

# Itasca Biological Station & Laboratories

University of Minnesota  
Annual Report

## 2023



College of  
**Biological Sciences**

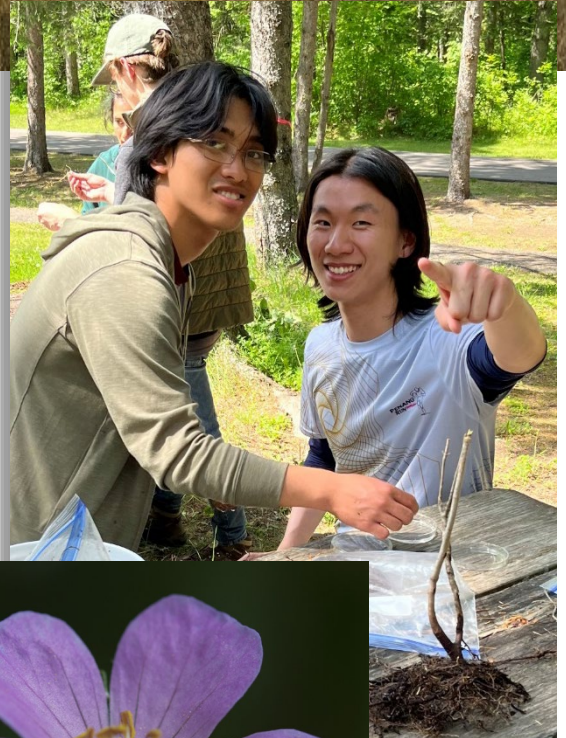
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UNIVERSITY OF MINNESOTA  
**Driven to Discover™**



# 2023 Contents

By the Numbers **3**  
Art, to Start **4**  
Mission & Values **5**  
Overlook **6**  
User Group Phenology **7**  
Itasca-led Programs **8**  
Education **10**  
Research **21**  
Engagement **27**  
Staff **34**  
Facilities **35**  
Land **36**  
Financials **37**  
Links **38**  
Art, to Part **39**  
Back Page **40**



# By the Numbers

# 2023 Itasca

## General

- 6640** Overnight Stays - (1,509 Users)
- 28** User Groups - (May 14 - Oct 26)
- 47** Average Group Size
- 60%** CBS Users - (81% UofM)

## Education

- 7** Field Courses (91 Enrollment)
- 4** Itasca-led Courses (42 enrollment)
- 28** Field Course Scholarships (\$50,250)
- 531** Nature of Life (NOL) 1<sup>st</sup>-year students

## Research

- 17** ItascaBio Research Permits Issued
- 6** Student Research Fellowships (\$25,055)
- 2** Early Career Faculty Investigators
- 11** Colleges, Universities, Governments

## Engagement

- 5** Station Public Tours & Open Houses
- 18** Public Outreach Programs
- 1378** Participants in Outreach Programs
- 2** MicroGrants (Halal food; Pre-visit videos)

# Art, to Start

## Bigtooths

*J. Schilling*

As the wind hits the hillside,  
Fresh from the prairie  
Twenty miles to the west,  
It awakens a waterfall of bigtooth aspens.  
I stand halfway down an outwash ravine  
On a dry afternoon,  
And I listen.  
Big, round, dentate leaves  
With flat, paddle-blade petioles,  
Waving and slapping.  
A leafy flood of sound  
Pours over my head with each gust.  
I am sideways, straddling two steps  
On my 41-step stairway.  
Each step is framed with white cedar,  
Filled with glacial till that I hand-carried  
To firm the ground in each frame.  
It is my portal down to the lake.  
My exit strategy.  
In between each breezy flutter,  
The bigtooths settle.  
In these quieter moments,  
I can hear up the hill  
With my right ear  
The trembling dapples  
Of quaking aspens.  
Their smaller leaves sound like raindrops.  
Situated upstream from me in the ravine,  
Their roots are a bit too shallow  
To hold a sandy hillside like the bigtooths.  
Below me, in my left ear  
And downstream in the ravine,  
Is a flat, riparian bench of spruce and fir  
Filtering the white noise of the lake  
With a dense conifer understory.

Here,  
I am rooted midway along a continuum.  
Sound gathers above,  
Quaking at the top of the stairs.  
It pours through me,  
Flooding the ravine  
Through a waterfall of bigtooths  
And a dark boreal abyss,  
Into a lake that is obstructed from view  
But that sounds oceanic.

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As I stand,  
I think about who lives here.  
Who would find this comforting,  
As a draw?  
I think of ruffed grouse who frequent here.  
The male must know this sonic landscape.  
He drums his wings here in May.  
If I could ask him about his habitat,  
He might use sound to describe it.  
Choosing to drum among waterfall trees  
On dry slopes.  
Knowing home as a sensation.  
Not over-analyzing the parameters  
Like I do.  
Just chasing joy  
Having never read the field guide.  
Following a deeply embedded compass.  
He is attracted to good territory  
By simple association,  
Not a list of requirements.  
Connecting his survival to an aesthetic,  
The grand design of time  
Having tuned each of his senses  
To that place.

*Populus grandidentata*, bigtooth aspen - Big toothed margins are obvious. The petioles are flat. This makes the leaves wave and slap in the wind.

**\*Note:** Art can capture attention (disrupts), ease blood flow, and open the mind. I saw a poem in Stanford's Jasper Ridge report ([link](#)). I liked it. I went for it, but I will outsource next time. -Jonathan



# Mission

At Itasca Biological Station & Laboratories, we are driven by research, teaching, and public excellence as part of the College of Biological Sciences and a larger University of Minnesota system. We strive to enable research in biology, ecology and conservation science, to provide immersive learning experiences in the field, and to facilitate public engagement as a discovery-motivated facility in rural Minnesota.

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# Values

We have strong connections to nature and to our community, and we are proud to curate a space for creative scientific thinking that naturally relaxes social anxiety. We value our environment, our community, open dialog, and of course, scientific excellence. We value the interactions we have with those that support our freedoms, and we value the unique backgrounds among those visiting. Our goal is to share and foster these values, irrespective of comfort level in wilderness, experience in science, funding success, citations, publications, etc. We also want Itasca to be as accessible as our resources will allow, no matter race, ethnicity, gender identity, gender expression, age, disability, sexual orientation, religion, or socioeconomic status.

