla
A branched cactus usually less than 2 feet tall. Known to occur in Harmon County.
- Opuntia imbricata Walkingstick cholla
A cactus with a short woody trunk and many candelabrumlike branches attaining a height of 9 feet. Known to occur in Cimarron County.

R-2 Continued

Rubus allegheniensis

Allegheny blackberry

Erect and upright to 3 feet tall. Known to occur in Sequoyah and LeFlore Counties.

Rubus deliciosus

Boulder raspberry

A showy plant with rose-like flowers, unarmed, prostrate or clambering. Known to occur in Cimarron County. Found in Rocky areas and among bushes.

Sabal minor

Dwarf palmetto

A palm without a trunk. Known to occur in McCurtain County. Found on wet alluvial soils.

Yucca freemanii

Freeman's yucca

A stemless plant usually with a solitary head of leaves. Known to occur in Choctaw County.

Status Undetermined

Trees:

Quercus imbricaria

Shingle oak

A tree commonly to 60 feet tall, rarely to 100 feet tall.

Shrubs:

Amorpha virgata

Stone Mountain amorpha

Three to 6 feet tall with several stems, branched near the summit. Reported to occur in Ozark area of Oklahoma and McCurtain Counties.

Forestiera acuminata

Swamp privet

Straggling shrub or tree to 30 feet growing in swampy ground. Reported to occur in Muskogee and other eastern counties.

Halesia diptera

Two-wing silverbell

Shrub or small tree to 30 feet tall, occurring in moist soil along streams in eastern Oklahoma.

Illex ambigua

Carolina holly

Shrub to 18 feet tall with irregular branches and a rounded crown. Occurring in low sandy woods. Reported from LeFlore County.

Status Undetermined Continued

Salix petiolaris

Slender willow

Clumped shrub with slender erect branches. Reported to occur in northwest Oklahoma.

Other Woody Plants:

Yucca harrimaniae

Harriman's yucca

Reported from Cimarron County.

HERBACEOUS PLANTS

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The following is a first attempt to compile a list of plants, found within the political boundaries of Oklahoma, whose numbers are either decreasing or are so few that any significant habitat modification could result in their being lost to the natural plant communities within these boundaries.

Significant contributions to the list have been made by Lemuel Ball, Area Conservationist, Soil Conservation Service, Okmulgee; Paul Buck, Professor, University of Tulsa; Jack Englemann, Range Conservationist (ret.), Soil Conservation Service, Woodward; Roy Erwin, Assistant State Conservationist (ret.), Soil Conservation Service, Stillwater; James Estes, Professor, University of Oklahoma, Norman; Allen Moss, RC&D Project Coordinator, Soil Conservation Service, Tahlequah; and Jeff Powell, Assistant Professor, Oklahoma State University, Stillwater.

The authors recognize that not only could there be inadvertent omissions, but that additional data may suggest that certain species could be deleted. Suggestions for modification of this list along with supporting data will be appreciated.

The authors have accepted the scientific nomenclature according to Waterfall, U.T., 1969. Keys to the flora of Oklahoma, Oklahoma State University, Stillwater, Oklahoma. The plant names are listed in family order except for additions at the end of the list.

The following list of species probably fit in the Rare 1 category although evidence for the asterisked (*) species is lacking at this time according to Waterfall (1969).

Rare Species R-1

- Diarrhena americana Beauv. American beakgrain
Clonal growth along densely wooded river and creek bottoms usually in rich loam soil, primarily in eastern third of state.
- Trisetum interruptum Buckl. Prairie trisetum
Scattered occurrence in fields of west central portion of state (Kingfisher, Washita, Jackson, and Roger Mills Counties).
- Calamovilfa Sandreed
A potential new species from Pushmataha County Wildlife Management Unit. Now being described.
- Muhlenbergia brachyphylla Bush. Nodding muhly
Single 1913 collection by G. W. Stevens from Dripping Springs in Delaware County.
- Brachyelytrum erectum (Schreb.) Beauv. Bearded shorthusk
Moist, rich soil of woods on slopes of Rich Mountain in LeFlore County.
- *Panicum havardii Vasey Harvard panicum
No sheets of this taxon at Oklahoma State University. Common in Texas. Thought to be ecotype of P. virgatum.
- Oplismenus setarius (Lam.) Roem. and Schult. Bristle basketgrass
Dense woods in rich soil in Little River flood plain south of Broken Bow in McCurtain County.
- Erianthus giganteus (Walt.) Muhl. Sugarcane plumegrass
Low moist area southeast corner of state (McCurtain, Pushmataha, and Latimer Counties).
- Cypripedium calceolus L. Ladyslipper
Cherokee County.
- Anemopsis californica (Nutt.) Hook. and Arn. Yerbamansa
Woods County near Waynoka.
- Rumex Patientia L. Patience dock
Wet areas near Knowles in Beaver County.

