

## TEXAS STATE VITA

### I. Academic/Professional Background

A. Name: Francis L. Rose                      Title: Professor of Biology

#### B. Educational Background

<b>Degree</b>	<b>Year</b>	<b>University</b>	<b>Major</b>	<b>Thesis/Dissertation</b>
PhD	1965	Tulane	Zoology	Dissertation
MS	1962	Georgia	Zoology	Thesis
BS	1960	Georgia	Zoology	

#### C. University Experience

<b>Position</b>	<b>University</b>	<b>Dates</b>
Professor	Texas State	2004 - present
Professor and chair	Texas State	1991 - 2004
Professor	Texas Tech	1975 - 1991
Associate professor	Texas Tech	1972 - 1975
Assistant professor	Texas Tech	1966 - 1972

#### D. Relevant Professional Experience

<b>Position</b>	<b>Entity</b>	<b>Dates</b>
Postdoctoral fellow	National Heart Institute	1965-66

## II. TEACHING

#### A. Teaching Honors and Awards:

Outstanding Teacher, Arts and Sciences Council, 1984.

Outstanding University Teacher, Mortor Board, 1969.

#### B. Courses Taught:

Human Anatomy and Physiology  
 Physiological Ecology of the Vertebrates  
 Evolution  
 Biology of Animals  
 General Biology  
 Advanced Herpetology  
 Advanced Topics (Undergraduate)  
 Advanced Topics (Graduate)  
 Herpetology (TSU)  
 Research Methods TSU  
 5110 Seminar  
 7102 Seminar

C. Graduate Theses/Dissertations or Exit Committees (if supervisor, please indicate):

**Doctoral students supervised and status**

Dr. Dede Armentrout, Premed-Preudent advisor, TSU.  
 Dr. Frank Judd, Professor, Pan American Univ., Port Isabel, TX.  
 Dr. Leland Parks, Director, EPA toxicology lab, Kansas City, KA.  
 Dr. E. Norbert Smith, director biotelemetry firm, Talequah, OK.  
 Dr. David Long, Professor, Wilkes College, Wilkes-Barre, PA.  
 Dr. Kyle Selcer, Professor, DeQuesne University, Pittsburg, PA.  
 Dr. Lynn Robbins, Professor, Southwest Missouri State Univ.,  
 Springfield, MO.

Member of 15 other doctoral committees

**Masters students directed and status**

Nancy Bethea, Ph. D. TTU  
 Dede Armentrout, Ph. D. TTU.  
 Katherine DeLisle, medical profession  
 Jimmy W. Kenney, environmental land-use.  
 Margaret Wade, teacher (junior college)  
 William Chillian, Ph.D. University of Missouri  
 Chris Chambers, Ph.D. Duke University  
 David Long, Ph.D. TTU  
 Paul Aguerre, TSU  
 Todd Swannack, TSU, working on Ph. D. TAMU (graduation 2001)  
 Janie Nelan, TSU, working on Ph.D. UT Arlington (graduation 2001)

Member of over 40 other masters' committees

- D. Courses Prepared and Curriculum Development:
- E. Funded External Teaching Grants and Contracts:
- F. Submitted, but not Funded, External Teaching Grants and Contracts:
- G. Funded Internal Teaching Grants and Contracts:
- H. Submitted, but not Funded, Internal Teaching Grants and Contracts:
- I. Other

III. SCHOLARLY/CREATIVE

A. Works In Print

- 1. Books (if not refereed, please indicate)
  - Rose, F. L. and R. W. Strandtmann. 1986. **Wildflowers of the Llano Estacado**. Taylor Publ. Co., Dallas, TX, pp 100, Pl 17 (not refereed)
- a. Scholarly Monographs:
- b. Textbooks:
- c. Edited Books:
- d. Chapters in Books:
- e. Creative Books:

