



NCRN Natural Resource Quarterly

SUMMER 2012

Carolina or Black-Capped Chickadee? Sometimes It's a Hard Call

By Zach Ladin

Chick-a-dee-dee-dee.....chick-a-dee-dee-dee!

Hear that? It's a chickadee. Obviously. But is it a black-capped or a Carolina? If you're a birder, you might be able to tell, but around here it can be tricky. That's because the National Capital Region Network (NCRN) intersects with a "zone of overlap" where Carolinas and black-cappeds can hybridize, or might just have learned each other's vocalizations.



Black-capped calls are a lower and slower *chick-a-dee-dee-dee*, while the song is a clear *fee-bee*.

Coming to Your Park this Summer...

	Amphibian Monitoring	Exotic Plant Management	Fish Monitoring	Forest Bird Monitoring	Forest Vegetation Monitoring	Water Monitoring
ANTI*						
CATO						
CHOH						
GWMP						
HAFE						
MANA						
MONO						
NACE						
PRWI						
ROCR						
WOTR						

activities scheduled for Jun/Jul/Aug

Chickadees are songbirds in the family Paridae. They flit through forests in small gangs like tiny, feathered, perpetual motion machines. They may be small, but they have big personalities. Chickadees are year-round residents here, and can often be seen foraging at backyard bird feeders. Of the five species of chickadees found in North America, the two most abundant species of chickadees in the eastern US are the black-capped (*Poecile atricapillus*) and Carolina (*Poecile carolinensis*).

Most of the NCRN lies within Carolina chickadee territory, but Catoctin and the upper reaches of the C&O Canal are in or very near where the area where the two species ranges overlap. Hybridization in the overlap zone reduces reproductive success rates, and produces birds with intermediate plumage and modified songs that combine primary song characteristics of both species. It can also lead to one species singing the unmodified songs of both species. Discerning a Carolina from a black-capped within this zone of overlap can be tricky, even for experienced birders.

The NCRN Inventory and Monitoring (I&M) program has monitored (Continued page 2)

Carolina calls are a higher and faster *chick-a-dee-dee-dee*. The song is four notes, *fee-bee-fee-bay*.



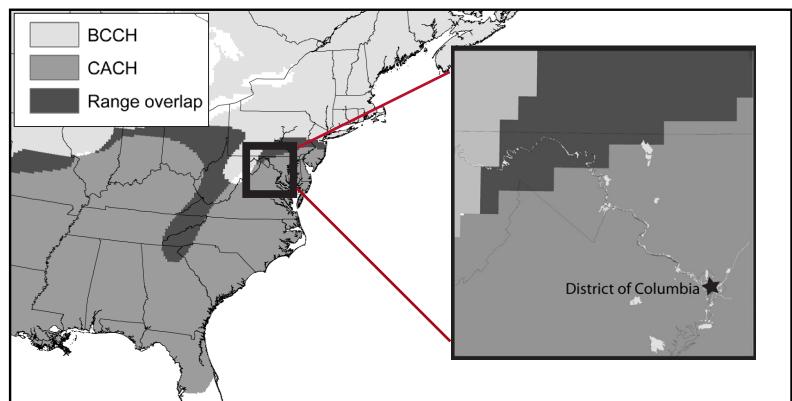
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(Chickadees continued) forest-breeding land birds since 2007, providing not only valuable information on bird populations but also data on the health of forest ecosystems. Monitoring has shown that Carolina chickadees are among the top ten most abundant and densely occurring species within the NCRN. Chickadees typically have a single brood per breeding season, which is one life history characteristic used to evaluate forest quality according to a measure called the Bird Community Index. This index provides a way to measure forest quality based on the community of bird species detected within the NCRN. Continued monitoring will enable us to evaluate changes in the health of forests and better understand the factors and implications of bird population trends over time.

References

- Brewer, R. 1963. Ecological and reproductive relationships of black-capped and Carolina chickadees. *The Auk* 80:9-47.
 Cornell Lab of Ornithology. Tricky Bird IDs: Black-capped Chickadee & Carolina Chickadee. <http://www.birds.cornell.edu/pfw/AboutBirdsandFeeding/chickadeeIDtable.htm>.
 Ladin, Z. S., and W. G. Shriver. 2011. Avian Monitoring in the



The overlap of black-capped chickadee (BCCH) and Carolina chickadee (CACH) ranges. (Data: Nature Serve 2012.)