R-1 Continued

Mirabilis exaltata (Standl.) Standl.

Deep sands or stabilized dunes of northwest and Panhandle counties.

*Hydrastis canadensis L. Goldenseal

Reported to be in Oklahoma. Location unknown.

Leavenworthia aurea Torr. Golden yellow

A winter annual occurring in wet areas on shallow limestone soil near Idabel in McCurtain County.

Psoralea subulata Bush. Scurfpea

Oak-hickory woods near Willis in Marshall County.

Phaseolus polystachios (L.) BSP Thicketbean

Wooded creek valley northeast of Tahlequah in Adair County.

*Viola viarum Pollard. Ozark violet

Possibly northeast Oklahoma.

*Mamillaria neomexicana Engelm. Spiny stars

Reported to be in Oklahoma. Location unknown.

*Mamillaria deserti Engelm.

From Black Mesa.

Echinocereus baileyi Rose Wichita Mountains barrel cactus

Wichita Mountains, Comanche County.

Epilobium coloratum Muhl. Purpleleaf willow weed

Canyons of Caddo County.

*Panax quinquefolius L. American ginseng

Reported to be in Oklahoma. Location unknown.

*Bartonia paniculata (Michx) Muhl. Slim bartonia

McCurtain County.

*Asclpias involucrata Engelm. Dwarf milkweed

Reported from Cimarron County.

*Sarcostemma lobata Waterfall Twinevine

West Cimarron County.

R-1 Continued

- Phlox oklahomensis Wherry Oklahoma phlox
Woodward and Woods Counties.
- *Collinsia verna Nuttall Blue-eyed Mary
Reported to be in Oklahoma. Location unknown.
- *Gerardia homalantha (Pennell) Pennell
Near Tishomingo.
- *Gerardia auriculata Michx. Earleaf gerardia
Reported to be in Oklahoma. Location unknown.
- *Vernonia aborigina Gleason Ironweed
Adair County.
- Gnaphalium chilense Spreng. Cottonbatting cudweed
Mt. Scott, Wichita Mountains, Comanche County.
- *Iva axillaris Pursh. Poverty sumpweed
Reported to be in Oklahoma. Location unknown.
- *Sonchus oleraceus L. Common sowthistle
Muskogee County.
- Lactuca pulchella (Pursh) DC Chicory lettuce
Washita County.

Rare Species R-2

- Selaginella densa Dense selaginella
- Woodsia oregana Oregon woodsia
- Dryopteris filix-mas Male fern
- Asplenium septentrionale Northern spleenwort
- Asplenium pinnatifidum Taillae spleenwort
- Asplenium bradleyi Bradley spleenwort
- Cheilanthes fendleri Fendler lipfern
- Cheilanthes wootoni Wooton lipfern
- Cheilanthes horridula Rough lipfern
- Cheilanthes lindheimeri Lindheimer lipfern
- Azolla caroliniana Mosquitofern

R-2 Continued

<u>Bromus latiglumis</u>	Earleaf brome
<u>Festuca versuta</u>	Texas fescue
<u>Glyceria arkansana</u>	Arkansas mannagrass
<u>Enneapogon desvauxii</u>	Feather pappusgrass
<u>Hystrix patula</u>	Bottlebrushgrass
<u>Oryzopsis micrantha</u>	Ricegrass
<u>Stipa scribneri</u>	Scribner needlegrass
<u>Stipa avenacea</u>	Blackseed needlegrass
<u>Stipa spartea</u>	Porcupinegrass
<u>Axonopus affinis</u>	Common carpetgrass
<u>Paspalum dissectum</u>	Mudbank paspalum
<u>Paspalum laeve</u>	Field paspalum
<u>Panicum reverchoni</u>	Reverchon panicum
<u>Panicum firmulum</u>	Knotroot panicum
<u>Panicum brachyanthum</u>	Pimple panicum
<u>Panicum gymnocarpon</u>	Savannah panicum
<u>Sacciolepis striata</u>	American cupscale
<u>Setaria grisebachii</u>	Grisebach bristlegrass
<u>Cenchrus incertus</u>	Coast sandbur
<u>Sorghastrum elliottii</u>	Slender indiagrass
<u>Tripsacum dactyloides</u>	Eastern gamagrass
<u>Cyperus compressus</u>	Poorland flatsedge
<u>Dichromena nivea</u>	Snowy whitetop
<u>Carex praegracilis</u>	- Unknown -
<u>Carex cephalophora</u>	Woodbank sedge
<u>Carex stiriata</u>	Nerved sedge
<u>Carex oxylepis</u>	Sharpscale sedge
<u>Acorus clamus</u>	Drug sweetflag
<u>Peltandra virginica</u>	Virginia arrowarum
<u>Erocaulon kornickianum</u>	Smallhead pipewort
<u>Juncus filipendulus</u>	Ridgeseed rush
<u>Juncus repens</u>	Creeping rush
<u>Uvularia sessilifolia</u>	Little merrybells
<u>Uvularia grandiflora</u>	Big merrybells