We recognize, however, that there are multiple barriers that can limit who arrives at a 'table we make round,' particularly at a remote field station like Itasca. We know, from the collective experiences of field stations (and scientific conferences), that a remote station used to foster more relaxed social interactions is also prone to the formation of 'in crowds' and to slips in behavior. For those reasons, we value communication as a tactical tool for the following:

- 1) Setting (and modeling) ethics, standards, and consequences,
- 2) Setting staff expectations as well as demonstrating staff appreciation,
- 3) Working with our State Park hosts regarding safety and park accessibility,
- 4) Preparing coordinators who are in charge of user groups,
- 5) Lowering anxiety for users by gauging need and facilitating accommodation, and
- 6) Maintaining visibility with our home unit, the College, to avoid isolation.

In its essence, our goal is a Station that fosters freedom of thought, on-mission programming, collaboration, and scientific excellence. If a visiting student is focusing on their work and on the joy of Itasca, having overcome barriers to access, then pride and purpose will follow - for all involved. We know that from experience.

# Overlook

The National Academies published a document in 2014 “Enhancing the value and sustainability of field stations and marine laboratories in the 21<sup>st</sup> century” – the [PDF](#) is open access at [nap.nationalacademies.org](http://nap.nationalacademies.org). There is a section in Chapter 1 called “Field Stations in Jeopardy” that notes risks of capacity loss for remote field stations if there is “inconsistent operational and organizational cohesion.” We think about this part...a lot. After 10 years since publication, the risks remain, but we think they are now compounded by a need to stay consistent with our communities – to be trustworthy. This is not extra burden. This is reinforcement.

Our annual report documents Itasca’s successes, often by the numbers. But much of the work in the past 5 years has been to build a foundation below eye level that is strong, reliable and consistent. Without this baseline, we will struggle to sustain long-term science, to offer safe and accessible in-person courses, and to show up in rural communities with any hope of building trust. It has not been easy with COVID disruptions, but we have been scrappy, honest, hands-on, and successful. We are now on good footing, so it is time to strive.

We have also had supporters in our College. We welcomed a new Dean of CBS, Dr. Saara DeWalt, who visited Itasca for alumni weekend this Fall, with our student Booster Club present to share stories and vibes. Earlier in the year, we hosted Liz Eull, the Director of Finance and Facilities, and we have been at the picnic tables with many, if not all of the Dean’s office. We

are on the CBS radar, the College is in great shape, and we are aiming for strategic planning in 2024.

Our 2023 user numbers soared (>6500). We had a great run with Dr. Emily Schilling freshly hired in May. Field courses in May-June had another great year. The Nature of Life orientations went off without a hitch. A total of 28 programs, orientations, and workshops made the trip north.

This action is our jam. We love it. But our job is not to follow the ball – we must anticipate where the ball is going. Field stations are not just about their legacies. They are about our future. Conservation is in a new era. We are interested in a ‘green’ future that is bold enough to let down guards, defy boundaries, and welcome other ways of knowing. Science has not all been done. But we need to do more than science can do, alone. Itasca is the place.



# User Group Phenology

## 2023 Itasca

	<b>Grad Field Courses</b>	<b>Jan 25–Jun 18</b>
<b>spring</b>	<b>Undergrad Field Courses</b>	<b>May 14–Jun 18</b>
	<b>SOIL 4511 Field Study of Soils</b>	<b>May 22–26</b>
	<b>Race, Indigeneity, ... (RIDGS)</b>	<b>May 22–Jun 2</b>
	<b>Rural-Urban Exchange (RUX)</b>	<b>May 30–Jun 2</b>
	<b>Pres. Postdoc Fellows (PPFP)</b>	<b>Jun 9–11</b>
<b>summer</b>	<b>Nature of Life (NOL)</b>	<b>Jun 22–Jul 26</b>
	<b>Inst. Biol. Aging Metabol. (iBAM)</b>	<b>Jul 27–30</b>
	<b>ESCI 4971 &amp; 5971 Hydrogeology</b>	<b>Jun 30–Jul 11</b>
	<b>DNR aquatic plants workshop</b>	<b>Jul 31–Aug 3</b>
	<b>UofM Sustainability Summit</b>	<b>Aug 1–2</b>
	<b>Molec Cell Structural Biol Grads</b>	<b>Aug 14–21</b>
	<b>Plant &amp; Microbial Biology Grads</b>	<b>Aug 23–26</b>
	<b>Landscape Architecture Grads</b>	<b>Aug 25–28</b>
	<b>MN Mycological Society Foray</b>	<b>Aug 26</b>
	<b>NSC 5551 Neuroscience</b>	<b>Aug 27–Sep 3</b>
	<b>SDSU Landscape Architecture</b>	<b>Sep 7–10</b>
	<b>CFAN/GCC/CSPH Wild Rice camp</b>	<b>Sep 8–10</b>
	<b>Ecol, Evol &amp; Behavior Grads</b>	<b>Sep 8–10</b>
<b>Mississippi River Mayors meeting</b>	<b>Sep 13</b>	
<b>CBS Alumni weekend</b>	<b>Sep 14–17</b>	
<b>fall</b>	<b>Manoomin Arts Board</b>	<b>Sep 20–22</b>
	<b>UMN Morris Equity &amp; Diversity</b>	<b>Sep 22–24</b>
	<b>EES 5210 Glacial Geology</b>	<b>Sep 29–Oct 1</b>
	<b>UMN Crookston NatR Club</b>	<b>Sep 29–Oct 1</b>
	<b>Biochem Mol Bio Biophys Grads</b>	<b>Oct 6–8</b>
	<b>Center for InterProfessional Ed</b>	<b>Oct 6–8</b>
<b>DNR Parks &amp; Trails Leadership</b>	<b>Oct 26</b>	