- National Capital Region Network: 2007 – 2011. Natural Resource Technical Report NPS / NCRN/NRDS—2011/**. National Park Service, Fort Collins, Colorado, USA.
 Reudink, M. W., S. G. Mech, S. P. Mullen, R. L. Curry, and J. Klicka. 2007. Structure and dynamics of the hybrid zone between black-capped chickadee (*Poecile atricapillus*) and Carolina chickadee (*P. carolinensis*) in southeastern Pennsylvania. *The Auk* 124:463-478.
 Why Sing the Wrong Song? <http://www.allaboutbirds.org/Page.aspx?pid=1023>

A Closer Look at Macroinvertebrates

A set of new resource briefs and a short video on macroinvertebrates (macros) in the NCRN are now available!

Separate briefs for each park discuss macroinvertebrate data from Inventory & Monitoring (I&M) monitoring in Catoctin, Manassas, Monocacy, and Rock Creek. The briefs discuss the types and taxa of macros in each monitored stream, and what they indicate about water quality. Macroinvertebrates are good indicators of watershed health and water quality because they live in water for all or most of their life, have limited mobility, and differ in their tolerance to amounts and types of pollution. The presence of pollution-sensitive species like mayflies, stoneflies, and caddisflies indicate healthy stream conditions while a higher abundance of pollution-tolerant Chironomid taxa (non-biting midges) indicate poor conditions.

To view park-specific briefs, follow the links below.
 Catoctin: http://science.nature.nps.gov/im/units/nern/products/briefs/CATO_Macro_RB.pdf
 Manassas: http://science.nature.nps.gov/im/units/nern/products/briefs/MANA_Macro_RB.pdf
 Monocacy: http://science.nature.nps.gov/im/units/nern/products/briefs/MONO_Macro_RB.pdf
 Rock Creek: http://science.nature.nps.gov/im/units/nern/products/briefs/ROCR_Macro_RB.pdf



A tiny crayfish captured during monitoring.

Future briefs will include GW Parkway, Prince William, Wolf Trap, Antietam, Harpers Ferry, and National Capital Parks – East.

Video Feature

Watch a short underwater view of how we monitor macroinvertebrates living on stream bottoms. <http://www.youtube.com/watch?v=vXxlg1st9Ac>

A Summary of the First 4 Years of Forest Monitoring

Good answers to big questions take time.

A look at the first 4 years of forest vegetation monitoring in the parks of the National Capital Region Network (NCRN), now available in a published report, can provide some preliminary answers. Take for example the questions:

- What species make up today's forest?
- What species of saplings and seedlings exist to potentially replace older trees when they die?

Well for starters, there are a lot of big tulip poplars (*Liriodendron tulipifera*). In the NCRN, tulip poplars rank as the number one tree according to a calculation called "importance value" (IV). IV is based on how numerous, how large, and how widespread a species is. As you can see in the figure below, tulip poplars have high IVs as trees but low IVs as saplings and seedlings. Tulip poplar is an early successional, fire intolerant, but long-lived species that needs ample light for growth. It's no surprise that it comes in with the highest IV values as a tree given the average age of the forests in our region.

Virginia pine (*Pinus virginiana*), the most common pine in the network, is also an early successional, fire intoler-

"Okay junior, check-up time!" John Parrish measures the size of a small tree as part of I&M forest vegetation monitoring.



NPS Photo/Paradis

ant species with many trees but few saplings. The most likely explanation for this pattern is that these species were some of the first to colonize the parks as agricultural fields were allowed to grow into forests, but forest fires were suppressed. The species have high tree IV values due to this early colonization. Now however, NCRN forests have matured to the point that there is not enough light for seedlings of these species to establish themselves and thrive. Therefore, they have low IV values in the sapling and seedling stage.

The full report on forest vegetation monitoring data from 2006-09

contains separate chapters for each NCRN park. To download a copy of the report, go to: https://irma.nps.gov/App/Reference/DownloadDigitalFile?code=448070&file=Schmit_2012_NCRN_Forest_Veg_Monitoring_Final_2006-2009.pdf

Other important questions like, "Are herbaceous invasive plants spreading? And if so, how fast?" are being addressed in a separate, forthcoming summary report on 2006-2009 forest data, focusing on pests and exotics.

