When you drive or bike between Saint John’s and I-94 this month, you cannot help but notice a new grove of trees on the prairie—or is it a building? We in the College of Saint Benedict and Saint John’s University art department—and our partners around CSB/SJU, the Arboretum, and central Minnesota—hope you stop to investigate and be a part of this magical creation.

What you see is a sculpture in process that provokes questions about what makes something natural vs. man-made—a sculpture made from cut saplings that appears still to be growing.

Patrick Dougherty, its creator, finds inspiration in the similarities between human homes and animal habitats, as well as in the subtle differences between shapes in a landscape. He creates his three-dimensional forms with an emphasis on flowing lines—lines made from trees. Mr. Dougherty’s breathtaking, building-size forms woven out of sustainably-harvested saplings evoke nests, lodges, and fantastical-worlds.

Over 240 communities, parks, schools, and corporations all over the world have hired him to come to their sites for three-week stretches to create one of his monumental art works. Like the sculptures made of earth and rocks of other environmental artists, Mr. Dougherty’s work expresses a close relationship between people and nature. As John Grande writes in Balance: Art and Nature, his call for ecologically conscious art, “nature is the art of which we are a part.”

Such art works well with a Benedictine emphasis on responsible stewardship of ecological communities within a close-knit human community. This emphasis shows itself in the Arboretum; the communities of both monasteries; the success of sustainability-focused enterprises such as the Saint John’s Pottery Studio, woodworking, and maple syrup; an overall interest in sustainability among the faculty, staff, and student-bodies of CSB and SJU; and a turn toward experiential and service-learning across CSB/SJU’s common curriculum.

Every one of Mr. Dougherty’s works takes a community to build—especially volunteer labor to twist, bend and nurture the finished piece into being. One need not have any experience with art to participate—just enthusiasm for working outdoors with others.

The planning and funding stage of Mr. Dougherty’s residency took a lot of community-building work as well. It began when CSB/SJU’s art club and members of the art department were brainstorming artists to

Stickwork, continued on page 2
bring to the student body. Several of us on the faculty had seen Mr. Dougherty’s work at other schools and longed to see such a project occur here. We contacted Mr. Dougherty and learned he was building a piece at the University of Minnesota Landscape Arboretum in the spring of 2010. Three of us drove there and found Mr. Dougherty to be an extremely congenial person who was excited by the idea of working with us during his next open time which was, as you can see, two years from then!

In the past two years Mr. Dougherty has traveled to France, Hawaii, South Korea, Arkansas, Nebraska, and many other sites. In the meantime, we have worked with many generous departments and offices on both of our campuses to bring him here. We also applied for and received a grant from the Central Minnesota Arts Board.

We are extremely grateful for all of the support we have received, especially from the Arboretum, and are thrilled to see it begin to pay off in the excited expressions on the faces of this fall’s crop of students. Those in our sculpture, 3D/drawing, and topics classes, as well as classes in environmental studies, theology, and other departments are especially involved in the project.

We also have several CSB/SJU alums heavily involved, such as CSB/SJU art department’s post-baccalaureate artist-in-residence Sienna Kuhn ’12, and Patrick Dougherty’s assistant for the project, Theo Eggermont ’08, who has served as a CSB/SJU sustainability fellow among other roles in the community.

All surrounding community members have been welcome as volunteers or simply as witnesses to the project. No matter the level of participation, all are welcome to visit the piece often in the next two years.

Most significantly, about 8,000 K-12 students and their teachers will visit the sculpture during their regular visits to the Arboretum—the location in the prairie was selected particularly so it could easily be incorporated into their lessons. Giving students access to the Arboretum—already an act of environmental justice—now gives students and community members of all ages the ability to see the arts as integrated with the environment.

Our hope is that this mysterious artwork causes everyone on that road to want to stop and take a closer look—at the sculpture, at the land around it, and at the relationship between the celebratory and careful work of people and the beauty and sustainability of our surroundings.

Rachel Melis is an associate professor of art at the College of Saint Benedict and Saint John’s University and is an avid Arboretum member.

Volunteer

Email stickwork@csbsju.edu to volunteer for a shift to help build the sculpture between now and September 21.

Celebrate

September 21, 5—7 p.m. in the Arboretum prairie. Celebrate the sculpture’s completion!