# Itasca-led Programs

## Field Courses

110<sup>th</sup> year of Summer Sessions in Minnesota, since 1909

## CBS Summer Interns Program

3 students in 2023; Full-time at Itasca, May - September

## ItascaBio Volunteer Guides

Connecting the wisdom of a career with the promise of access

## Seed-to-Root Research Program

Faculty seed grants; Postdoc, Grad, & Undergrad fellowships

## American Indian Fund (AIF) Internship

Pairing promising local HS students with grad students 'on the job'

## Nature of Science (NatSci) & Nature Carts

Plug-and-play Science Communication with DNR's Itasca State Park

## Big River Continuum

Art-science collaboration & artist exchange - Headwaters to Delta







Remote learning...done *right*

Itasca Station field courses – May/June 2023

*Mycology, Ornithology, Mammalogy, Animal Behavior, & more TBD*

Scholarships abound! Stay tuned. [cbs.umn.edu/itasca](https://cbs.umn.edu/itasca)



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# Education

## Field Courses, May 14 – June 18

Field courses are a logical part of Itasca Station's future that resonates with our past. Our 2023 enrollment was strong (42 in PMB/EEB classes; 91 overall), despite a conservative roll-out during leadership transitions. The enrollment we are seeing now is consistently higher (>2x) than it was, pre-Covid. Investing energy in Itasca-based educational programming to foster a living and learning community (LLC) plays to our strengths, optimizes the use of our facilities and campus, and helps our University meet its most progressive curricular ideals.

### What we know about place

- Cognitive learning gains are higher in place-based field courses than in lecture halls.
- In-person experiences are desirable in the wake of COVID restrictions.
- The sense of belonging fostered in LLCs boosts recruitment and retention.
- Sense of belonging goes beyond *adding* diversity - it *supports* diversity.
- These connections last, as reflected in career choices, donors, and life partnerships.

### Why our situation works

- Itasca's geographic location for place-based biology and ecology is unrivaled.
- We can facilitate interactions between active scientists and active learners.
- State Park infrastructure assures safety and lowers barriers to accessing nature.
- Modern-but-timeless facilities and award-winning dining sustain a longer-term LLC.

### How we curate community

- Our new Associate Director has pedagogical know-how and relevant science.
- We offer grad-level courses alongside undergrad-level, enriching our science focus.
- New volunteer guides lead activities, add oversight, and offer career perspectives.
- A seminar series and other scheduled activities keep us engaged outside of class.
- Our 'Booster Club' sustains a connection to our off-season community.



# Education

Field Courses, May 14 – June 18



Students in Mycology, Ornithology, Animal Behavior, and Mammalogy made the most of Itasca in 2023. We also hosted Hydrogeology, MN Soils, Glacial Geology, and many other course-designated (PMB, EEB, etc.) student experiences.



An engaging Monday seminar series, a new Associate Director, and the annual faculty\*-vs-student volleyball game were highlights of the summer sessions. \*Minor note: 'faculty' includes staff..young, athletic staff.

# Education

## Field Courses, May 14 – June 18

*Photos Corby Kistler; Sue Wick self-portrait*



Corby Kistler



Jim Sparks



Sue Wick



Alan Holt

Our new volunteer 'guides' program is great! These accomplished professionals are in residence over the first 10 days of field courses. Sharing insights across a range of relevant careers - guiding trips for all to enjoy - being relaxed leaders.



Our classes increasingly include 5000-level graduate students. Grad students earn credits in a short period, they gain from hands-on immersion, they broaden their community networks, and they model dedication to science as a profession.

# Education

Field Courses, May 14 – June 18



*Photo Ellie Hechter*



# Education

## 2023 Award Recipients

In 2023, IBSL awarded \$75,305 for need-based scholarships, merit-based awards, and research fellowships. Thank you to our donors. These funds enable access, they reward excellence, and they connect students to donors who give back because they know Itasca is a life-changing experience. That's powerful!

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### James C. Underhill Scholarship

Cat Adkins  
Sarah Anglin  
Nina Charlier  
Seth Campbell  
Zoe Michaelson  
Aimee Rothschild  
Jacob Soukup

### Janet S. Boe Memorial Scholarship

Zoe Michaelson

### Parmelee Scholarship

Cat Adkins  
Johanna Krier  
Max Neathery  
Henry Rosato

### Red-shouldered Hawk Scholarship

Linnea Johnston

### Itasca Grad Research Fellowship

Fiona Clark  
Leah Glimsdahl  
Tanner Mierow

### John Tester Research Fellowship

Aiyem Bakytbaikyzy

### Bill Marshall Award

Rachel Schulz

### Ben Thoma Scholarship

Jacob Soukup

### Darby & Geri Nelson Scholarship

Seth Campbell  
Jin Oong  
Aimee Rothschild

### Director's Scholarship

Shree Chakraborty  
Jeanna Edlund  
Trevor Olson  
Colin Middlekauf  
Rachel Schulz

### Dvergsten Itasca Award

Nina Charlier  
Raine Way

### Jim Winter Research Fellowship

Alexander Doeblen

### American Indian Fund (AIF)

Justice Alvarado (Waubun HS)  
Lang Delancey (PhD Candidate)

Photo Bob Buck



# Education

# 2023 CBS Summer Interns

Lou Hoff (w/ fish), Madie Cloutier (w/ bikers), and Alex Doeblor (w/ fire) were our 2023 interns. Internships are partially funded by CBS Instructional Labs and amended by research and other creative funding. These undergrads spend the summer living onsite, eating meals, assisting programming, and shaping up as future leaders in science and education.





# Education

## Nature of Life, June 22 – July 26

Nature of Life (NOL) celebrated their 20<sup>th</sup> anniversary this year, with a quilt from former Dean Bob Elde and a host of NOL regulars to stoke the traditions. There were 531 incoming first-year students at the Station with 54 modules offered by 42 faculty and postdoctoral scholars. Brittany Eich and her NOL leadership team were back for year 2 post-Covid cancellations, and navigating was easier without planning too many alternatives. We had a regular bear named 'Dave' who was our spirit of mischief, but all-in-all we had a solid run with this tradition in onboarding that remains effective. The NOL effect on incoming students is something we understand – there is a power in focusing energy in a place like Itasca. It is a chance we do not take lightly, to have a real impact on students' lives in a *support* role, not just a *transactional* role, and we see the collateral benefits of bringing CBS faculty/staff together to build community.

