Synthesis Activity: Squirrel Articles

Squirrel synthesis: "What is the relationship between squirrels and humans?" (You could also come up with different research questions.)

- "Going Nuts" by Berry (CW)
- "Missionary Squirrels" by Bittel (Slate)
- "How Humans Made Squirrels a Part of the Urban Environment" by Greenwood (Discover)
- "True New Yorkers" by Lim (Live Science)

Group work instructions:

- Read the four articles about squirrels in your packet. As you read, underline or highlight information that answers the research question, "What is the relationship between squirrels and humans?"
- In your groups, compare notes and answer the following:
  - How does each article answer this question?
  - Where do the articles overlap? Include names of authors and type of information. Each article should overlap with at least one other source.
  - Are there any outliers—information about the research question that doesn't appear anywhere else? Be specific.
  - If you were writing on this topic, what else would you like to know that these articles don't answer? What would be your next steps?

Going nuts

Monday
Posted Oct 6, 2003 at 12:01 AM

By Chad Berry Staff Writer

The University of Alabama has a storied list of campus traditions: Crimson Tide football, Denny Chimes, the Quad and squirrels.

With UA's picturesque oak trees as their haven, the bushy-tailed creatures are some of the more commonly seen residents on campus - and some of the more mischievous, too.

In January 2002, the university had to cancel classes after a squirrel electrocuted itself in a transformer and knocked power out in the area. Last Oct. 5 -- the day of the Alabama-Georgia game -- power to campus buildings south of University Boulevard, including Bryant-Denny Stadium, was temporarily cut off by a squirrel that infiltrated the Thomas Field power substation.

"They use their bodies to short the wires out," said Robert Clifton, manger of UA's electrical maintenance. "It usually fries one. There's not much left of them."

Clifton and his crew try to keep nearby limbs trimmed so squirrels can't use them as a jumping off point and they have installed "squirrel guards" to keep the squirrels out of the insulators. The guards have helped so far, but past experience says the squirrels' determination will try to find a way, Clifton

"It's impossible to keep them out with the way they climb," he said.

The campus squirrel population has cost money. The animal guards put on by Alabama Power cost about $10,000 each per substation and that doesn't include the reinstallation of the zapped transformers and capacitors.

"It's an investment in making sure we continue to provide reliable service to our customers," said Alabama Power spokeswoman Alice Gordon.

The squirrels' rowdy history dates back even further for UA graduate Patrick Crispen. In 1994, he was conducting an Internet training course that attracted hundreds of thousands of people from around the globe. The course's success, however, was dependent on the continued power supply to the UA campus. Suicidal squirrels sometimes wreaked havoc.

The incidents led to Crispen naming his computer resources Web site "netsquirrel.com," in honor of the UA squirrels "who so bravely - and routinely - gave their lives to disrupt power to the University's mainframe computer center," as the Web site explains.

"I thought it was kind of humorous that a $6 million mainframe kept being knocked out by a tree rat," said Crispen, now a technology consultant at California State University, Fullerton. "It turned out that people around the world started rooting for Alabama squirrels. Somehow or another, I gained that as a sort of mascot, so netsquirrel.com has been up since 1995."

Conducive environment

The reason for the large number of squirrels, which in turn produces the squirrel-transformer incidents, is the surroundings of the UA campus. Squirrels, mostly gray squirrels, flock to the campus as a sort of wildlife refuge - where food is readily available and predators are relatively few.

"All university campuses that are in the range of squirrels have fairly large squirrel populations on them," said UA biology professor Stephen Secor. "One of the reasons is there's very low predation of the squirrels and, also, campuses are very big on leaving large trees on campus. That's prime habitat."

Most urban squirrels don't live to see their first birthday, mainly to automobiles, but a squirrel on the UA Quad wouldn't have to worry about that, said UA graduate student Lars Petzke.

"It's only foot traffic here on the Quad, so they don't have to worry about something running over them," Petzke said.

Well, that's not entirely true. Jeremy Henderson, programs coordinator for UA's community services and volunteerism, once witnessed a squirrel playing chicken with an oncoming bicycle on the Quad. The squirrel got entangled in the bike's spokes, repeatedly getting banged into the pavement before it wiggled free and staggered to safety.

"I remember telling people about it, because it was one of the coolest things I've seen," Henderson said.

Also attracting squirrels to the campus are the abundant food sources. The furry critters' normal diet consists of nuts, seeds and fruit. The UA squirrels have access to most of that - and a lot more.