Visit

Come see the finished sculpture, in all seasons, during the next few years! Visit the project blog to follow along and learn more: www.stickwork-csbsju.org

Volunteers work with artist Patrick Dougherty, each day’s work revealing more of the final 20-foot-tall sculpture that will grace the prairie landscape for the next few years.
Imagine an animal with big eyes and a bushy tail that’s only active in the dark of night gliding from tree to tree. What is it? A Southern flying squirrel (Glaucomys volans), of course! In May 2012, CSB/SJU biology faculty initiated a research project to investigate these fascinating creatures.

While closely related to other squirrel species, flying squirrels are the only North American squirrel that is completely nocturnal and the only one that depends on flight to move about their home range.

The “flying” portion of the name is a bit of a misnomer as these small rodents don’t exhibit true flight but instead glide from tree to tree. Loose skin extensions, called the patagium, extend from their body and stretch between their front and back legs. Squirrels climb to the top of a tree and launch themselves into the air; the patagium acts as a parachute. Once airborne, they steer via small movements in their wrists and their flattened tails act as a stabilizers.

Once they land, they scurry to the opposite side of the tree in case any predators (owls, house cats, and raccoons) were tracking their glide. The longest recorded glide is 90 meters!

Large eyes aid vision during their nocturnal forays for food. Acorns are one of their favorite foods, but they will also eat nuts, bark, fungi, berries, insects, and even meat if it is available. Unlike black bears, which hibernate to avoid the winter’s lack of food availability, gliders remain active all year. To survive the sparse winter, they create food caches during warmer months.

Giders depend on naturally occurring tree cavities or cavities created by other species for their nesting/resting/food storage sites. They are a relatively social species; five to twenty individuals have been found nesting together at one time!

As part of the CSB/SJU summer undergraduate research program, we captured flying squirrels to determine how many of these tiny forest critters reside in the Arboretum’s hardwood forests and if there are any habitat predictors for their residency.

Using live traps baited with a mixture of peanut butter, raisins, and molasses, squirrels were captured for data collection, including: weight, leg length, body length, tail length, gender, and reproductive status before being released. The animals were then given eartags with unique numbers so we could recognize any recaptures.

One of the most challenging aspects of this research project was trap interference from other species, particularly raccoons and deer mice. Raccoons quickly learned that the peanut butter inside the trap was an easy meal; often 80% of our traps would be raided! Deer mice, also seeking food, climbed the tree and entered the trap, which effectively closed the trap to flying squirrels. Deterrents helped but did not completely solve this problem.

Biology majors Hannah Von Arb (CSB ’13) and Stephanie Noyes (CSB ’14) along with volunteer Moriah Novacinski worked tirelessly through rain, wind, mud, and heat to collect the trapping and habitat information this summer. Forty individual squirrels were captured (23 males and 17 females) and tagged. We found that flying squirrels in the Arboretum were captured more often in areas with greater herbaceous cover, taller surrounding trees, and a higher count of surrounding shrubs. Other habitat factors that might be significant include: density of down woody debris, average diameter of surrounding trees, and trap tree species, although more research is needed.

According to Norm Ford, CSB/SJU professor emeritus of biology, these tiny denizens of the Arboretum’s deciduous hardwood forest are probably the most common of all resident squirrel species, yet they are rarely seen. During the next year, we plan to continue and expand this research project. We hope to track nocturnal activity via small radio collars and are looking for reliable volunteers to conduct this work over the next year.

Kristina Timmerman is a biology instructor at the College of Saint Benedict and Saint John’s University. Contact the Arboretum to get involved in this project!
Lions, and Tigers, and Birds?

Beth Grega

As I was applying for summer research programs, I was looking specifically for field work. The opportunity to study the populations that find their home here in the Arboretum is unique to CSB/SJU, and I wanted to take advantage. As a research fellow, I spent the summer studying the temperaments of female tree swallows in the Arboretum, searching for a correlation between female aggression and brood sex ratios.

In human reproduction, the male determines the sex of the child, but it is the opposite in birds. Working with biology instructor Carol Jansky and Rachel Ziegler (CSB ’13), we hypothesized that aggressive females would have a higher percentage of male chicks due to the elevated testosterone levels present in an aggressive female.