## 2. Articles

## a. Refereed Journal Articles:

- Rose, F. L., T. Simpson, M. Forstner, D. McHenry, and J. Williams. 2006. Taxonomic status of *Acris gryllus paludicola*: In search of the pink frog. *Journal of Herpetology* 40: 428-434.
- Rose, F. L., T. Simpson, J. Ott, and R. Manning. 2006. Site fidelity of the western cottonmouth (*Agkistrodon piscivorus*) inhabiting a catastrophic environment: results of an 11-year study. Submitted to *Herpetologica*.
- Hahn, D., Gaertner, M. Forstner, and F. L. Rose. Accepted. 2006. High resolution analysis of salmonellae from turtles within a headwater spring ecosystem. *FEMS Microbiology Ecology*.
- Swannack, T. M. and F. L. Rose. 2003. Seasonal and ontogenetic changes in the sex ratio of a population of stinkpots (Kinosternidae: *Sternotherus odoratus*). *Southwestern Naturalist* 48 (4):543-549.
- Towns, K, T. R. Simpson, R. W. Manning, and F. L. Rose. 2003. Food habits and selective foraging of the nutria (*Myocaster coypus*) in Spring Lake, Hays County, Texas. *Occas. Papers Museum of Texas Tech University*, No. 227, 1-11.
- Fields, J. R., T. R. Simpson, R. W. Manning, and F. L. Rose. 2003. Food Habits and selective foraging by the Texas river cooter (*Pseudemys texana*) in Spring Lake, Hays County, Texas. *Jour. Herpetology* 37 (4):726-729
- Rose, F. L., J. Koke, R. Koehn, and D. Smith 2001. Identification of the etiological agent for necrotizing scute disease in the Texas tortoise. *Jour. Wildlife Diseases* 37: 223-228.
- Judd, F. W. and F. L. Rose. 2000. Conservation status of the Texas tortoise *Gopherus berlandieri*. *Occas. Papers Museum of Texas Tech University*, No. 196, 1-11.
- Fields, J. R., T. R. Simpson, R. W. Manning, and F. L. Rose. 2000. Modifications of the stomach flushing technique for turtles. *Herpetological Review* 31:32-33.
- Rose, F. L. 2000. Amphibians and reptiles of the Freeman Ranch, Hays County, Texas. *Freeman Ranch Publication Series No. 2-2000*, 1-3.
- Harshbarger, J. C., S. C. Chang, L. E. DeLanney, F. L. Rose and D. E. Green. 1999. Cutaneous mastocytomas in the neotenic caudate amphibians *Ambystoma mexicanum* (axolotl) and *Ambystoma tigrinum* (tiger salamander). *Jour. Cancer Research Clinical Oncology* 125:187-192.

Rose, F. L., R. W. Manning, T. R. Simpson, and S. Jenkins. 1998. A sustaining population of the Florida Red-bellied turtle, Pseudemys nelsoni, in Spring Lake, Hays County, Texas. *Texas Jour. of Science* 50:89-92.

Rose, F. L., R. Simpson, and R. Manning. 1996. Measured and predicted egg volume of Pseudemys texana. *Jour. of Herpetology* 30:433-435.

Rose, F. L. and R. Manning. 1996. Comments on the biology of the slider, Trachemys scripta (Reptilia: Emydidae), inhabiting man-made ponds in West Texas. *Texas Journal of Science* 48:191-206.

Densmore, L., F. L. Rose, and S. Kain. 1992. Molecular evolution and speciation in watersnakes (genus Nerodia) with special reference to Nerodia harteri. *Jour. Herpetology* 48:60-68

Rose, F. L. and F. W. Judd. 1991. Egg size versus carapace-xiphiplastron aperture size in Gopherus berlandieri. *Jour. Herpetology* 25:248-250.

Allen, L. J. S., M. Moulton, and F. L. Rose. 1990. Persistence in an age-structured population for a patch-type environment. *Natural Resource Modeling* 4:197-214.

Rose, F. L., R. Paxton, and C. Britton., 1990. Identification of an ovalbumin-like protein in egg-white of turtle and alligator. *Comp. Biochem. Physiol.* 96B:651-654

Harshbarger, J. C., F. L. Rose, and L. J. Collins. 1989. Histopathology of skin, connective tissue, pigment cell and liver neoplasms in neotenic Ambystoma tigrinum from a sewage lagoon. *Herpetopathologica* 1:19-27.

