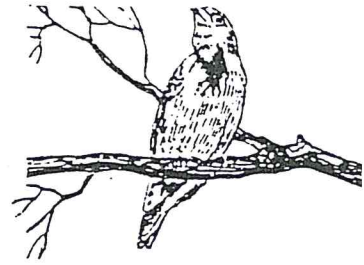


ON T.R.A.C.K.S.



VOL. 1 NO. 1

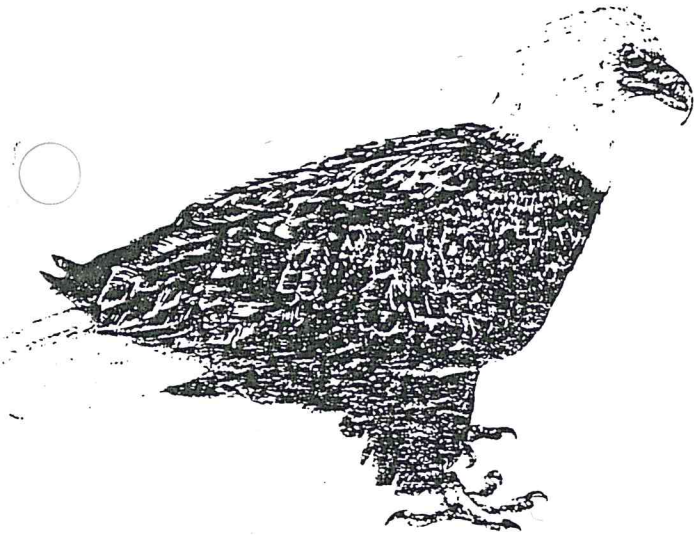
KANSAS WILDLIFE & PARKS

WINTER 1989

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T.R.A.C.K.S. is the new Kansas Wildlife & Parks Education Program in Johnson and Wyandotte counties. Hopefully T.R.A.C.K.S. will promote an appreciation for natural resources in Kansas and the world. Students love animals and the out-of-doors. Tap this interest and help them explore their natural world. Kansas Wildlife & Parks has several free service and avenues you can take -- free-loan materials like videos and learning kits, curriculum materials, school and teacher presentations, outdoor learning center development and many more. This newsletter will provide you with activities and information on wildlife and natural resources, with an emphasis on local ideas. For more information, or to make comments, call Mary Kay Crall, Education Specialist, at 894-9113.

SPECIES SPOTLIGHT -- AMERICAN BALD EAGLE



Kansas hosts 300-600 bald eagles each winter. The birds visit Kansas looking for open, unfrozen, water so they can feed on fish and waterfowl. Look for them at nearby reservoirs like Clinton (near Lawrence), Hillsdale, (south of Olathe) and also along the Kansas River. Sometimes you can even see eagles at Shawnee Mission Park and Wyandotte County lakes. Something special occurred last spring in Kansas. We had our first ever recorded nesting of bald eagles in Kansas. Two eaglets successfully fledged, or left the nest. Hopefully the nest will be used again next year.

Some interesting facts about bald eagles:

- * The American Bald Eagle or "bird of freedom" became our national symbol in 1782.
- * Bald eagles mate for life and may live up to 45 years in the wild.
- * The white head and tail feathers which give the eagle its name, appear only upon maturity at 4-5 years of age.
- * Adult eagles weigh 8-16 pounds (the males are smaller than the female) and have a wing span of 6-8 feet.
- * Bald eagles are primarily fish eaters but will also consume sick and wounded waterfowl.
- * Eagle nests may weigh as much as two tons!! as a single pair will make additions of branches each year.

- * An eagle soaring at 500 feet can see a fish swimming a mile away and swoop down on it at 100 miles per hour.
- * The eagle's main weapons are its talons.
- * In the 1960's, the greatest threats to eagles were the use of the insecticide DDT and loss of critical habitat.
- * The eagles greatest threats in the 1980's and 90's are still environmental pollutants and a continued high rate of habitat loss.
- * Bald eagles are endangered in Kansas and on the federal list although they are doing better today.

Free-loan Wildlife Reference Center materials about the Bald Eagle available from our Pratt office:

VT-7/M-31	The American Bald Eagle	Int-Adult	16 min.
M-69	We Can Save the Eagle	Int-Adult	28 min.
VT-16/M-91	Protecting Endangered Animals	Int-Jr.High	15 min.
FS-26	We Care About Eagles	Int-Adult	15 min.
Book 3-7	The Bald Eagle	4th-Adult	Legends and truths about our national bird with teaching suggestions.
Book 3-17	The How and Why Wonder Book of Birds	Primary	
PP-16	We Care About Eagles	K-12	National Wildlife Week Posters and Teachers Guides.