"Throw in the M&M's and Dorito's and the leftovers, and they have access to natural food seasonally. And they also have the food on game weekends that's left over," said UA biology professor Albrey Arrington.

Arrington teaches an ecology class that is using radio telemetry to study squirrel activity at the UA Arboretum on Veteran's Memorial Parkway. He jokingly noted that squirrels could also be drawn to the UA campus for its extra-curricular activities.

"They certainly get to see more entertainment at the Quad than they would get out in the woods," Arrington said. "I think the squirrels on the Quad are some of the few in the nation that got to see live and in person 'ESPN GameDay.'"

The squirrels' sampling for traditionally human foods, such as M&M's and Dorito's, can increase the number of altercations like the one Henderson described. Such fearless squirrel incidents were the idea behind Gregg Elovich's satirical "Scary Squirrel World" Web site, scarysquirrel.com, which asserts itself as "The Voice of the Anti-Squirrel Coalition" and includes links to "Skwerls in the News" and "Campus Alerts," a section detailing human-squirrel altercations on college campuses across the nation. UA's troubles with the transformers are documented on the site.

"In general, squirrels are naturally curious critters," Elovich said. "They can be very aggressive within their own territory."

Another campus tradition

Regardless of all the controversy, most people have found they can peacefully co-exist with the beady-eyed acrobats on the UA campus.

"I love seeing little things running around," said Paige Sloan. "They're kind of fun to watch."

To some, the squirrels are a vital part of the campus' image, despite their occasional ill-fated meetings with electricity and eccentric behavior. Like Denny Chimes and Tide football, the UA squirrels are their own sort of campus landmark.

"They're absolutely a central part of campus," Crispen said. "I can't imagine Alabama without the squirrels and certainly the squirrel-induced power outages. It's like a tradition."

Reach Chad Berry at or (205) 722-0222.

Missionary Squirrels: The Misguided Campaign to Tame Wild Boys
By Jason Bittel www.slate.com

I shot a gray squirrel once, when I was 12. It took me a week of waiting in the still of the woods before the bushy creature finally frolicked down a tree and into my sights. Afterward, my dad showed me how to flay its skin, salt the pelt, and sauté what little meat the carcass yielded. It was the first animal I ever successfully hunted. And it tasted like dirt—old, chewy dirt.

Obviously, this is not the relationship most Americans share with squirrels. From Maine and Minnesota on down to Texas, the gray squirrel (*Sciurus carolinensis*) is better known as a fearless beggar, common to city parks, golf courses, and college campuses. They're wild animals, technically, but that doesn't stop us from offering them peanuts and breadcrumbs without the slightest fear of attack. Hunting urban squirrels seems like it would require little more than a cardboard box, a stick, and a length of twine.

But here's the weird thing. Unlike rats, raccoons, coyotes, and every other animal that's learned that living near humans means easy food, most squirrels did not move to the city for handouts. In fact, prior to the early 1800s, almost no gray squirrels scampered through any major American cities. At the same time, the countryside was so inundated with the buggers that many states placed bounties on their heads. Literally. In Tennessee, for instance, the government encouraged adult males to pay some of their taxes in squirrel scalps.

If squirrels were such a pest that rural folk were killing them on sight, you'd think great numbers of the animals would have found their way to the cities. Since they didn't, how on earth did gray squirrels come to lord over every patch of manicured nature in the East?

Because we put them there—for moral reasons.

Basically, gray squirrels owe their prevalence to two emerging ideas of the early 19th century. The first notion is that nature is inherently good for people, and where it does not exist naturally, it should be cultivated in the form of gardens, parks, and other open spaces. Squirrels were thought to be an obvious accent to such places, for what good is the wood without its denizens?

The second accepted truth was that most young boys were total jerks, but that forcing the little brats to be nice to animals could soften those hard edges. Etienne Benson explains how those ideas collided in December's issue of *The Journal of American History*. He writes, "[S]quirrels offered an opportunity to teach young boys the value of compassion and kindness in the public sphere, just as domestic pets did in the home."

In other words, each time a squirrel sidled up to a child, the latter had to make a choice between good and evil. He could choose to toss the little fluff ball a bit of cracker. Or he could pick up a projectile and bash its brains in.

On this premise, gray squirrels were welcomed into New York, Philadelphia, Boston, Washington D.C., and Chicago. Later, grays would be introduced to Washington state, Oregon, and California. In fact, the idea was so popular, one of the founding members of the Boy Scouts of America proposed sending "missionary squirrels" all over the world "to cure boys of their tendency toward cruelty."