We evaluated the female tree swallows by observing nest defense and neophobia (fear of new things) behaviors during both incubation and nestling care. We tested nest defense by having Carol stand next to the nest boxes, while Rachel and I recorded the number of dives, vocalizations, and closest approaches attempted by the female subject within a five-minute period.

To test neophobia, we attached a tennis ball or piece of paper to the nest boxes. We observed the female parent’s hesitancy to return to their nests, their tendency to leave the sites, and the time until re-entry of their next boxes during a fifteen-minute period. Blood samples were taken from each nestling to take back to the lab for DNA isolation to determine genders. After all 35 of our subjects were tested, we compared the behavioral data against the genders of the nestlings.

To our surprise, the correlation was the opposite of what we had thought! Aggressive females favored a higher percentage of female chicks within a brood. After some thought, our guess is that this is a result of the lack of competition needed for a mate this year. This was the second year Carol studied tree swallows, and our data revealed a much younger breeding population this season. This suggests that there weren’t very many experienced birds to win over the males; rather, it was fairly easy for younger birds to begin nesting without a fight. Less fighting for mates may have contributed to lower testosterone levels in the females.

Because there are so many factors that could influence our living and changing subjects, we had to be able to brainstorm and consider a multitude of variables and questions. For example, we wondered if flying ability and wing chord length were influencing the number of dives these birds were daring, rather than an innate personality (those results were insignificant). And having Carol’s observations of the age of this breeding population helped us formulate new questions to build onto this study.

What makes this so interesting is the potential for broad applications in population ecology. The larger goal of this project is to propose a method that could be used in population rebuilding of endangered species. If we can determine that temperament is related to sex determination within broods of tree swallows, perhaps that information could improve the reproductive success of other species as well.

It is encouraging to be able to develop my observation and research skills as I look forward to a career in medicine. What is happening in the body is not always obvious in living, changing, unique individuals. These kinds of discoveries—questions and answers, more questions and solutions—are what I most enjoyed in this summer’s field study and look forward to in my future.

Beth Grega is a senior biochemistry major at the College of Saint Benedict. She is grateful to have had the privilege to pursue this research with such a wonderful team and in such an amazing place.
Lions, and Tigers, and Bird Nerds?

Rachel Ziegler

Huh. You don’t look like a bird nerd.

After others heard that I was studying tree swallows for a biology summer research fellowship, this is one comment I received. I’ve gotten many reactions from, “Yuck, birds!” to “That sounds just like you...in a good way.” (What the “bad way” was, I never did find out.) But this reaction was by far the most unique. What does a “bird nerd” look like?

Now it is important to note that I am not claiming to be a bird nerd. Not at all. Before I got this fellowship, I knew next to nothing about birds. My knowledge of bird calls consisted of the collection of twelve songs on our bird clock at home. I could recognize a bald eagle, the cardinal that was my high school mascot, and the woodpeckers my dad would point out to me throughout the years.

Since working with tree swallows this summer—a bird I previously didn’t know existed—my eyes, while they have always been open, are now focusing. I’ve become aware of the details. Before this summer I’d see a bird flit by without really registering it. In my classes I learned that birds were organisms that are remnants of dinosaurs, and Maya Angelou knew why they sang when caged.

But when I see a bird now, my first thought is, “What kind of bird is that?” followed closely by, “Where are my binoculars?” and, “What is it doing?” I’ve learned a new way of seeing, of focusing, and suddenly birds are everywhere.

And it’s not just birds that are everywhere. Did you know that there are wildflowers and spiders, different types of grasses, and trails going in every direction? You probably did know this, as you are members of the Arboretum. Reading Sagatagan Seasons.

Well I didn’t. I thought I knew. Freshly mowed grass growing next to asphalt, and computer desktop images of wildflowers and the Rocky Mountains: why yes, of course I liked nature. Who doesn’t?

But I really didn’t know much about the world around me. I still don’t. Visiting our nest boxes in the Arboretum and nearby Wildwood County Park and Farmstead, I’ve come across so many new words, new plants, and new life, that I can’t remember them all. It turns out those aren’t just yellow and white daisies out there!

And it’s not just a new awareness of things in the natural world. As we banded and measured the tree swallow chicks, watching them cuddling in the tiny shoe box we used to carry them from their nest, I became aware of even more.