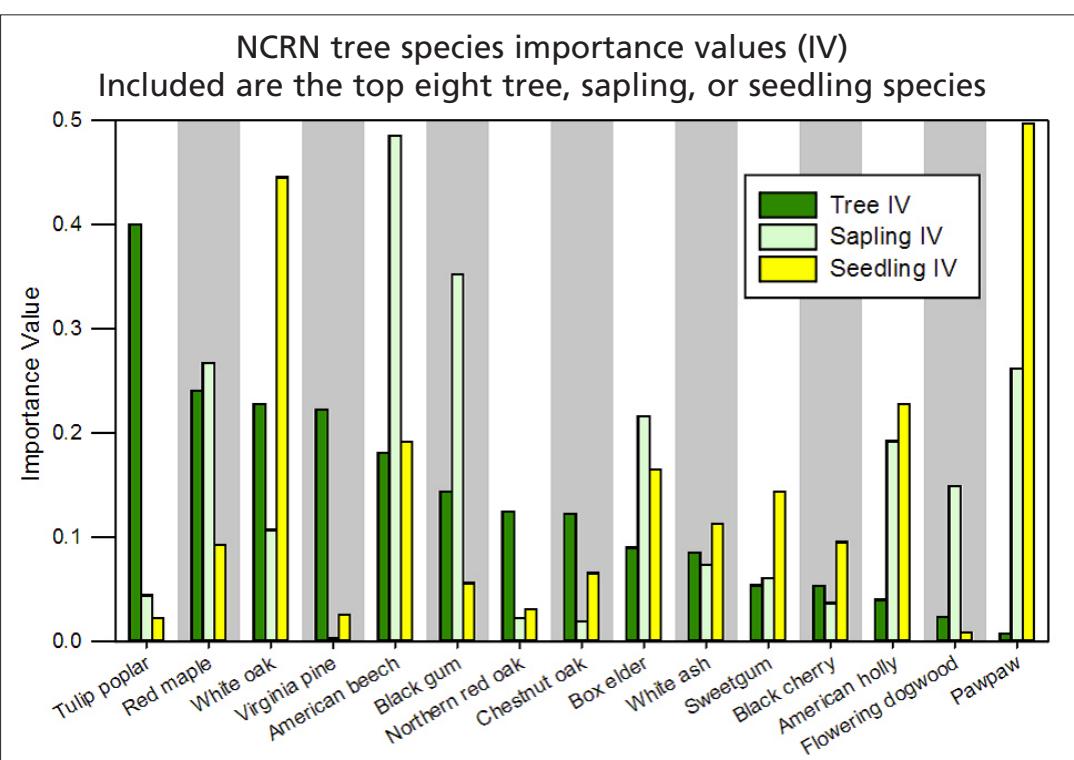
The full citation for the forest report is: Schmit, J. P., Parrish, J. and J. P. Campbell. 2012. National Capital Region Network: 2006-2009 forest

vegetation status report.

Natural Resource Technical Report NPS/NCRN/NRTR—2012/570. National Park Service, Fort Collins, Colorado.

Video Feature

If you missed the NCR Spotlight on Resources conference on March 21, 2012, or just need a good humored pick-me-up, a 3-minute explanation of the importance of tree seedlings is available at <http://www.youtube.com/watch?v=a58R30-06sI&>.



Native Grapes

A new resource brief describing the seven species of grape vine native to the National Capital Region Network (NCRN) is now available.

Grapes are an important source of shelter and food for birds and other creatures. All species except muscadine have stringy “shredded” bark, and grasping forked tendrils. The most common grape in the NCRN is the winter grape (*Vitis vulpina*) whose black shiny fruits are small (3-9mm) and persist on the vine into winter.

A common grape look-alike is the non-native invasive porcelain berry



The NCRN's most common grape is the winter grape (*Vitis vulpina*) which has smooth leaves that are green on the underside.

(*Ampelopsis brevipedunculata*) vine.

Porcelain berry is an Asian member of the grape family with leaves that closely resemble grape leaves. However, its bark never shreds or exfoliates and the pith inside the stem is white (instead of brown like grapes).

To learn more, including the difference between a fox grape and a muscadine, visit: http://science.nature.nps.gov/im/units/nscrn/products/briefs/NCRN_Grape_RB.pdf

I&M “Data Bundles” on IRMA

Need detailed information on a particular species?
Read something in an I&M report and want more details?
I&M data from monitoring of:

- fish
- birds
- benthic macroinvertebrates
- forest vegetation
- stream physical habitat

are now available online in “bundles” through IRMA (Integrated Resource Management Applications). In some cases, data bundles are available before summary reports. Data is provided in excel and XML file formats and includes monitoring dates, locations, species lists, and other information. Questions or feedback on I&M data bundles can be directed to Data Manager Geoff Sanders by NPS email.

To access data bundles:

Option 1, NCRN website:

- start at <http://science.nature.nps.gov/im/units/nscrn/index.cfm>
- select a resource from the “Vital Signs” menu on the left (eg. fish, macroinvertebrates, etc.)
- scroll to the bottom of the new resource page and select “Data” from the related materials. Click to download data bundle.