R-2 Continued

<u>Veratrum woodii</u>	Falsehellebore
<u>Hymenocallis occidentalis</u>	Inland hymenocallis
<u>Iris cristata</u>	Crested iris
<u>Iris virginica</u>	Shreve iris
<u>Thalia dealbata</u>	Powdered thalia
<u>Habenaria clavellata</u>	Small wood-orchid
<u>Triphora trianthophora</u>	Drooping pogonia
<u>Epipactis gigantea</u>	Stream epipactis
<u>Humulus lupulus</u>	Common hop
<u>Urtica dioica</u>	Bigstring nettle
<u>Comandra richardsiana</u>	Comandra
<u>Aristolochia reticulata</u>	Texas dutchmanspipe
<u>Eriogonum alatum</u>	Wing wild-buckwheat
<u>Eriogonum lachnogynum</u>	Woollycup wild-buckwheat
<u>Eriogonum tenellum</u>	Tall wild-buckwheat
<u>Rumex verticillatus</u>	Swamp dock
<u>Chenopodium pallescens</u>	Light goosefoot
<u>Amaranthus scleropoides</u>	Bonebract amaranth
<u>Brayulinea densa</u>	- Unknown -
<u>Allionia incarnata</u>	Trailing allionia
<u>Selinocarpus diffusus</u>	Moonpod
<u>Abronia fragrans</u>	Sweet sandverbena
<u>Boerhaavia erecta</u>	Erect spiderling
<u>Sesuvium verrucosum</u>	Winged sesuvium
<u>Arenaria benthamii</u>	Hilly sandwort
<u>Arenaria hookeri</u>	Sandwort
<u>Dianthus armeria</u>	Pink dianthus
<u>Paronychia canadensis</u>	Canada nailwort
<u>Brasenia schreberi</u>	Schreber watershield
<u>Ranunculus flabellaris</u>	Threadleaf buttercup
<u>Ranunculus pusillus</u>	Weak buttercup
<u>Thalictrum arkansanum</u>	Meadowrue
<u>Dicentra cucullaria</u>	Dutchman's breeches
<u>Lesquerella augustifolia</u>	Narrowleaf bladderpod

R-2 Continued

<u>Armoracia aquatica</u>	Horseradish
<u>Arabis fendleri</u>	Rock cress
<u>Thelypodium wrightii</u>	Thelypody
<u>Drosera annua</u>	Annual sundew
<u>Podostemon ceratophyllum</u>	Hornleaf riverweed
<u>Desmanthus cooleyi</u>	James bundleflower
<u>Hoffmanseggia drepanocarpa</u>	Sicklepod rushpea
<u>Cassia tora</u>	Sickle senna
<u>Psoralea reverchoni</u>	Rock scurfpea
<u>Psoralea rhombifolia</u>	Roundleaf scurfpea
<u>Dalea formosa</u>	Feather dalea
<u>Dalea frutescens</u>	Black dalea
<u>Strophostyles umbellata</u>	Perennial wildbean
<u>Vicia producta</u>	Vetch
<u>Linum imbricatum</u>	Flax
<u>Polygala polygama</u>	Bitter milkwort
<u>Crotonopsis linearis</u>	Narrowleaf rushfoil
<u>Ditaxis laevis</u>	Small ditaxis
<u>Euphorbia commutata</u>	Tinted euphorbia
<u>Impatiens pallida</u>	Pale snapweed
<u>Modiola caroliniana</u>	Carolina modiola
<u>Peplis diandra</u>	- Unknown -
<u>Eryngium diffusum</u>	Bushy eryngo
<u>Perideridia americana</u>	- Unknown -
<u>Pastinaca sativa</u>	Garden parsnip
<u>Anagallis arvensis</u>	Scarlet pimpernel
<u>Gentiana saponaria</u>	Bottle gentian
<u>Swertia caroliniensis</u>	Carolina frasera
<u>Cryptantha jamesii</u>	James cryptantha
<u>Melissa officinalis</u>	Common balm
<u>Dyschoriste linearis</u>	Narrowleaf dyschoriste
<u>Hedyotis humifusa</u>	- Unknown -
<u>Chrysothamnus pulchellus</u>	Rabbitbrush southwest
<u>Aster novae-angliae</u>	New England aster

R-2 Continued

<u>Aster spinosus</u>	Devilweed aster
<u>Hymenopappus filifolius</u>	Woolly white
<u>Palafoxia callosa</u>	Palafoxia small
<u>Bahia woodhousii</u>	Bahia woodhouse
<u>Matricaria matricarioides</u>	Mayweed
<u>Artemisia carruthii</u>	Sagewort carruth
<u>Artemisia annua</u>	Sagewort sweet
<u>Lygodesmia pauciflora</u>	Skeletonplant