Long, D. and F. L. Rose. 1989. Pelvic girdle size relationships in three turtle species. *J. Herpetology* 23:315-318.

Rose, F. L. and K. Selcer. 1989. Genetic divergence of the two allopatric populations of Nerodia harteri. *Jour. Herpetology* 23:261-267.

Judd, F. W. and F. L. Rose. 1989. Egg production of the Texas tortoise, Gopherus berlandieri, in southern Texas. *Copeia* 1989:588-596.

Rose, F. L. 1989. Aspects of the biology of the concho watersnake (Nerodia harteri paucimaculata). *Texas J. Sci.* 41:115-130.

Rose, F. L., D. Long, D. Pence, and D. Waid. 1989. Gastric oxyuriasis and its consequences in yellow mud turtles (Kinosternon flavescens) associated with sewage effluent. *Herpetopathologica* 1:53-64.

Rose, F. L., M. E. T. Scioli, and M. Moulton. 1988. Thermal preferentia of Berlandieri's tortoise (Gopherus berlandieri) and the ornate box turtle (Terrapene ornata). *Southwest. Natur.* 33:357-390.

Rose, F. L. 1986. Carapace regeneration in Terrapene carolina (Chelonia: Testudinidae). *Southwest. Natur.* 31:131-134.

- Pierce, B. A., J. B. Mitton, L. Jacobson and F. L. Rose. 1983. Head shape and size in cannibal and noncannibal larvae of the tiger salamander from West Texas. *Copeia* 1983:1006-1012.
- Judd, F. W. and F. L. Rose 1983. Population structure, density, dynamics and movements of the Texas tortoise, *Gopherus berlandieri*. *Southwest. Natur.* 28:387-398.
- Rose, F. L. 1983. Some aspects of the thermal biology of the bolson tortoise, *Gopherus flavomarginatus*. *Occas. Papers, The Museum, Texas Tech Univ.*, No. 89:1-8.
- Rose, F. L. and F. W. Judd. 1982. The Biology and Status of Berlandieri's Tortoise, *Gopherus berlandieri*. U. S. Dept. of Interior, U. S. Fish and Wildlife Service publ. on the Biology of North American Land Tortoises, 31:57-70.
- Rose, F. L. and R. W. Mitchell. 1982. Comparative lipid values of epigeal and cave adapted *Astyanax*. *Southwest. Natur.* 27:357-358.
- Anderson, R. S., J. E. Doos, and F. L. Rose. 1982. Differential ability of *Ambystoma tigrinum* hepatic microsomes to produce mutagenic metabolites from polycyclic aromatic hydrocarbons and aromatic amines. *Cancer letters* 16:33041.
- Pierce, B. A., J. B. Mitton, and F. L. Rose. 1981. Protein variation among large, small and cannibal morphs of the tiger salamander, *Ambystoma tigrinum*. *Copeia* 1981:590-595.
- Rose, F. L. 1981. *Ambystoma tigrinum*: A decade of sewage associated neoplasia. Proc. 11th International. Symposium, Princess Takamatsu Cancer Research Foundation: Phyletic Approaches to Cancer, ed. C. Dawe et al. Japan Scientific Soc. Press, Tokyo, pp. 91-100.
- Burns, J. M. and F. L. Rose. 1980. Testosterone, estrogen binding protein in sexually mature larvae of *Ambystoma tigrinum*. *Gen. Comp. Endo.* 41:314-320.
- Busbee, D. L., J. Guyden, T. Kingston, F. L. Rose, and E. T. Cantrell. 1978. Metabolism and benz(a)pyrene in animals with high aryl hydrocarbon hydroxylase levels and high rates of spontaneous cancer. *Cancer Letters* 4:61-67.
- Rose, F. L. 1977. Tissue lesions of tiger salamanders, *Ambystoma tigrinum*: Relationships of sewage effluent. N. Y. Acad. Sci. Conference on Aquatic Pollutants and Biological Effects with Emphasis on Neoplasia. Vol. 298:270-279.
- Rose, F. L. and J. Harshbarger. 1977. Neoplasia and possibly related skin lesions in neotenic tiger salamanders associated with sewage effluent. *Science* 196:315-317.
- Rose, F. L. 1977. Sewage and neoplasia. Technical Comment, *Science* 198:1280.
- Judd, F. W. and F. L. 1977. Aspects of the thermal biology of the Texas tortoise, *Gopherus berlandieri*. *J. Herpetology* 11:147-153.
- Sweazy, R., F. L. Rose, and C. L. Baugh. 1977. Toxic effects of military wastewater