JUST HOW MANY PHEASANTS ARE THERE??

Have you ever wondered how biologists estimate populations? Very rarely do you have a situation where you can determine the exact number of individuals. Rather biologists use a number of techniques and methods to get an idea of the population. In Kansas biologists employ several methods including hunter report cards, rural mail carrier surveys and brood (groups of young animals) counts. Several techniques exist for getting data for estimating wild animal populations. They may be classified broadly as defined:

I. Count Animals

A. Count of all animals present in a given area

1. No statistical assumptions required
2. Is a true census -- not an estimate

Example: Deer on a small island

B. Sample Counts

1. Assumes samples are random
2. Usefulness depends on precision
3. Is an estimate -- not a census

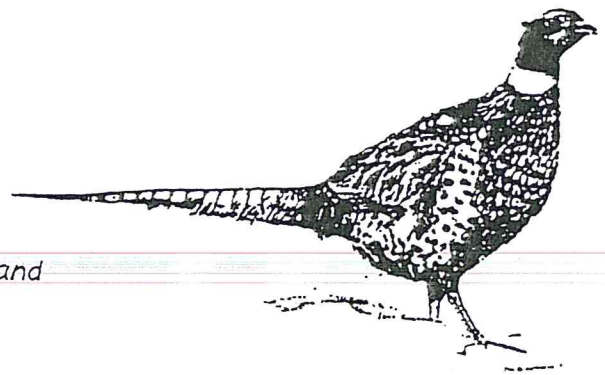
II. Count signs (tracks, calls, etc)

A. Count of all signs in a given area

1. Assumes that each animal leaves sign and that each individual's sign is observed
2. No statistical assumptions required
3. Is a true census -- not an estimate

Example: Territorial songs of certain birds

MATH/SCIENCE
ACTIVITY
3 - 12 grades



B. Sample count

1. Assumes that sample is random
2. Usefulness depends upon precision
3. Is an estimate -- not a census

Example: Counts of pellets from deer

One easy way to demonstrate and practice population estimates in school is by using the Lincoln Peterson Index. This activity can be found in the back of the 4th-6th grade Curriculum Materials.

This technique can be practiced using beans or some type of playing chip, and later expanded to real wildlife populations. Mark off a one or two square meter plot for each small group of students. Deposit an unknown quantity of beans or chips in the plot. Give the students 30 seconds to "capture" all the beans/chips they can find. I usually have one student pick up the 'animals' and put them in a container another student is holding. Count the beans/chips and mark those beans/chips with a marker. I find that marking chips with masking tapes works well. Throw the 'captured' beans/chips back in the plot. Once again, have the students capture individuals and count the captured. How many individuals were marked from the first capture? Figure the Lincoln Petersen Index using one of the following formulas:

$$\frac{\text{Population Estimate}}{\text{Total Number of Individuals Captured the First Time}} = \frac{\text{Total Number of Individuals Captured the Second Time}}{\text{Number of Marked Recaptured Individuals}}$$

OR

$$\text{Population} = \frac{(\text{Number caught first Time}) \times (\text{Number caught second time})}{\text{Number of Marked Recaptured Individuals}}$$

Assumptions:

1. No loss or gain of marks
2. No recruitment (no births or deaths)
3. No difference in the mortality of marked and unmarked individuals
4. Catchability is the same in marked and remarked individuals

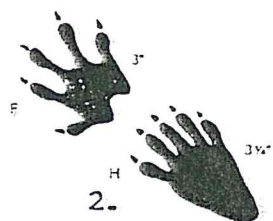
EXPANSION IDEAS: Run the activity several times to get a mean population count. Then count the actual number of beans/chips. See how close the values are. Have the students analyze the effectiveness of this technique based on their results. Have them list what type of problems biologists might run into in the field and what assumptions you make running studies like these.

Let's Make Some TRACKS!!

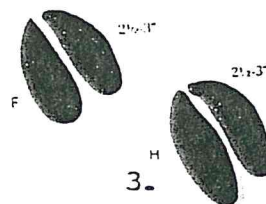
What kind of animal made these tracks??

(answers at the bottom of page 4, no peeking!!)

For a neat outdoor activity this time of year, look for animal tracks. Scouting for animal signs increases a students power of observation and identification skills. Snow and mud provide good opportunities for finding traces of many wild creatures. The free-loan Wildlife Reference Center has several learning kits and a book on wildlife tracks that can complement this activity. They can be checked out of the Pratt office for 3 weeks.