Option 2, IRMA website:

- type “IRMA” into your web browser’s URL line to go to the IRMA welcome page
- enter your park name and then the resource you’re interested in (fish, birds, etc.). [Use a comma to separate terms but not the plus symbol (+) as it will invalidate the search.]
- in the search results, look for items labeled “generic dataset” to find the I&M data bundle. Select it.

- in the new window choose “download” under “Holdings” and save the data bundle files to your computer.

Fish monitoring data from one of the “data bundles” available on IRMA.

A	B	C	D	E	F
Park	Year	Loc_Name	Start_Date	Fish_Species	Common_Name
MANA	2010	Young's Branch	8/23/2010	Fundulus diaphanus	BANDED KILLIFISH
MANA	2010	Young's Branch	8/23/2010	Lepomis cyanellus	GREEN SUNFISH
MANA	2010	Young's Branch	8/23/2010	Cyprinella analostana	SATINFIN SHINER
MANA	2010	Young's Branch	8/23/2010	Gambusia holbrooki	Eastern Mosquitofish
MANA	2010	Young's Branch	8/23/2010	Rhinichthys cataractae	LONGNOSE DACE
MANA	2010	Young's Branch	8/23/2010	Rhinichthys atratulus	BLACKNOSE DACE
MANA	2010	Young's Branch	8/23/2010	Lepomis macrochirus	BLUEGILL
MANA	2010	Young's Branch	8/23/2010	Nocomis micropogon	RIVER CHUB
MANA	2010	Young's Branch	8/23/2010	Catostomus commersonii	WHITE SUCKER

Didymo Infests Third Maryland Trout Stream

Reprinted from a Maryland Department of Natural Resources press release.

Annapolis, Md. (May 7, 2012) — Maryland Department of Natural Resources' (DNR) biologists confirmed the presence of didymo, an invasive algae known to anglers as rock snot or boulder boogers, in Big Hunting Creek in Frederick County.

"We observed the heaviest growth of didymo at the Joe Brooks Memorial, with lighter growth areas downstream to just below the canyon," said John Mullican, DNR's Regional Fisheries Manager for the County. "We didn't see any didymo growth above or below Frank Bentz Pond or upstream from the Joe Brooks Memorial, and no didymo in Little Hunting Creek."

Maryland biologists first confirmed didymo in Gunpowder Falls in Baltimore County in early 2008. In 2009, it turned up in the lower Savage River Allegany County. Although didymo presence was suspected in Big Hunting Creek in 2011, it was not confirmed until this spring.

Didymo prefers the cold, fast-flowing waters and rocky substrates found in good trout streams. Once it takes hold, didymo can bloom and cover the entire stream bottom from bank to bank with a brownish-gray mat that grows long, grayish-white strands, resembling dreadlocks.

"The ecological impacts of didymo are still uncertain in Maryland waters," said Ron Klauda, a member of DNR's invasive species team who's been surveying didymo abundance and distribution in the Gunpowder for nearly four years, "but heavy blooms definitely cause problems for trout anglers."

For a video by citizen Jason du Pont chronicling didymo



Maryland DNR

The invasive algae didymo was recently reported in Maryland's Big Hunting Creek.

on the Gunpowder, visit <http://vimeo.com/39828572>.

DNR urges all anglers to do their part in helping to stop the spread of didymo to other trout waters. Anglers should remove mud and debris from their boots before entering and soon after leaving streams and use wader wash stations to clean their boots in saltwater (from the soles to the knee) before heading off to another body of water. If a wader wash station isn't available or the wash pan of salt water is empty, anglers should disinfect their boots at home. Letting boots and gear dry thoroughly for at least 5 days between fishing trip will also kill didymo cells. DNR also reminds anglers that felt-soled boots were banned in all Maryland waters effective March 22, 2011,

to protect and preserve wildlife and their habitats. DNR appreciates the public's help in controlling didymo and other invasive species.

End of reprint

Original press release available at: <http://www.dnr.state.md.us/dnrnews/pressrelease2012/050712.asp>

Additional information on didymo at: <http://www.invasivespeciesinfo.gov/aquatics/didymo.shtml> and <http://dnrmaryland.gov/invasives/didymo.pdf>

NCRN will release recommended decontamination procedures for boots and gear soon. The basic method is: Soak or spray all surfaces for at least 1 minute in 5% dishwashing detergent solution—1 cup soap in 1 gallon of water. Soaps of choice are Palmolive or Dawn. This method is effective for all gear with minimal effects to gear or water organisms.