I observed to my team, Beth Grega and Carol Jansky, “When I look down at them, their little bodies moving with each breath, I…” I paused and Carol interjected with, “know that their metabolic rate must be so high!” While I was thinking more along the lines of “there must be something more out there, something driving the life that is pulsing through their bodies,” this too was true. From an awareness of God to an awareness of the metabolic processes of Tachycineta bicolor, I am reminded yet again of how little I know.

As a research fellow this summer, I learned about the correlation between female tree swallow aggression and brood sex ratios (you can learn this too by reading the article on page 4). I learned about conducting a scientific study and adjusting for variables. I learned more than I wanted to learn about statistical analysis. But what I learned about most was awareness. From the dainty flowers of harebell, to the green moss in the chickadee’s nests, and all the way up the catalpa tree we found, the world is brimming with things unknown.

Rachel Ziegler is a senior biology major at the College of Saint Benedict. She doesn’t think her un-“bird nerd”-like self will ever become aware of all she wants to see and know. We certainly hope not.
Lions, and Tigers, and Bears, Oh My!

Black bears are common residents in northern Minnesota but are rarely seen near Saint John’s. This bear, spotted in the Arboretum this summer, paused to pose for this trail camera photo.

Katelynne Delfs

If you haven’t heard the news, a small black bear (Ursus americanus) was spotted at Saint John’s this summer. To a skeptic like me, this sounds almost like a Bigfoot sighting. Black bears normally live in the northern third of the state, after all. But we do have stories and pictures of this Arboretum visitor.

Br. Walter Kieffer was the first person to report our bear, and at first I thought he was crazy. He was out biking one Sunday evening near Saint John’s Prep School and saw an animal walking towards the Old Road gate. From a distance, he decided it was too big to be a raccoon or dog. The animal stepped over the lower rung of the gate and stopped when it heard the bike. According to Br. Walter, he got within ten feet of the bear and yelled “boo!” It ran off into the woods. He tried to get out his cell phone camera but was too late.

The first bear pictures we received are from Saint John’s Life Safety. The officers were advising construction workers near the intramural athletic fields to be wary of the bear when it suddenly made an appearance, running across the south end of the field, close enough to capture some photos. Later, it waltzed through the monastic gardens one weekend afternoon and the officers were worried it was too close to the beach full of people before it went back into the forest.

In mid-August a Saint John’s neighbor saw the bear along the southern property line. And when Life Safety set up a trail camera, they caught the bear playing with the live traps they had set to capture an overpopulation of opossums in the woods. Some people have claimed they heard the bear grunting out on the trail, and we’ve heard one tale of the bear actually sniffing around near the Chapel. The last confirmed sighting of the bear was at the end of August.

For those of us who haven’t yet seen the bear, imaginations are running wild. Some people think of the bear as small and friendly, maybe sitting near the bus stop during the day. Some are worried the bear is dangerous and have been inventing ways to trap it. So far the Saint John’s black bear is not a nuisance, and is still a welcome (and uncommon) visitor to the Abbey lands.

Black bears aren’t likely to become aggressive, but they are strong and can be unpredictable. If you do see a bear, here or elsewhere, make plenty of noise. Yell, clap your hands, or sing and let it know you are there. It will almost always run in the opposite direction because bears have no desire to be near humans. You can also back away while keeping it in sight.

Black bears live in forests where they can forage for plants and small bugs during the summer, and berries and nuts as fall approaches. They can weigh up to 500 pounds and be five to six feet tall. CSB/SJU biology instructor Kristina Timmerman, who once worked with black bears, estimates that our bear is under two years old based on the size of the head and ears in the pictures. It is likely either orphaned or newly independent of its mother.

Young bears are not great at hunting or foraging so they tend to explore new places, especially when preparing to hibernate in the winter. Ms. Timmerman doesn’t think the bear will stick around Saint John’s too long, as there never have been signs of resident bears in the Abbey woods.

Bears are a symbol of the Minnesota wilderness and were once considered for our state mammal. The Saint John’s bear, however, is proving so elusive that I’m still unconvinced that I will ever see it.

Katelynne Delfs is a student naturalist at the Arboretum. Spotting this bear at Saint John’s is the newest addition to her “bucket list” for her senior year at Saint Ben’s.
UPCOMING EVENTS

Stickwork  September 3-21

Sept 21  Celebration, Prairie Kiosk  5:00-7:00 p.m.

