

Bull Shoals Field Station Newsletter

Winter 2017-18

BSFS Notes

Inside this issue:

Class/Events in 2017	1
BSFS Notes	1
Researchers at BSFS	1
Long Term Monitoring	2
GLADE 2016 Highlights	2
Researchers (cont'd)	2

Class/Events in 2017

- Forestry Club (J. Greene) 2/23, 4/7-9
- Herpetology (B. Greene) 4/23
- Leopold Ed Project Workshop (J. Greene) 3/31-4/1
- Kirbyville Middle School Field Days (Prussia) 6/5, 6/12
- OTC Water Quality Class (Prussia) 7/14
- GLADE (Trantham, Kinslow), 6/18-24
- BSA Troop (Lupfer) 8/11-13
- BSA Troop 111 (Jostwick) 8/18-20
- Westminster College Ecology Lab (Unger) 9/15-17
- Aquatic Entomology (Finn) 9/30
- Woody Plant ID (Bowe) 9/16, 9/30
- GLADE Dabbs Creek USFS (Prussia) 9/30
- Plant Ecology (Wait) 10/20, 10/27
- Mammalogy Weekends (Maher) 10/6-8, 10/20-22
- BSA Troop (Lupfer) 12/8-10
- Christmas Bird Count (J. Greene), 12/22-23



GLADE 2017 class at Hootin' Point in the Mincy Conservation Area

In 2017, we increased use of the field station by MSU student researchers and by researchers from other universities (see the research list below and on the last page). It is exciting to see the work that these individuals are doing and to see the field station in use regularly. Our summers continue to be the busiest time with GLADE and with research. We hope to continue to keep growing.

Our outreach activities also have increased with involvement in new classes, Home School workshops, teacher workshops and our summer days with Kirbyville Schools.

Thank you for your continued support of the Bull Shoals Field Station!

As usual, we are always happy to show the field station to you if you're in the area.

BSFS as Home Base for Researchers

Our residential facilities provide the comforts of home for researchers from MSU and other institutions. Here's a brief list of some of the researchers and their projects (*continued on page 2*):

Kendell Loyd, M.S. Postgraduate, MSU: Monitoring of Avian Productivity and Survivorship - We capture migratory and resident birds in mist nets and take some quantitative measurements such as wing length, mass, age, and molt limits, as well as qualitative measurements such as stage of breeding and other behavior. Birds are marked with a small, metal band that includes a 9-digit identification number in case of recapture. We capture a wide array of birds including songbirds, woodpeckers, and owls. Some of our migratory birds have been captured many years in a row, proving successful migrations to and from the wintering grounds, some as far as Central and South America.

Ellen Welti, Ph.D.—Postdoctoral Researcher, U of Oklahoma: "Is sodium a catalyst in terrestrial communities and ecosystems?" One small group of data from your site (and as an example of the type of questions we are asking) is the difference between ant attraction to salt (NaCl) versus sugar (CHO) next to roads versus not next to roads. I ran two transects of 50 baits (25 NaCl, 25 CHO) next to the highway and two transects in the woods. We predict ants will be less attracted to salt next to the road due to road salt application. I just looked at the numbers for BSFS and we did get that response there—ants preferred the salt baits 1.5 times sugar away from the road but preferred the sugar 2.3 times salt next to the road.

Bull Shoals Field Station
 Missouri State University
 901 S. National Ave—Biology
 Springfield, MO 65897

Visit us on the web...
bullshoals.missouristate.edu
 Or Like us on Facebook at MSU
 Bull Shoals Field Station

Our mission is to provide a location for faculty, students, and visiting scientists to conduct research and educational programs that increase public understanding of southwest Missouri ecosystems.

Dr. Janice Greene, BSFS Director	417-836-5306	JaniceGreene@MissouriState.edu
Erica Cox, Projects WET & WILD Coordinator	417-836-4337	EricaCox@MissouriState.edu
Celeste Prussia, MS, BSFS Manager	314-313-6694	CelestePrussia@MissouriState.edu

GLADE Update

Now in our ninth year, we had a fantastic group of students that participated in GLADE at MSU-BSFS. For once, GLADE had a cooler week with temperatures in the upper 80's. Students participated in a wide range of conservation and leadership activities throughout the week and met multiple professionals in the natural resources.

Nine of the 2017 GLADE class shared their academy experiences at the October Greater Ozarks Audubon Society (GOAS) meeting. The partnership between BSFS and GOAS will make the tenth conservation and leadership academy experience possible for GLADE 2018 participants.