effluent. Water Resources Center Publ., TTU. 40 pp

Rose, F. L. and D. Armentrout. 1976. Adaptive strategies of Ambystoma tigrinum inhabiting the Llano Estacado of west Texas. Jour. Animal Ecology 45:713-729.

Rose, F. L. 1976. Tumorous growth of the tiger salamander, Ambystoma tigrinum, associated with treated sewage effluent. Experimental Tumor Research., F. Hombarger ed., vol. 29, pp 251-262.

Rose, F. L. 1976. Sex ratios of larval and transformed Ambystoma tigrinum inhabiting the Llano Estacado of West Texas. Copeia. 1976:455-461.

Busbee, D., D. Colvin, I. Juijasson, F. L. Rose and E. Cantrell. 1975. Induction of aryl hydrocarbon hydroxylase in Ambystoma tigrinum. Comp. Biochem. Physiol. 50C:33-36.

Rose, F. L. and F. W. Judd. 1975. Activity and home range size of the Texas tortoise, Gopherus berlandieri, in south Texas. Herpetologica 31:448-456.

Kenny, J. W. and F. L. Rose. 1974. Oxygen requirements and activity rhythms of the tiger salamander, Ambystoma tigrinum (Amphibia:Caudata). Herpetologica 30:333-337.

Rose, F. L. and D. Armentrout. 1974. Population estimates of Ambystoma tigrinum inhabiting two playa lakes. J. Animal Ecology 43:671-679.

Delisle, K. and F. L. Rose. 1973. Serum protein changes during metamorphosis in Ambystoma tigrinum. Comp. Biochem. Physiol. 44A:1015-1020.

Rose, F. L. 1972. Account of Eurycea aquatica in catalogue of N. A. Amphibians and Reptiles.

Wade, M. and F. L. Rose. 1972. A comparison of the hemoglobins of larval and transformed Ambystoma tigrinum. Copeia 1972:888-891.

Rose, F. L., D. Armentrout, and P. Roper. 1971. Physiological responses of paedogenic Ambystoma tigrinum to acute anoxia. Herpetologica 27:101-107.

Armentrout, D. and F. L. Rose. 1971. Some physiological responses to anoxia in the Great Plains toad, Bufo cognatus. Comp. Biochem. Physiol. 39A:447-455.

Rose, F. L. 1970. Tortoise chin gland fatty acid composition: behavioral significance. Comp. Biochem. Physiol. 32:577-580.

Rose, F. L., R. Drotman, and W. G. Weaver. 1969. Electrophoresis of chin gland extracts of Gopherus (tortoises). Comp. Biochem. Physiol. 29:847-851.

Rose, F. L. 1969. Desiccation rates and temperature relationships of Terrapene ornata following scute removal. Southwest. Natur. 4:67-72.

Rose, F. L. 1969. Fossil history and evolution of the genus Chrysemys. Amer. Philo. Soc. yearbook, pp 330-332.