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# Education

Nature of Life, June 22 - July 26



## Education

## Academic Retreats

### RIDGS – Race, Indigeneity, Disability, Gender & Sexuality Studies

UofM program “created to support innovative research, teaching, and community-building for scholars engaged with issues of race, indigeneity, gender, and sexuality.”

### RUX MN – Minnesota Rural-Urban Exchange

McKnight Foundation-funded program “to develop skills and confidence, grow social capital, and cultivate relationships across racial, economic and geographic divides.”

### PPFP – President’s Postdoctoral Fellowship Program

UofM program, part of the University of California Partnership for Faculty Diversity, “recruiting potential, future tenure-track faculty at the University of Minnesota.”

### iBAM – Institute on the Biology of Aging & Metabolism

UofM “interdisciplinary, trans-departmental endeavor across the University of Minnesota Medical School to advance research on the fundamental biology of aging.”

### MCSB – Molecular, Cell, & Structural Biology

UofM first-year graduate student experience for BMBB and MCDB&G grad programs.

### PMB – Plant & Microbial Biology Grad Program

UofM first-year graduate student experience, known as the “Phytograds.”

### Landscape Architecture Grad Program

UofM Master of Landscape Architecture (MLA) in the College of Design

### Neuroscience Grad Program

UofM first-year graduate student experience, known as NSC 5551 “Itasca Lab Course”

### Wild Rice Camp – Indigenous Ways of Knowing

UofM mixed-course experience with CFAN 1101 Deans Engaged Leaders, GCC 1908 Ways of Knowing Science, and CSPH 5111 Ways of Thinking about Health

### EEB – Ecology, Evolution & Behavior Grad Program

UofM first-year graduate student experience

### BMBB – Biochemistry, Molecular Biology, & Biophysics

UofM first-year graduate student experience

### IPE – InterProfessional Education Scholars

UofM graduate student experience focused on health professions



# Research

Research permits in 2023 were 3x higher than in 2018. We received an *Enhancing CBS Research Equipment Infrastructure* grant to enable year-round lake monitoring. Our Seed-to-Root program continued growing an early-career community. We funded 5 research fellowships with the Itasca Grad Research Fellowship, John Tester Fellowships, and a new Jim Winter Fellowship. Not unlike the action 50 years ago, we are supporting educational experiences that have research benefits, and vice versa.