Researchers at Bull Shoals Field Station (continued from page 1)

Missouri State University Students/Staff:

Emily Beasely, M.S., postgraduate—Small mammals
 Ben Dalton M.S., CNAS Lab Supervisor—Salamanders
 Stephanie Ellison, M.S., postgraduate—Small mammals
 Sarah Heimbach, Grad student—Salamanders
 Dylan Maag, M.S.—"Radio telemetry research on the Pygmy Rattlesnake (*Sistrurus miliarius*) in Southwestern Missouri"
 Tyler Remick, M.S.—Parasites in small mammals

Missouri State University Faculty:

Dr. John Heywood—Plant population biology
 Dr. Alexander Wait—Effects of prescribed burns on vegetation recovery

Non-MSU Researchers:

Colette Berg—Southeast Missouri State U—Venus Looking Glass
 Mark Mills—Missouri Western State U—Glade surveys
 Taylor Quedensley—Missouri Western State U—MDC glades research

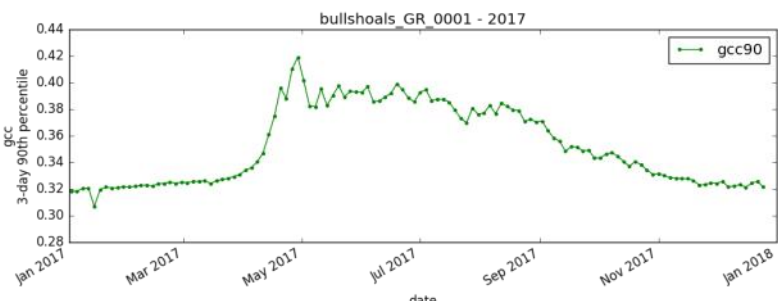
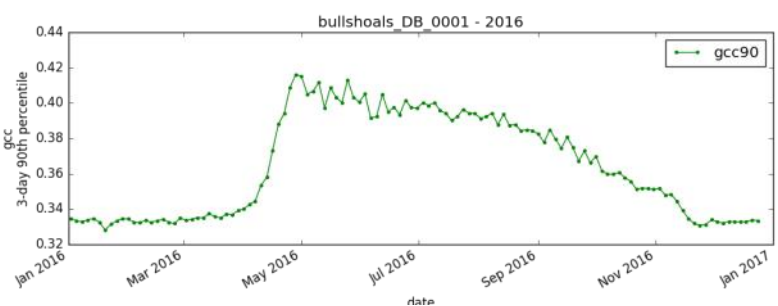
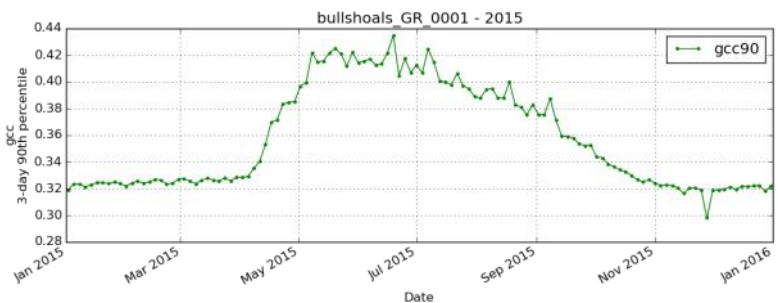
BSFS Long Term Monitoring

On November 20, 2013 we uploaded our first images from a StarDot NetCam on a 30 foot mast in a glade within the Drury CA. Each half hour, the camera records an image of the landscape from 7 am to 7 pm CST. The latest image capture by our PhenoCam can be seen in your Internet web browser at this URL: <https://phenocam.sr.unh.edu/data/latest/bullshoals.jpg>

Green Chromatic Coordinate, GCC, is a metric that has been shown to be less influenced by differences in illumination and camera properties. It is an easy to understand measure (think percent green) which directly corresponds to the changing levels of green pigmentation in vegetation. Phenological events such as bud break, full canopy cover, and leaf drop can be compared across years.

The three graphs represent the GCC values of the BSFS PhenoCam for 2015, 2016, and 2017 for comparison. One such comparison is that the highest gcc approaching 0.42 gcc was reached before May 1 in 2016 and 2017 but not until the end of the first week of May in 2015. The highest gcc in 2015 in the second half of June (~0.435 gcc) and first half of July (~0.425 gcc) exceeded those of the later years.

The PhenoCam network maintains a series of educational pages that you can download at this URL: <https://phenocam.sr.unh.edu/webcam/education/>



BSFS PhenoCam Green Chromatic Coordinate graphs 2015, 2016, 2017