- Lewis, H. L. and F. L. Rose. 1969. Effects of fat body fatty acids on ovarian and liver metabolism of Ambystoma tigrinum. *Comp. Biochem. Physiol.* 39:1055-1066.
- Rose, F. L. and H. L. Lewis. 1968. Changes in weight and free fatty acid concentrations in fat bodies of paedogenic Ambystoma tigrinum during vitellogenesis. *Comp. Biochem. Physiol.* 26:182-184.
- Rose, F. L. and C. D. Barbour. 1968. Ecology and reproductive cycles of the introduced gecko, Hemidactylus turcicus, in the southern United States. *Amer. Mid. Nat.* 79:159-168.
- Rose, F. L. 1968. Ontogenetic changes in the tooth number of Amphiuma tridactylum. *Herpetologica* 24:182-184.
- Weaver, W. G. and F. L. Rose. 1967. Systematics, fossil history, and evolution of the genus Chrysemys. *Tulane Studies Zool.* 14:63-73.
- Rose, F. L. 1967. Seasonal changes in the lipid levels of the salamander Amphiuma means. *Copeia* 1967: 662-666.
- Rose, F. L. and R. B. Drotman. 1967. Anaerobiosis in a frog, Rana pipiens. *Jour. Exp. Zool.* 166:427-432.
- Rose, F. L. and W. G. Weaver. 1967. Two new species of Chrysemys (Pseudemys) from the Florida Pliocene. *Tulane Studies Geol.* 5:41-48.
- Rose, F. L. 1966. Homing to nests by the salamander Desmognathusauriculatus. *Copeia* 1966:251-253.
- Rose, F. L. 1966. Reproductive potential of Amphiuma means. *Copeia* 1966. 598-599.
- Rose, F. L. and J. Zambarnard. 1966. Cardiac glycogen depletion in Amphiuma means during induced anoxia. *J. Morph.* 120:391-396.
- Rose, F. L. and J. Zambarnard and G. Pogany. 1965. Hepatic glycogen depletion during induced anoxia in Amphiuma. *Science* 147:1467-1468.
- Martof, B.S. and Rose, F. L. 1963. Geographic variation in southern populations of Desmognathus ochrophaeus. *Amer. Mid. Nat.* 69:376-425.
- Rose, F. L. and J. L. Dobie. 1963. Desmognathus monticola in the Coastal Plain of Alabama. *Copeia* 1963:564-565.
- Rose, F. L. and F. M. Bush. 1963. A new species of Eurycea (Amphibia: Caudata) from southeastern United States. *Tulane Studies Zool.* 10:121-128.
- Martof, B. S. and F. L. Rose. 1962. The taxonomic status of the plethodontid salamander, Desmognathus planiceps. *Copeia* 1962:215-216.
- Martof, B. S. and Rose, F. L.. 1962. The comparative osteology of the anterior cranial elements of the salamanders Gyrinophilus and Pseudotriton. *Copeia* 1963:727-732.

- Rose, F. L. 1962. A case of albinism in Rana pipiens Schreber. *Herpetologica* 18:72
- Rose, F. L. 1960. Notes on a breeding colony of grackles and recent avian invaders in Athens, Clarke County, Georgia. *Oriole* XXV:43-44.
- Rose, F. L. 1959. Albinism in Thamnophis sauritus proximus Say. *Herpetologica* 16:233.
- Neill, W. T. and Rose, F. L. 1954. Records of the green watersnake, Natrix cyclopian, in South Carolina and Georgia. *Copeia* 1954:127-128.
- Neill, W. T. and F. L. Rose. 1949. The nests and eggs of the southern dusky salamander, Desmognathus fuscus auriculatus. *Copeia*. 1949:234
- b. Non-refereed Articles:
- Rose, F. L. and F. W. Judd. 1978. Tiny Tanks. *Texas Parks and Wildlife Magazine* (March), vol. XXXsl, no. 3:16-19.
- Judd, F. W. and F. L. Rose. 1990. Life on the Lomas. *Texas Parks and Wildlife Magazine* (August), vol. 48, no.3: 44-46.
3. Abstracts: Don't maintain
4. Reports:
5. Book Reviews: Don't maintain
6. Other
- B. Works not in Print
1. Papers Presented at Professional Meetings:
2. Invited Talks, Lectures, and Presentations:  
Some aspects of the lipid and carbohydrate metabolism of amphibians. AAAS, Dallas, TX, 1969. *Ecol. Soc. Amer.*
- Ecology and systematics of Ambystoma tigrinum on the Llano Estacado. ASIH symposium on ambystomatid salamanders. New Orleans, LA, 1970.
- Rare and endangered reptiles and amphibians. Symposium on rare and endangered species sponsored by the President's Council, Mississippi State Univ., Starkville, Mississippi, 1972.
- Some aspects of the biology of Gopherus berlandieri. Herpetologists League symposium on the status of North American tortoises, Washington, 1972.
- Tumerous growths of tiger salamanders associated with treated sewage effluent. Symposium sponsored by the International Union Against Cancer, Cork, Ireland, 1974.
- Tissue lesions of tiger salamanders (Ambystoma tigrinum): relationships to sewage effluent. *New York Acad. Sci.* symposium, NY, 1977.
- Home range estimates of Gopherus berlandieri. 6th annual symposium, desert Tortoise Council, Tucson, AZ 1979.
- Chelonians in arid and semiarid environments. Symposium sponsored jointly by AAAS and