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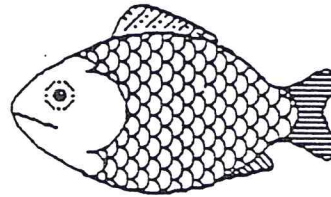
LK-26 Replitracks. These tough vinyl 'track' impressions are educational and fun to look at. They can be used with stamp pads to make ink print tracks. Or, if you feel adventuresome, use plaster and make plaster casts.

LK-50 Tracks and Tracking Games. This learning kit includes 12 cards with animal track replicas and species information. This kit can be used to learn predator prey relationships and track and species identification

Book 4-4 (2 week limit) A Field Guide to Animal Tracks

In addition, I have master sheets at the office of animal tracks and the publication Nature's Notebook, Telltale Tracks, if you would like a copy, just give me a call.

EXPANSION: Have students do a report on the animal they find tracks of. Have them include information on natural history, distribution in Kansas, feeding habits -- etc. Have them make a display and include a casting of their track.

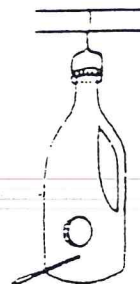
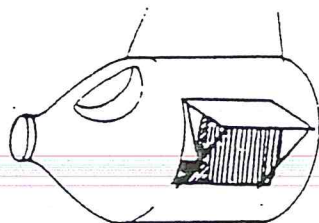


FISHING FEVER

Although its a little cool out to be thinking of fishing, did you know Kansas Wildlife & Parks has a free fishing clinic program? A fisheries biologist can provide a lake side clinic on the basics of fish, aquatic and fish ecology and habits and fishing. If th students want to fish, we can even provide loaner fishing poles!! (Fishing poles and lot. of materials are also available on a free-loan basis through the Wildlife Reference Center). More on fishing next spring.....

CHRISTMAS ORNAMENTS FOR THE BIRDS

Feeding birds is big this time of year. Encourage students to get involved with bird feeding. It allows them to see birds up close and also gain a sense of responsibility. To promote recycling, have your students make bird feeders from "trash". I have information and directions available at the office. A few examples:



Fill with black-oil sunflower seed and white proso millet seed. Make sure you put drainage holes in the bottom.

UPCOMING EVENTS:

Raptor Days (formerly known as Eagle Days) is back by popular demand. This fun, educational program will be held sometime in January or February and is open to all elementary school classes in Johnson and Wyandotte counties. The program will include a presentation with live birds of prey and viewing of a film/video. Registration will be on a first come, first serve basis. The location will be announced.

WHAT KANSAS WILDLIFE & PARKS HAS TO OFFER:

Wildlife Reference Center: A marvelous collection of materials including videotapes, films, books, learning kits, computer programs, game kits etc., are available to all Kansas teachers on a free-loan basis. The only cost for you to use these materials is the return postage (library rate). Call me for your free copy of a catalog listing all the materials including age levels, lengths and a brief description.

Curriculum Materials: Kindergartners learn the alphabet and how to count with raccoons, antelope and katydid; senior high students help determine the fate of an entire section of land. These useful materials for K-12 help teachers and students explore wildlife and natural resources in Kansas. The Curriculum materials stand on their own or can be incorporated into existing lesson plans. Most schools already have these materials -- look for them in your school library. Call if you can't find your school's set.

Nature's Notebook: Need a simple activity or worksheet?? You'll find it in Nature's Notebook. A compilation of these sheets in a bright yellow binder has been delivered to each Kansas school library. Some past topics: Snow Snakes, Flying Mousetraps, Telltale Tracks, From Eggs to Leggs and more. New ones are developed every couple of months. The Kansas City office has copies of these sheets available.

Classroom Presentation: I can conduct fun and educational programs in your classroom on a variety of topics regarding natural resources in Kansas and conservation in general. Some possible topics: endangered species, mammals in Kansas, Kansas wildlife, classification, or suggest a topic to fit in with what your class is studying and I'll see what I can do for you and your class. I have a variety of materials, mounted animals and in the future live snakes to bring with me if it fits in with the program.

For more information call or write Mary Kay Crall at 9539 Alden, Lenexa, KS 66215, 894-9113.

Equal opportunity to participate in and benefit from programs described herein is available to all individuals without regard to their race, color, national origin, sex, age, or handicap. Complaints of discrimination should be sent to: Office of the Secretary, Kansas Department of Wildlife and Parks, 900 Jackson St., Suite 502, Topeka, KS 66612.