Luckily, the idea that foreign countries would willfully import an invasive species on the premise that it would teach their boys to be better men was roundly mocked and rejected. Oh wait, no it wasn't.

Australia, Italy, South Africa, and the United Kingdom all participated in the great one-way gray squirrel exchange program. Some squirrel colonies were started by foreigners who simply thought grays were cute and would look nice in their backyards. (I'm not sure which motive is worse.) The gray squirrel hit England particularly hard, where it is still contributing to the decline of the native red squirrel (*Sciurus vulgaris*) to this day. Because grays are bigger and bolder, the reds tend to evacuate areas where territories overlap. Researchers have also discovered that grays carry and pass a deadly parapoxvirus to the reds.

But out of all this, what's most interesting to me is the way the perception of gray squirrels seems to have morphed over the years. Benson told me that grays used to enjoy a reputation as creatures of diligence and foresight. Whereas other animals hibernate, migrate, or spend their winters eking out a living on whatever foodstuffs they can find, squirrels are famous for gathering and storing supplies for the coming harshness. But then, around the beginning of the 20th century, all of that started to change.

"All of a sudden, the gray squirrel had become this quintessential urban creature," said Benson. "People started to associate them with begging and laziness."

This, friends, is high irony. In its natural environment, the gray squirrel provides for itself like a champ. It eats everything from fruits and veggies to bugs and baby birds. (Yeah, you read that right.)

And obviously, there are the nuts. Gray squirrels gather and store many varieties of nuts and seeds, but they're also very choosey. They know acorns from white oak trees will germinate in the fall if buried underground, so they either eat them right away or bite off the acorn's embryo to prevent it from sprouting after storage. (Germinated acorns are less nutritional, FYI.) But acorns from the red oak tree wait until spring to germinate, so squirrels are more likely to stockpile this variety. If spring comes and they haven't eaten the red oak stash, research has shown the squirrels will dig the acorns up, nip off the embryo, and re-bury them for future use.

But guess what doesn't keep very well over the winter? Peanuts! Not only that, peanuts lack many of the nutrients squirrels require, and their soft shells do nothing to wear down the rodents' ever-growing incisors. And yet Benson found peanuts were often the food of choice for university staff, city planners, and concerned citizens trying to do the squirrels a solid. In Washington, D.C.'s Lafayette Square, volunteers have been known to lay out upwards of 75 pounds of peanuts *per week*, contributing to "one of the densest gray squirrel populations ever recorded."

In honor of Squirrel Appreciation Day—because that's a thing, and it's today—I'd ask that all you urban squirrel haters cut the grays a break. The next time one makes a run at your sandwich, try to remember that the squirrels didn't ask for any of this. They're just a bunch of wild animals doing the best with what we gave them.

http://nautil.us/blog/how-humans-made-squirrels-a-part-of-the-urban-environment

How Humans Made Squirrels a Part of the Urban Environment

POSTED BY VERONIQUE GREENWOOD ON DEC 18, 2013

One day in 1856, hundreds of people gathered to gawk at an “unusual visitor” up a tree near New York’s City Hall. The occupant of the tree, according to a contemporary newspaper account, was an escaped pet squirrel, which the police had to be called in to capture.

A squirrel in a tree is not much cause for excitement today. But as historian Etienne Benson writes in a fascinating recent paper, from which this scene is drawn, in 1856 squirrels were a rarity in cities. Long thought of as farm pests and frontiersmans’ game, they were only just beginning to be introduced into the parks of American cities, where humans had made homes for them. They were not urbanites to begin with. We made them that way.

The Boston Common, the New Haven Green, and other public green spaces began to be seeded with gray squirrels between 1840 and 1860. They were given food and nest boxes, all in the name of livening up the parks. “An 1853 article in the Philadelphia press describ[es] the introduction of squirrels, deer, and peacocks as steps toward making public squares into ‘truly delightful resorts, affording the means of increasing enjoyment to the increasing multitudes that throng this metropolis,’” Benson writes.