Internationally renowned artist Patrick Dougherty will spend three weeks in residency with the CSB/SJU art department creating a monumental outdoor sculpture made of sustainably-harvested saplings, which will grace the Arboretum landscape for at least the next two years.

Watch the artist in process throughout September anytime during daylight hours or join the crew assisting with the sculpture by contacting stickwork@csbsju.edu.

Minnesota Natural History  3rd Monday each month
Lecture Series  Sept.-Nov. & Feb.-Apr.

Free—Students (any age) & Arb members  6:30-8:00 p.m.
$5—Nonmembers, nonstudents

Oct 15  The National Parks of the Colorado Plateau
Sat, Nov 3  Stargazing with WCCO meteorologist Mike Lynch

Interested in learning more about Minnesota’s natural world? Join us each month during the school year for a lecture and discussion on a variety of natural history topics. Lectures will take place indoors, and all ages are welcome. Read descriptions of the individual lectures on our website!

Collegeville Colors  Sunday, September 30

$8/person, $32 max/family  1:00-5:00 p.m.
$10/person, $40 max/family after Sept. 27

You don’t want to miss this annual family event. Enjoy art, theater, music, and nature activities as you hike amongst the beautiful fall colors. Bouja and other treats will be served all afternoon.

Adventures Challenge  Saturday, October 13
Registration details TBD

Compete in teams of two or four in this annual Outdoor Leadership sponsored event. The challenge includes a relay race, canoeing, climbing, orienteering, and campsite set-up (untangle those tent stakes and lasso your bear bag!).

Annual Arboretum Photo Contest

Free and open to the public  Entries due November 13

Submit your photos from your adventures in the woods! Five photos can be submitted in each of three categories: Plants & Critters; Earth, Lake & Sky; and People. A panel of judges will pick the best photos from each category in three age groups: Under 18; 18-22; and 23 & Up. Best in Show will be voted for at the Volunteer/Member Appreciation Open House in December.

Banff Mountain Film Festival World Tour  Thursday, November 15

7:30 p.m.  Pellegrine Auditorium, SJU

Ticket information TBD

Journey to exotic locations, paddle the wildest waters, and climb the highest peaks. The Banff Mountain Film Festival World Tour begins immediately after the Banff Mountain Film Festival, held every November in Banff, Alberta, Canada. The diverse topics and stunning site locations shown through these films will offer viewers an unforgettable experience! Don’t miss out.

Volunteer/Member Appreciation Open House  Friday, December 7

Join us for our annual Volunteer/Membership Appreciation Open House. Start off the holiday season by enjoying food, entertainment, and conversation with friends, new and old. Bid on the silent auction; take your chances at the raffle table; and vote for Best in Show in the Arboretum Photo Contest. Invitations will be mailed in early November.

To volunteer, register, or get more information about Arboretum events, please call (320) 363-3163 or e-mail arboretum@csbsju.edu. Find us on the web at www.csbsju.edu/arboretum

Aboretum Staff:
Thomas Kroll, Director/Land Manager
Sarah Gainey, Assistant Director
John O’Reilly, Assistant Director
Jenny Kutter, Department Coordinator
Anna Schoenberger, Environmental Educ. Fellow
Dan Vogel, Forest Technician

Student Staff:
1 Office Assistant
1 Land Laborer
6 Student Naturalist Aides
7 Student Naturalists
14 Outdoor Leadership Center Staff
30 Peer Resource Program Facilitators

Aboretum Advisory Council:
Terri Barreiro  John Benschoter  Emily Franklin
Lew Grobe, OSB  Mike Connolly  John Geissler  Bob Russell
Tom Haeg  Scott Daninger  Kari Dombrovski  Stephen Saupe
Troy Knight  Greg Miller, OSB  Tom Wicks  Emily Franklin
Our Mission

- Preserve native plant and wildlife communities of the Abbey Arboretum and Forest
- Provide opportunities for education and outreach
- Model practices of sustainable land use
- Make accessible a natural environment

Our Vision

- We celebrate the unique beauty and richness of God’s creation in central Minnesota and foster the Benedictine tradition of land stewardship, education, and environmental respect.
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Save the Date!

Arboretum Member & Volunteer Appreciation & Open House
Friday, December 7

We celebrate you!

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