Ecol. Soc. of America, Tucson, AZ, 1980.

Ambystoma tigrinum: neoplasia associated with treated sewage effluent. 11th International symposium of the Princess Takamatsu Cancer Foundation (Phyletic Approaches to Cancer), Tokyo, 1980.

Relationship between prickly-pear abundance and Texas tortoise, Gopherus berlandieri, demography. Tamaulipan Biotic Province symposium, Corpus Christi, TX, 1984. (F. W. Judd and F. L. Rose)

Histopathology of skin, connective tissue, pigment cell and liver neoplasms in neotenic Ambystoma tigrinum from a sewage lagoon. 2nd. Annual International Colloquium on the Pathology of Reptiles and Amphibians, Nottingham, England. 1984. (with J. Harshbarger and L. Collins).

Reptiles and amphibians of the Llano Estacado. Symposium sponsored by the Texas Herpetological Society on the Biogeography of Reptiles and Amphibians of the State of Texas, Houston, TX, 1985.

Workshop on habitat modeling of the concho watersnake, U. S. Fish and Wildlife Service, Midland, TX, 1986.

Chrysemys-Pseudemys-Trachemys: A taxonomic trilemma. Symposium on the systematics of turtles. Amer. Mus. Nat. History, NY, 1987.

Gastric oxyuriasis and its consequences in yellow mud turtles (Kinosternon flavescens) associated with sewage effluent. Third International Colloquium on the Pathology of Reptiles and Amphibians, Orlando, FL, 1989.

3. Consultancies: Don't maintain
4. Workshops: Don't maintain
5. Other:

#### C. Grants and Contracts

1. Funded External Grants and Contracts:  
Analysis of the chin glands of Gopherus. 1 Jan. - 31 Dec. 1967. NSF.

Chin gland analysis of Gopherus berlandieri. 1 Jan. - 31 Dec. 1969. NSF.

Ecology and behavior of the endemic Mexican desert tortoise. 1969. Intern. Center for Arid and Semiarid Land Studies.

Ecology and Systematics of Ambystoma tigrinum on the Llano Estacado. Intern. Center for Arid and Semiarid Land Studies.

Ecology and systematics of Ambystoma tigrinum on the Llano Estacado. 1 Jan. 1971 - 31 Dec. 1972. NSF.

Ecology of the desert adapted tortoise, Gopherus flavomarginatus. 1971. Intern. Center for Arid and semiarid Land Studies.

Toxic effects of military wastewater. 1972-74. U. S. Army Medical Research Development Command. (with R. Sweazy).

Environmental perylene as a possible carcinogen. Environmental Protection Agency. 1980-83. (with R. Anderson, Sloan-Kettering Foundation).

Systematic status of Nerodia harteri. U. S. Fish and Wildlife Service. 1984.

A survey of the upper Colorado River drainages for Nerodia harteri. 1984. Colorado River Municipal Water District.

Age specific fecundity schedules for Gopherus berlandieri. With F. W. Judd, submitted through Pan American Univ. Coastal Studies Laboratory. Earthwatch. 1986-87.

Construction of a holding facility for confiscated Texas tortoises, Gopherus berlandieri. Texas Parks and Wildlife Department 1994.