Humans’ love affair with city squirrels turned out to be a strange rollercoaster, though—an example of what ups and downs can befall a species hitched to our fancy. At first they were cheery additions. People got them to eat out of their hands. Then people began to wonder if they were bothering the birds,

thus prompting a burgeoning of the bug population, and they were removed or died out. By the 1870s they had been brought back, in tandem with trends in landscape architecture that encouraged natural-looking parks. Central Park, one of the gems of this movement, has had a population of gray squirrels in it since 1877, just a few years after its completion, Benson writes. Depending on who you talk to today, city squirrels are adorable window-dressing or grimy pests. But one thing is clear: From the parks, they infiltrated city neighborhoods and backyards, becoming a more-or-less welcome—and, seemingly, permanent—part of the human environment.

As more and more of the world becomes human-used space that other animals camp out in, by invitation or against our will, ecologists are studying modern populations like the historic ones Benson writes about. The discipline is called urban ecology, and you can spy some of its practitioners on median strips in New York City, carefully sucking up ants through a straw to track how their populations change. Some of them specialize in city squirrels. Cats, rats, pigeons, and even crickets that live in basements have all got their scientific fan clubs, avidly looking at what we've wrought. If you're interested in getting a real-time sense of what future historians may write about today's urban animals, you may want to look into this study of the creatures who make their homes within ours. It's a reminder that real ecosystems do arise from what humans wrought purely in the spirit of beautification.

Veronique Greenwood is a former staff writer at DISCOVER *magazine. Her work has appeared in* Scientific American*,* Popular Science*, and the sites of* Time*,* The Atlantic*, and* The New Yorker*. Follow her on Twitter here.*

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True New Yorkers: Not Much Fazes NYC Squirrels

By Jillian Rose Lim, Staff Writer | July 25, 2014 11:31am ET

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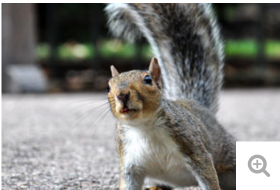

The Eastern gray squirrel knows how to act in the Big Apple.

Credit: Patrik Mezirka | Shutterstock.com

Most longtime New Yorkers have adopted habits to cope with life in a city of more than 8 million people. They might avoid eye contact on the subway, ignore people with clipboards on the sidewalk or stare at their phones to fend off unwanted interactions. But a new study finds that even the city's squirrels have made adjustments in order to avoid encounters with people.

In rural areas, most country squirrels view humans as potential predators. They become cautious and alert around people, keeping their distance, whether or not the human is looking directly at them.

"Some animal species never behaviorally adapt to humans — they always run when they see them," Bill Bateman, a biologist at Curtin University in Australia, who led the study, told Live Science in an email. "If an animal runs when it sees a human, it is because it sees the human as a risk and is prepared to stop doing what it is doing to escape. It pays a cost of stopping

eating, or courting, but that is better than possibly being caught." [Image Gallery: Red Squirrel Moms and Babies]

03:12

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But New York City squirrels barely seem to notice people, Bateman found. These urban squirrels have adapted their behavior to avoid unnecessary contact with humans, the study found. Compared to rural squirrels, city squirrels allow pedestrians to come relatively close, and only move away when they feel people's eyes intently watching them. This suggests that they can clearly discriminate between threatening and nonthreatening behavior.

Bateman observed Eastern gray squirrels in a residential area in Manhattan's highly populated and extremely busy Lower East Side. He dropped colored pins on the ground to measure the squirrels' "alert distance," or the distance between a squirrel and an observer once the squirrel was aware it was being watched. Bateman also measured the "distance fled," or how far the squirrel distanced itself from the observer.

Ninety percent of the squirrels moved out of the way when they noticed humans walking on a footpath, while only 5 percent stopped, froze and showed signs of being alert and vigilant, like a deer in headlights. Bateman said city squirrels are aware that humans are everywhere and that they can't run away all the time as a country squirrel would.

"In the city, the squirrels have honed this reaction down to tiny cues: Are the humans looking at me? That indicates higher risk than them ignoring me," Bateman said.

Animals should still be sensitive to the potential threat of humans, but to be able to live freely in the presence of humans is one of the key behavioral traits of a successful urban adapter, Bateman and his co-author wrote in their study, published June 12 in the Journal of Zoology. These animals don't see humans quite as predators — in fact, humans might become "predation-free predators," the researchers said, and so the animals ignore people, rather than react fearfully. Armed with this lack of fear, the animals are in a better position to thrive and persist in the urban environment.

As urban areas continue to grow around the world, more wildlife may need to adapt to city life. In the future, Bateman would like to explore the behavior of birds, mammals and reptiles in Australia that thrive in urban areas full of human activity.

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Editor's Recommendations

- 5 Animals With a Moral Compass