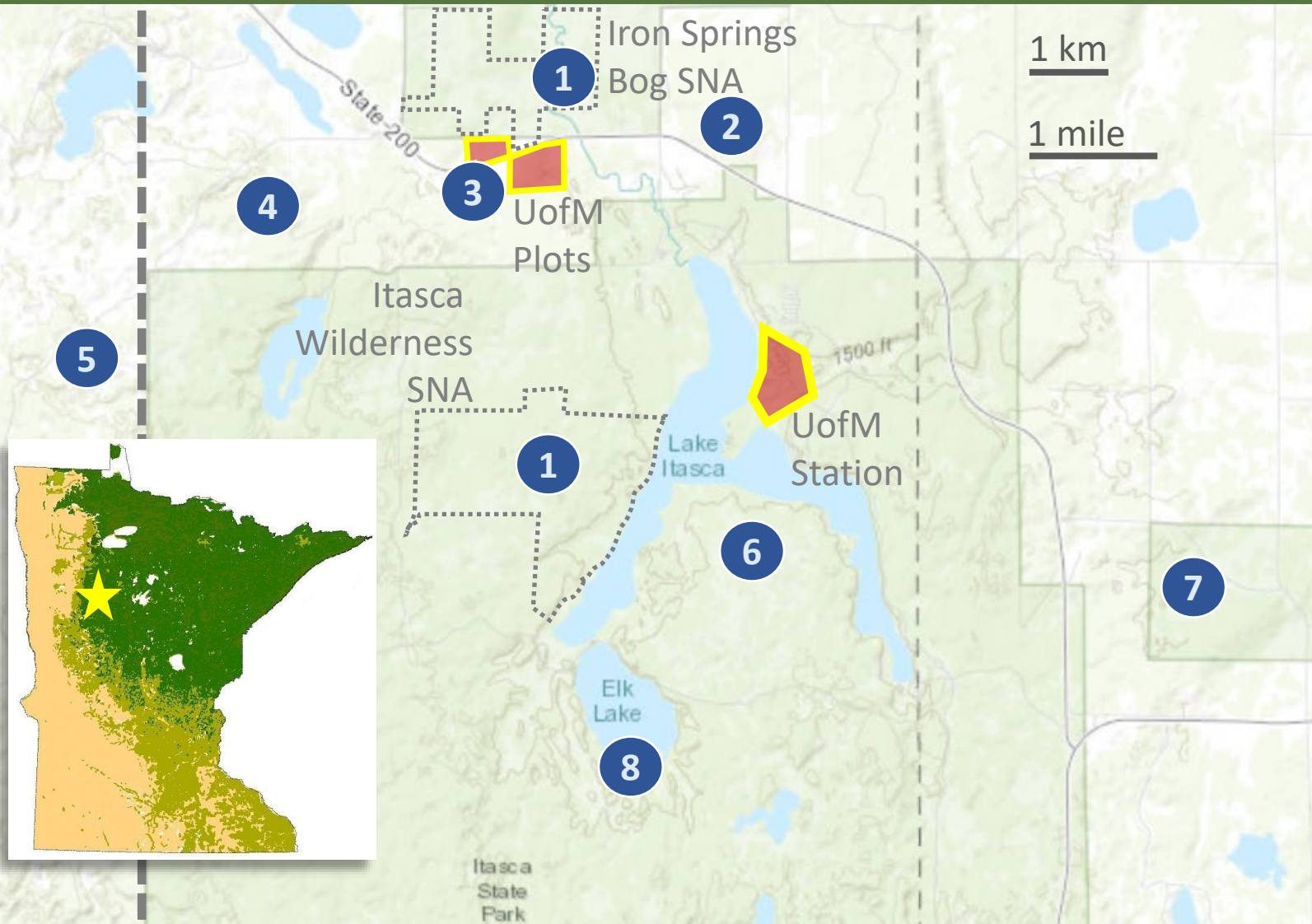


Photo: Betsy Swanner

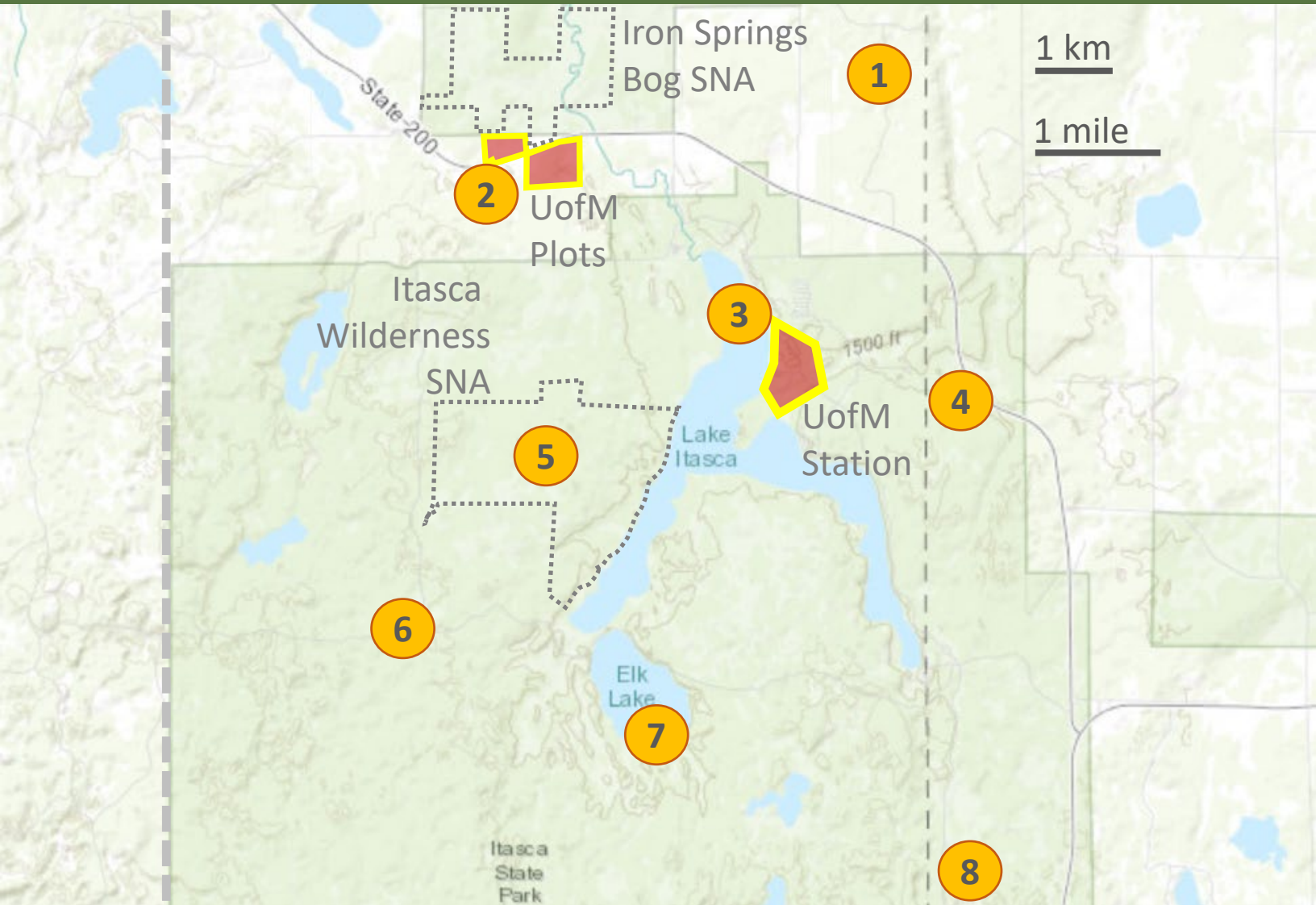


# Research

# Permissions Landscape



- 1** Scientific & Natural Areas (SNA)
- 2** Private Lands - 1855 Treaty
- 3** UofM Plots (61 acres)
- 4** Clearwater County Forest
- 5** White Earth Reservation
- 6** Itasca State Park
- 7** Paul Bunyan State Forest
- 8** Sentinel Lake - Tier One



- 1 Bird nest box network (Knutie)
- 2 Log10 wood decay (J Schilling)
- 3 GLEON network buoy (Cotner)
- 4 ForestGEO plot (Kennedy)
- 5 Kurmis long-term plots (Marty)
- 6 Darner migrations (E Schilling)
- 7 Lake monitoring data (IBSL)
- 8 Ferruginous lakes (Swanner)

### Effects of parasitic nest flies on box-nesting birds in northern MN

Dr. Sarah Knutie (PI; U. Connecticut) NSF CAREER Award

### Log10 - Wood decomposer fungi and the balance of carbon fates

Dr. Jonathan Schilling (PI; UofM); Dr. Yu Fukasawa (Tohoku U.); Dr. Inger Skrede & Dr. Håvard Kauserud (U. Oslo) Norwegian Centennial Chair

### Greenhouse Gases in Lakes - Global Lake Ecological Observatory

Dr. Jim Cotner (PI; UofM); Dr. Tim Griffis (UofM)

### Global Forest Earth Network Plot at a Boreal-Temperate Ecotone

Dr. Peter Kennedy (PI; UofM) IBSL Seed Grant

### Forest long-term monitoring of 120 'Kurmis plots' (est. 1965)

Becky Marty (PI; MN DNR); Dr. Sara Webb (Drew University)

### Emergence phenology & migration tracking of darner dragonflies

Dr. Emily Schilling (PI; UofM); Dr. Vince Palace (Experimental Lakes Area, IISD); Dr. Keith Hobson (University of Western Ontario)

### Biogeochemistry of ferruginous lakes

Dr. Betsy Swanner (PI; Iowa State U.) NSF CAREER Award

### Genetic structure of daphnia population on Lake Itasca

Dr. Leif Hembre (PI; Hamline University)

### Identification and characterization of yeast from mammalian scat

Dr. Dana Davis (PI; UofM)

### Genetic associations with the fast-slow continuum in temperate trees

Logan Monks & Dr. Nathan Swenson (PI; Notre Dame U.)