Continued maintenance, reintroduction and research on Texas wildrice (Zizania texana). with Paula Power. U. S. Fish and Wildlife Service.

Cagle' map turtle rediscovered in the Blanco River. Texas Nature Conservancy and Institute for Sustainable Fresh Water. 2004 with T. Simpson.

Survey of San Marcos River for Cagle's map turtle (Graptemy caglei) Texas department of Transportation. 2006. With T. Simpson.

#### **Wetlands Project Grants:**

All of these grants/contracts were done in conjunction with Drs. Tom Arsuffi and Paula Williamson.

1997 TSU Merrick Funds. "Americorps and Aquarena wetlands restoration and trail improvements." \$10,000.

1997 National Park Service Rivers, Trails, Conservation Assistance Program. "Wetlands Project educational brochure." \$2,500.

1997 National Fish and Wildlife Foundation - Native Plant Conservation Initiative. "Restoration of the San Marcos headwaters." \$5,000.

1998 Meadows Foundation. "Wetlands Project." \$500,000.

1999 USFWS Partners for Wildlife. "Exotic plant and animal control and an interpretive boardwalk trailhead kiosk: Phase 1." \$19,500.

1999 Texas Parks and Wildlife Department. "Restoration of Aquarena riparian zone." \$70,000.

2000 Texas Parks and Wildlife Department. "Wetlands Walk at San Marcos Springs educational interpretation." \$65,000.

2001 John P. McGovern Foundation. "Wetlands Project." \$15,000.

2001 Parks and Wildlife Foundation of Texas "Riparian restoration and interpretive walk." \$150,000. Funded through National Fish and Wildlife Foundation (\$50k), Chevrolet (\$50k) and Cecilia Young Willard Helping Fund (\$50k).

**Wetlands Project Donations:**

Dr. Gwen Smith \$10,000.

Mr. Don Leggit, Sr. \$5,000.

2. Submitted, but not Funded, External Grants and Contracts: Don't maintain
3. Funded Internal Grants and Contracts:

Movements of the raccoon, *Procyon lotor*, between relictual riparian habitats and a wooded urban transitional zone. ORSP TSU 1996.

Is ovalbumin lacking in the egg-white of reptilian eggs? State Organized Research Funds, TTU. 1989.

Age specific fecundity schedules for *Gopherus berlandieri*. 1985. Joint proposal to TTU and Pan American University. (with F. W. Judd).

Ecology and systematics of *Ambystoma tigrinum* on the Llano Estacado. 1971. Vice President for Research, TTU.

Lipid metabolism during vitellogenesis in paedogenic *Ambystoma tigrinum*. 1969. Vice President for Research, TTU.

Toxic effects of wastewater. 1972. Water Resources Center, TTU.

Ecology and systematics of *Ambystoma tigrinum* on the Llano Estacado. 1971. Vice President for Research, TTU.

Crocodile Conservation Programme for Jamaica. 1971-1973. Jamaican Museum, University of Florida, and Texas Tech University. (with T. Patton, U.F.).

4. Submitted, but not Funded, Internal Grants and Contracts: Don't maintain
5. Fellowships, Awards, Honors:
  - NASA predoctoral Fellowship, Tulane University
  - National Heart Institute postdoctoral fellowship, University of Florida

IV. SERVICE

- A. University: More committees than I care to think about.
- B. Departmental:
  - Coordinator of Graduate Programs, Biological Sciences, TTU 1984-1989.
  - Biology chair 1991-2004
  - More committees than I care to think about.
- C. Community

Methodist Hospital School of Nursing Executive Committee, 1985-90.

D. Professional:

President, Southwestern Association of Naturalists, 1989-91.

Managing Editor, Southwestern Association of Naturalists, 1984-87

Coordinator, Val Verde County Natural History and Archaeology Research Area 1984-present.

Board of Governors, Southwestern Association of Naturalists, 1983- present.

E. Organizations

Herpetologists League

American Association of Ichthyologists and Herpetologists

American Association for the Advancement of Science

Society for the study of Amphibians and Reptiles

Southwestern Association of Naturalists

1. Honorary:

2. Professional: