

1978

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### Recommended Citation

Bailey, Joe W. and Heidt, Gary A. (1978) "Range and Status of the Nutria, *Myocastor coypus*, in Arkansas," *Journal of the Arkansas Academy of Science*: Vol. 32 , Article 9.

Available at: <https://scholarworks.uark.edu/jaas/vol32/iss1/9>

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## Range and Status of the Nutria, *Myocastor coypus*, in Arkansas

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### ABSTRACT

An extensive survey has shown that the current range of the nutria, *Myocastor coypus*, in Arkansas should include the West Gulf Coastal Plain, the Mississippi Alluvial Plain (to Missouri) and the Arkansas Valley along the Arkansas River to Oklahoma. The extensive river and creek systems in the state have provided ready avenues for dispersal, allowing for extremely rapid expansion from the early 1960's when nutria were first observed in the southern part of the state. The current range probably represents most of the suitable habitat in the state and it is felt that further expansion will be held to a minimum.

### INTRODUCTION

Since its importation from South America into the United States the nutria (*Myocastor coypus*) has been the subject of considerable controversy. Proponents argue that it is an important furbearer and controller of aquatic weeds, while others argue that it does great damage to dikes and levees, destroys crops (especially rice, soybeans, and sugarcane), and contributes to the decline of the muskrat (another important furbearer). These arguments seemingly have no solution, and evidence can be found supporting both views; however, the nutria is more often considered a pestiferous mammal (Evans, 1970; Lowery, 1974; Warkentin, 1968).

Nutria were first introduced into the marshes of Louisiana, near New Orleans, in the early 1930's; however, these were all recovered or trapped. In 1938, twenty more were imported from Argentina and placed in a nutria ranch on Avery Island, Louisiana, only to escape or to be released. By the middle 1940's they were extremely common in the southern half of the state and by the late 1950's had quickly spread to all parts of the state (Lowery, 1974).

It appears that the nutria entered the southern part of Arkansas in the early 1960's. Since that time they have rapidly extended their range and have been recorded throughout the southern and eastern portions of the state. The purpose of this study was to determine the current range and status of the nutria in Arkansas and to speculate on future trends.

### METHODS AND MATERIALS

The methods of obtaining the data for this study included:

- 1) Interviewing personnel and examining records of the Arkansas Cooperative Extension Service and the Arkansas Game and Fish Commission.
- 2) Soliciting records from the collections of neighboring universities and institutions.
- 3) Selective telephone polling of persons in Arkansas likely to have come in contact with nutria.
- 4) Surveying (using a questionnaire) Game and Fish field personnel, county extension agents and Arkansas fur buyers and trappers. These questionnaires requested pertinent information concerning the nutria such as localities, nutria were found in, dates seen, population levels and trends, and damage done by nutria.

### RESULTS AND DISCUSSION

Table 1 summarizes the distribution and return of the questionnaires mailed around the state. The relatively low percentage of return (36%) can be explained by the limited response of the Arkansas fur buyers and trappers surveyed.

The presence of Arkansas nutria in scientific collections is limited. The Arkansas State University Collection of Recent Mammals contained three specimens (including a first record from Jackson and Cross Counties) and the University of Arkansas at Little Rock Vertebrate Collections contained five specimens.

Figure 1 summarizes the findings by county and Figure 2 illustrates the current range of the nutria in Arkansas according to these results. In Figure 2, Izard and Madison Counties are omitted since the only positive report was one nutria in each of the counties, which appeared on two Game and Fish Commission fur buyers' reports. It is entirely possible that these two animals came from other parts of the state. We have also included Poinsett, Lee, Cleveland, and part of Pike Counties in Figure 2, since there are nutria in the major river and stream systems on either side and flowing through these counties.

We feel, however, that the range of nutria in the state of Arkansas should be as indicated in Figure 3. This area encompasses the Mississippi Alluvial Plain, the West Gulf Coastal Plain, and parts of the Arkansas River Valley. In addition to those counties included in Figure 2, Clay, Green, and parts of Sebastian, Crawford, Perry, Conway, Faulkner, and Logan Counties are added. These areas have suitable habitat and are natural expansion sites (assuming nutria are not already present in low numbers).

The presence of the isolated area in the Arkansas River Valley in Figure 2 is cause for speculation. Nutria could have expanded into this area in one of two ways. It has been reported (Sealander, pers. comm.) that nutria were released near Fort Smith, Sebastian County, several years ago. These animals could have moved south and east along the Arkansas River becoming established in the areas outlined. This suggests that perhaps small and isolated populations already exist in Sebastian, Crawford, and Logan Counties. On the other hand, nutria could have expanded from the east moving up the Arkansas River. This would suppose that nutria exist in small, scattered areas along the river in Perry, Faulkner, and Conway Counties. Whichever is the case, it is reasonable to assume, considering past trends, that these areas should be included in the overall range as shown in Figure 3.

The rate of nutria expansion in Arkansas has been extremely rapid. From 1960 to the mid 1970's the species has spread over 390 km northward. This represents a conservative average invasion rate of between 20-24 km/yr. However, it has generally been shown that introduced species invade faster than nonintroduced. For example, the rabbit (*Oryctolagus cuniculus*) invaded Australia at rates between 24.6-63.8 km/yr (Myers, 1970), and the muskrat (*Ondatra zibethicus*) invaded Czechoslovakia at rates of up to 16.7 km/yr (Elton, 1958). In contrast, examples of invasion rates of non-introduced species in-

clude from 4-10 km/yr in the armadillo (*Dasypus novemcinctus*) in the United States (Humphrey, 1974), 7.5 km/yr in the polecat (*Mustela putorius*) in Finland (Kalela, 1940), and 8.1-12.3 km/yr in the cotton rat (*Sigmodon hispidus*) in Kansas (Cockrum, 1948). In the case of the nutria in Arkansas, the ideal river and stream systems which form natural dispersal routes and habitat, the lack of natural predators such as the alligator, the agricultural irrigation methods of open ditches with levees, and the favorable climate over the 1960's and 1970's greatly enhanced the opportunity to expand at a rapid rate.

Nutria appear to be most solidly established in the West Gulf Coastal Plain (particularly the southern portion) and the southern and eastern Delta of the Mississippi Alluvial Plain. The populations in the western part of the Mississippi Alluvial Plain and the Arkansas River Valley appear to be small and highly scattered. We feel that populations will remain relatively low in these areas due to greater marginal habitat, changing agricultural practices (e.g., open water being replaced by irrigation pipes), and perhaps changing climate bringing colder, more prolonged winters.

The price of fur seems to have a decisive effect on the trapping of nutria in the state, as can be seen in Table 2. During the early 1970's, when the price of nutria pelts was low, few nutria were trapped. In the 1976-77 season when fur prices were higher so were the numbers of nutria trapped. However, this increase might have been brought about partially by a rising population level. Table 2 also shows when nutria first began to be trapped in the Arkansas River Valley. If the price of fur remains stationary, it will be interesting to see what influence the trappers have on locating new marginal populations as well as the effect on the overall size of existing nutria populations. It should also be mentioned that if the current restocking of the alligator in the state by the Game and Fish Commission is a success, the nutria will have to contend with a natural predator in the future.

Figure 1. County Response to Nutria Study in Arkansas.



Table I. Arkansas Nutria Questionnaire Summary

Agency or Individuals Contacted	# Sent	# Returned	% Return
County Extension Agents	51	29	57
Game and Fish Personnel	37	25	68
Arkansas Fur Buyers and Trappers	117	20	17
TOTAL	205	74	36

Figure 2. Current Range of the Nutria Based on Data Gathered by Study.



Figure 3. Proposed Range of the Nutria, *Myocastor coypus*, in Arkansas.

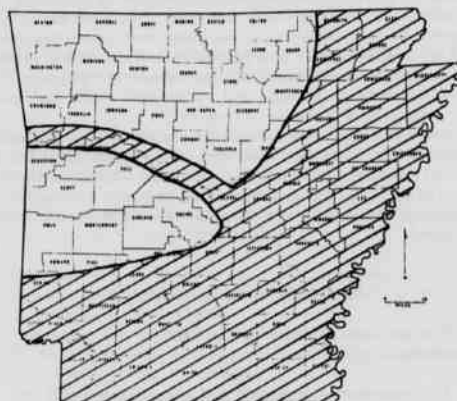


Table II. Harvest Report of Arkansas Fur Dealers 1970-77

	1970-71	71-72	72-73	73-74	74-75	75-76	76-77	Total
Average Price	0	0	\$2.16	\$1.38	\$1.78	\$1.20	\$3.01	\$1.91*
Delta Region	0	0	23	4	3	13	470	513
Ozark Region	0	0	0	9	0	0	151	160
Ouachita Region	0	0	0	0	0	0	62	62
West Gulf Coastal Plain	77	0	10	6	107	79	547	826
Totals	77	0	33	19	110	92	1230	1561

\* Average for 1972-77.

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