### Mississippi: Working River - An environmental history project

Dr. Thomas Turnbull (PI; Max Planck Institute)

### Chronic Wasting Disease surveillance at Itasca Park's North Entrance

Nicholas Snavely (PI; MN DNR)

### Assessing novel visual tracking strategies in Belostomid insects

Tanner Mierow and Dr. Alex Kingston (PI; University of Tulsa)

### *Dixella alexanderi* meniscus midges in Chambers Creek & headwaters

Dr. John Moulton (PI; University of Tennessee)

### Soil changes after earthworm invasions over a 55-year history

Fiona Clark and Dr. Mark Fultron (PI; Bemidji State U.)

### Effects of anthropogenic sounds on fish behavior under the ice

Leah Glimsdahl and Dr. Allen Mensinger (PI; UofM Duluth)

### Ways of knowing and science of the Anishinaabeg people

Thomas Van Norman (PI; UofM)



# Research

## Grad & Undergrad Fellowships



### John R. Tester Graduate Research Fellowship

**Aiym Bakytbaikyzy - PhD student - UofM**

"My research at Itasca is focused on wood-decaying fungi and the consequences their colonization and competition dynamics have on Earth's carbon cycling. I have set up a couple of field studies, inoculating small paper birch logs with a birch polypore fungus (*Fomitopsis betulina*), and I am testing a gradient of inoculum potential to see how much inoculum is enough for *F. betulina* to outcompete the other species and dominate the decay of birch."



### Director's Graduate Research Fellowship

**Fiona Clark- PhD student - Bemidji State University**

"Vilis Kurmis started this study at Itasca State Park in 1965. I am going out and re-sampling the soil after over 55 years later. I'm also sampling invasive earthworms because they are known to make changes to the soils they inhabit. We've found that since 1965, the A horizon of the soil has become thicker and the organic matter percentage within that horizon has decreased. These changes are consistent with the changes wrought by earthworms."



### Director's Graduate Research Fellowship

**Leah Glimsdal- PhD student - UofM Duluth**

"This winter I am researching fish and zooplankton behavior before, during, and after ice auger drilling in Lake Itasca and Elk Lake. Historically, anthropogenic sound has been found to negatively impact fish. Preliminary results have shown that fish are drawn to the area after drilling, and zooplankton are displaced deeper into the water column."



### Director's Graduate Research Fellowship

**Tanner Mierow- PhD student - University of Tulsa**

A CBS graduate - "I became interested in how giant water bugs shift from a fully aquatic lifestyle as a nymph to an amphibious lifestyle as an adult. I am specifically interested in how the visual system (eyes and corresponding neurons) accommodates this lifestyle transition."



### Jim Winter Undergraduate Research Fellowship

**Alex Doeblor - Ecology, Evolution & Behavior - UofM**

"My research at Itasca focused on trapping, radio collaring, and using radio telemetry to find day nesting sites of two competing flying squirrel species...to help understand how these squirrels are fairing in a dynamically changing environment while competing with each other for space and resources."



# Engagement

The words “outreach” and “extension” suggest a one-way flow of information. If you have tips, guidance, or instructions, that is how it flows...one way. “Engagement” is two-way, and if you are creating community, sharing information, or identifying how your work fits, conversation needs to flow both ways. Two-way interaction comes naturally on a hike, at a picnic table, or sharing a meal – these venues lower barriers.

Itasca is an opportunity to engage diverse audiences in basic biology and ecology, and we think its value as a science communication hub will grow. A November 21, 2023 article written by Virginia Gewin in the journal *Nature* ([link](#)) focused on the University of California system of distributed engagement centers. She summarized a consensus among scientists working at these centers that we can “no longer just publish a paper and assume the results will be delivered to communities.” She noted interest in connecting science to people who can use it as well as inform it, which in many cases are historically-excluded communities. She further wrote that the “most successful collaborations between urban-based researchers and rural communities have been based on a commitment to building trust, bridging political divides and delivering meaningful results.” This is on-mission for a Land Grant University, and Itasca is uniquely situated to be a bridge because of its location within a busy State Park, among tribal lands, and in a politically and culturally different population, relative to the Twin Cities. And specific to CBS, it is a chance for us to communicate and share the value of a type of science (fundamental; basic) that can be hard for the public to evaluate but that is critical to our future.



# Engagement

## MN Dept. of Natural Resources

We have developed an increasingly close relationship with our DNR State Park 'Joint Powers' collaborators at Itasca, as well as DNR stakeholders, regionally. We deeply value the safety and accessibility to wilderness that comes with these relationships, and we aim to provide value to the Park with our programming and with science intel/support that can assist DNR-based scientists with management.



DNR Naturalist-Intern Lunch



DNR Region 1 Managers

Photo Sara Berhow

# Engagement

# Park Programs & State Fair



Photo - Connie Cox



## Station Open House & Tours

We had five open houses and station tours in 2023, as well as a unique Bear Paw Point hike that gave access to forest that can only be accessed via our campus. The Bear Paw event was to celebrate inclusion into the National Old-Growth Forest Network.

## Nature of Science & Nature Carts

We had 5 Nature of Science (NatSci...or "Gnat's Eye") programs embedded in State Park events programming, led by research scientists. We also set the Nature Cart up near the Headwaters a total of 7 times over the summer, thanks to our dedicated interns. That's a lot!



Photo Heather Kokesh

MN State Fair

# Engagement

# Booster Club

The IBSL Booster Club mission, in their own words, is “to connect people with opportunities in research and education in a fieldwork setting at the University of Minnesota Itasca Biological Research Station and Laboratories. Through networking and outreach, this student group encourages the engagement of all interested community members in order to ensure that fieldwork is an experience available to all.” We could try to add words, but why? This says it all - Booster Club are heroes!



# Engagement

# Advancement

We have a healthy and active relationship with the CBS Advancement teams, including Communications and Development. Stephanie Xenos and her team lead and assist on a number of projects, including our Newsletter *Upstream* (10<sup>th</sup> issue in Fall 2023). Reede Webster and his team assist us with donor relations and are super engaging with an annual alumni weekend. We are incredibly grateful for this support, bridging what we do 'boots on the ground' with a wider audience, old and new.



**Research bug**  
I was an undergraduate. I returned to study Giant Water Bugs.  
... student. I discovered my love for ecology and working in the field. The passion I developed for field ecology and the interactions would lead me to return to the station more times: once as a Nature of Life peer mentor, as a field biology student and, most recently, as a graduate student researcher.  
... research journey at the station began when my colleague and mentor Dr. Kate Feller first encountered giant water bugs when she was guest lecturing at Itasca for an animal behavior class. I met Dr. Feller when she was a doctoral research associate at University of Minnesota. I was an undergrad working in Dr. Dalma Gonzalez Ballido's lab. Dr. Feller brought up the idea of working on the giant water bugs and their prey selection behaviors.

CONTINUED ON P. 7

Photos: Stephanie Xenos & Sara Dowall

Itasca calmed any worries I had about my next three days there back in 2018. During my experience at Itasca as a first-

  
ITASCA BIOLOGICAL STATION AND LABORATORIES



# Engagement

## Tribal Programs & Partnerships



### American Indian Fund (AIF)

In its 5<sup>th</sup> year, this donor-based, paid internship ran smoothly. Waubun High School student Justice Alvarado worked with CBS graduate student Lang Delancey (Kennedy & Hobbie Labs). For three weeks, Justice worked with Lang and his team of undergrads on the ForestGEO plots, mapping trees, surveying, and entering data into a GIS-enabled interface to map old-growth east of campus. Justice was amazing. She is now in the BBE Environmental Engineering program at the UofM, doing great. The 3 weeks working with Lang not only provided some professional development, they also yielded a contact and a model of how this works, being a career scientist. The same weeks will also have left Lang with know-how useful for multiplying the impacts of this program. With high school mentors like Waubun's John Short, and a local program liaison, Becca Dallinger, this program has supported 6 interns, each a unique joy.

### Big River Continuum

Collaborating with Weisman Art Museum and Tulane's Studio in the Woods, Big River is "premised on the idea of true reciprocity among artists, scientists, and communities driven by a deep curiosity about and concern for the river and all it represents." Initially funded in 2018 by Itasca's Director Programmatic Funding, Big River has since been funded by Regional Sustainable Development Program grants and a Research and Creative Collaborative at the UofM Institute for Advanced Studies. An artist exchange has been at the core - Karen Goulet (left); Monique Verdin (right).



Photo Stephanie Xenos





# Staff



Photo: Adara Taylor

The staff at Itasca are warm, efficient, and proud. Full-time staff (n=5) average <2 years (9 years, combined) experience. The seasonal staff (n=6), including a master-class in field station kitchens, average >10 years experience (62 years, combined). We enjoy each other. We work together. We share our knowledge.



Photo: Emily Schilling

# Land

## Land Acknowledgement

The University of Minnesota Itasca Biological Station & Laboratories is located on land ceded by the Mississippi and Pillager Bands of Ojibwe in the Treaty of Washington, commonly known as the 1855 Treaty. We acknowledge the layered history of this place and welcome efforts to discuss and address the complexities of the present.

## Land Summary

We manage 61 acres of property in two plots north of the State Park, purchased in 2017 from a private landowner. The plots are immediately adjacent to Iron Springs Bog SNA, and are within the 1855 Treaty boundaries, east of White Earth Reservation. We have several low-impact observational studies on these plots. Both plots are regenerating after being used for timber harvest and grazing, pre-purchase. In 2023, we had discussions with Leech Lake Division of Resource Management, Leech Lake Tribal College, and White Earth school forest partners to create avenues for access. We will continue these conversations, as well as supporting the infrastructure (example: Waubun School Forest) that the Tribes already manage. We will also continue working with others in the community around access and transparency.

The Station's main campus lands are inside State Park boundaries and in jurisdiction of DNR-managed Itasca State Park. We have a Joint Powers Agreement as an extension of a 100-year lease. Building facilities are University assets, but we still adhere to State Park guidelines for construction, upkeep, and aesthetics. We connect to a shared sewer system and we coordinate for key functions, including safety. The Park offers patrols, which we oblige with helicopter landing and immediate water access in emergencies. There are many functional overlaps with DNR leadership.

# Facilities

With 64 buildings on a 49-acre campus, and 17 buildings winterized, we raise/lower our active building load for 47 buildings twice a year. This is in addition to building upkeep and to enough plowing/mowing to make heads spin. Our Facilities crew are superheroes and are committed to sustainability as a nature-forward outfit on a headwaters lake. *Clockwise from upper left:* The shop always hums; A remodeled 'hub' building 43 has tons of wood reclaimed onsite; Eric, Rick, & Jake; New trails and signs; EV plug-ins coming. There is so much!



Photos: Adara Taylor



# Financials

Calendar Year 2023

<b>Expenditures</b>	<b>CY23</b>
Administration/Operations	\$40,170
Station Maintenance	\$96,964
Dining Hall Provisions	\$84,916
Salary & Fringe	\$651,564
Programming & Research	\$87,716
<b>TOTAL</b>	<b>\$961,329</b>

<b>Revenues</b>	<b>CY23</b>
UofM Allocation	\$711,132
Dining	\$193,984
Lodging	\$88,908
User Fees	\$24,516
<b>TOTAL</b>	<b>\$1,018,540</b>

\*Expenditures do not include scholarships/fellowships/grants. Revenues do not include gifts/donations/grants/tuition returns.

# Links



## ----- Videos -----

Itasca's Living Laboratory - 2021

<https://cbs.umn.edu/itasca/about-station>

PBS Itasca Biological Station - 2020

<https://www.pbs.org/video/itasca-biological-station-atj2ct/>

Peer Station - U. Michigan Bio Station

[https://www.youtube.com/watch?v=DjzjoY4\\_KR4](https://www.youtube.com/watch?v=DjzjoY4_KR4)

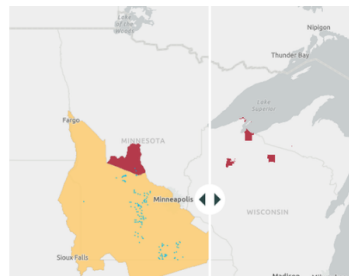
Peer Station - U. Montana Flathead

[https://www.youtube.com/watch?v=IJTLM\\_OewZU](https://www.youtube.com/watch?v=IJTLM_OewZU)

Peer Station - SUNY-ESF Cranberry Lake

<https://www.youtube.com/watch?v=t9MrYaU1alw>

## TRUTH Project: Towards Recognition and University-Tribal Healing



Story

Since its establishment in 2020, [Minnesota Transform](#), the \$5M higher education initiative funded by the Andrew W. Mellon Foundation, has undertaken a variety of projects that support decolonial and racial justice across Minnesota, the Twin Cities, and the University. One of these is the the Towards Recognition and University-Tribal Healing (TRUTH) Project.

## ----- Websites -----

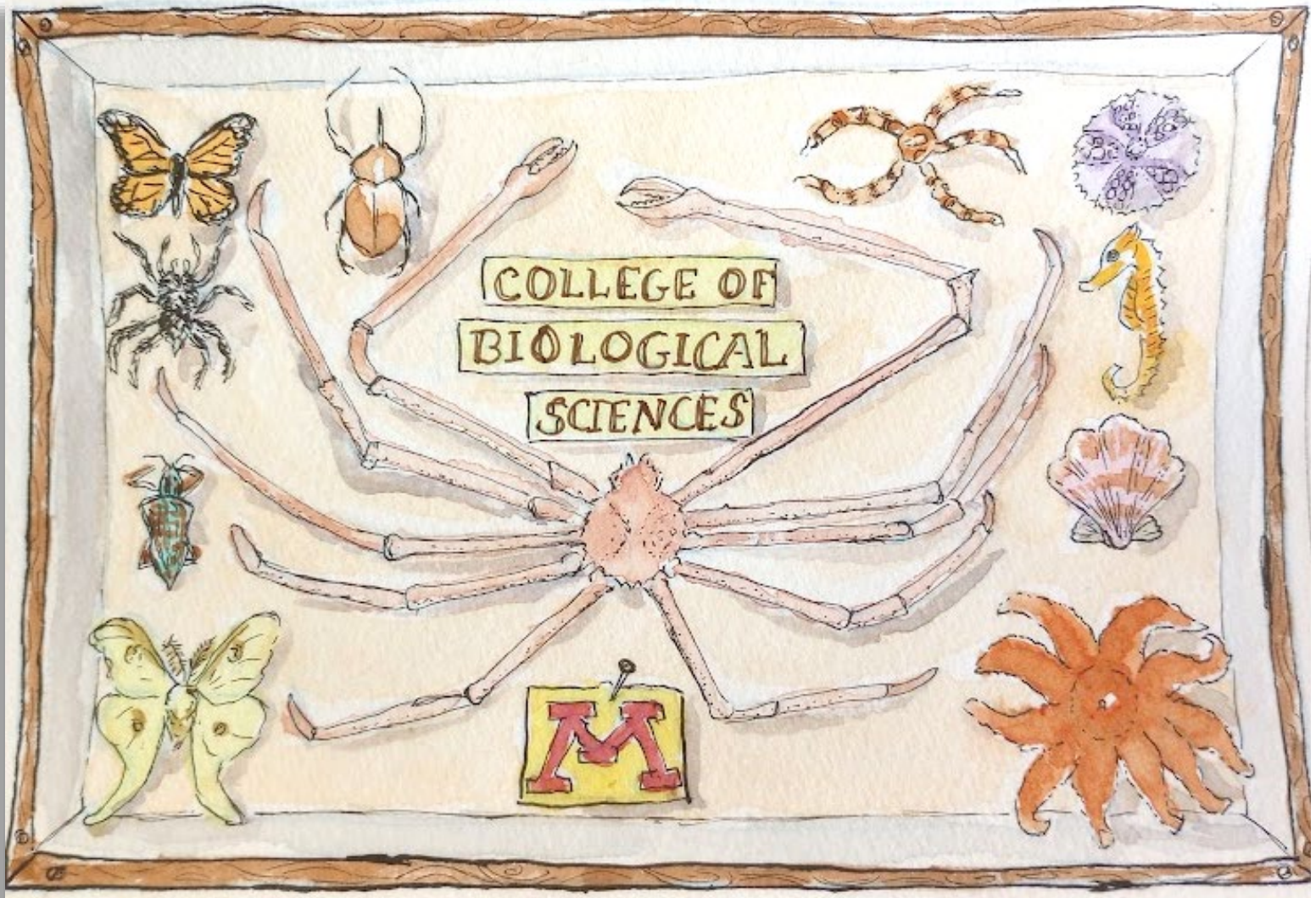
MN Indian Affairs Council (MIAC) TRUTH Project

<https://mn.gov/indian-affairs/truth-project/>

Mellon Foundation-funded MN Transform - TRUTH Project

<https://sites.google.com/view/truthproject/home>

# Art, to Part



Above: Dr. Jennifer Powers (Plant & Microbial Biology) champions using art to connect to nature and organisms, using watercolor here to amalgamate specimens in a display box arrangement. Below: 'Inspirational' originals from BioSci on the St. Paul campus. At right, the snowy owl mounted by Dr. Walter J. Breckenridge at Itasca.