Park Acronyms

ANTI = Antietam National Battlefield

CATO = Catoctin Mountain Park

CHOH = Chesapeake & Ohio Canal National Historical Park

GWMP = George Washington Memorial Parkway

HAFE = Harpers Ferry National Historical Park

MANA = Manassas National Battlefield Park

MONO = Monocacy National Battlefield

NACE = National Capital Parks - East

NAMA = National Mall and Memorial Parks

PRWI = Prince William Forest Park

ROCR = Rock Creek Park

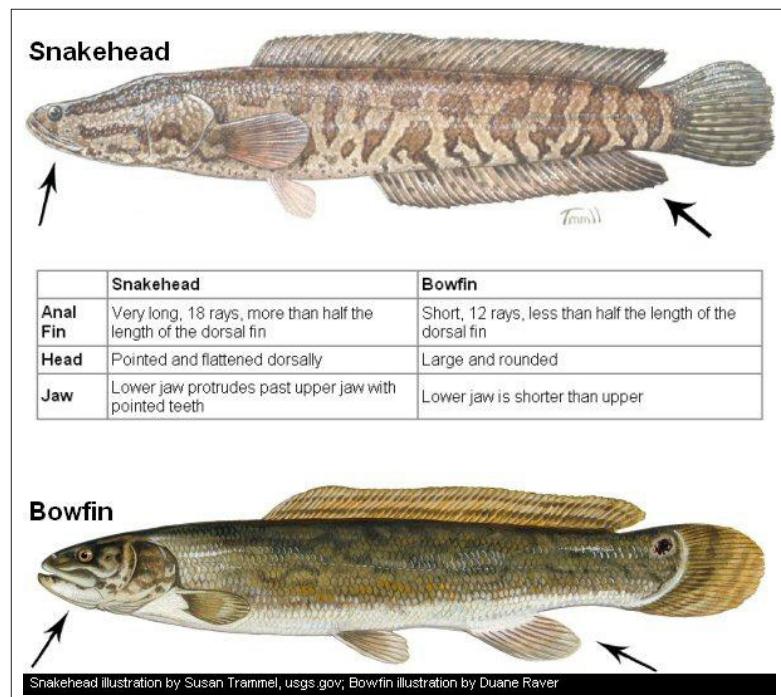
WOTR = Wolf Trap National Park for the Performing Arts

Nature Look-alikes: Northern Snakehead vs. Bowfin

If you're caught up in the hubbub over the invasive snakehead and you're not a big fish person, it's possible you might confuse the northern snakehead (*Channa argus*) with the bowfin (*Amia calva*). The difference? Besides the distinct anal fins noted in this picture, the bowfin has evenly matched jaws and a fairly tubular body shape. Male bowfins also have a spot with a yellow-orange border at the base of their tail.

If you have a fish in hand to examine, a bonus characteristic of the bowfin is that it has a gular plate—a bony plate on the underside of the chin between the two sides of the lower jaw bone.

More on the northern snakehead can be found at: <http://www.invasivespeciesinfo.gov/aquatics/snakehead.shtml>. More on the bowfin is available at: <http://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=305>.



Maryland Department of Natural Resources

Calendar

JUNE

11-13. East Coast Trout Management and Culture Workshop. Frostburg, MD. <http://www.easternbrooktrout.org/news.aspx?a=25>

14. Exotic Plant Management Training with EPMT. Catoctin's Round Meadow Conference room. 9:30 am - 3 pm. Contact Mark Frey by NPS email for details.

JULY

19. NAT (Natural Resources Advisory Team) Meeting. Prince William Forest Park.

SEPTEMBER

6-9. Acoustic Field Techniques Workshop. Mammoth Cave, KY. <http://www.batmanagement.com/Programs/ParkMammoth2012/ParkMammoth2012.html>

(Dates Tentative) Mid-Atlantic Early Detection Network training for invasive species. <http://www.eddmaps.org/midatlantic/>

OCTOBER

19. NAT (Natural Resources Advisory Team) Meeting. C&O Canal NHP.

National Capital Region Inventory & Monitoring Network (NCRN I&M) Staff:

Program Manager: Patrick Campbell
Botanist: John Parrish
Data Manager: Geoff Sanders
GIS Specialist: Mark Lehman
Hydrologic Technician: Jim Pieper
Hydrologic Technician: Tonya Watts
Quantitative Ecologist: John Paul Schmit
Science Communicator: Megan Nortrup

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Twitter: <https://twitter.com/#!/NPSNCRN>
Sharepoint: <http://imnetsharepoint/NCRN/default.aspx>

NCRN Natural Resource Quarterly offers updates on the status of park natural resources and Inventory and Monitoring (I&M) "vital signs" for the NPS National Capital Region Network (NCRN).

Questions or comments? Contact Megan Nortrup by email or at 202-342-1443 x214.