

December 2023



* * * ANNOUNCEMENTS * * *

ADVISORY GROUP UPDATE

Working behind the scenes to keep Ware River Nature Club up and running are our volunteers serving to help with direction and decision-making. Currently serving are Todd Livdahl from Hubbardston, Scott Wahlstrom of Jefferson, and Anne Greene and Ted Purcell, both from Rutland. Treasurer Karl Barry of Belchertown continues to take care of our financial records. We are grateful for their ideas, suggestions, and advice as we navigate plans for future programs and educational events and discuss conservation challenges. If you'd like to have the opportunity to join in these planning meetings—which are casual yet focused—we are presently seeking an additional Advisory Group member. Three to five meetings per year take place in a location convenient to all. Contact warerivernatureclub@yahoo.com if you're interested.

The AG is currently developing a promotional flyer for the Club which can be shared with potential members. Many thanks to Doug Wipf for his graphic design expertise, and Anne Greene and Barry Van Dusen for their artistic skills and suggestions. We hope to soon have an eye-catching flyer to share with others.

In addition, the AG is continuing to discuss various aspects of membership and turn the record-keeping responsibility over to Ted Purcell. We continue to grapple with the various setbacks to our conservation efforts, including bear predation of High Ridge WMA nestboxes and lack of interest on the part of Fitchburg State University with regard to bird/window collision mitigation efforts.

Finally, planning is underway for our 2024 annual meeting, which will take place at Harvard Forest in Petersham on Sunday, February 25th. Mark your calendars!

LOOKING FOR A GIFT FOR THE NATURE LOVER ON YOUR LIST?

How about a gift membership to Ware River Nature Club?
<http://www.warerivernatureclub.org/join-us.html>

OR contact

warerivernatureclub@yahoo.com

* We'll send a card to the recipient announcing your gift *

Our members:

- ❄️ Receive information about local programs and field trips
- ❄️ Learn about nature and wildlife
- ❄️ Share outdoor experiences
- ❄️ Enjoy special events
- ❄️ Support conservation projects



ALL ARE WELCOME!



Peace and joy to all this holiday season!

THE SECRET ENERGY IMPACT OF YOUR PHONE by Owen Williams

From Issue 4, INCREMENT, Energy & Environment, February 2018

Whether you're building mobile apps or just living an ever-connected life, you might be surprised at how big an energy footprint that glowing rectangle in your hands can have. As you're tapping, scrolling, and swiping on your phone, you probably don't give much thought to the fact that your apps are consuming electricity—just that they're chipping away at your battery life.

Many of us use our phones all day, every day, rarely considering where the energy that runs them comes from, how exactly our apps consume battery life, and what happens each day as our smartphones touch dozens—or even hundreds—of other devices when we use them to connect. Because we can't literally see our data traveling across the world, it's easy to forget that our phones have an energy impact beyond the power they drink up when we charge them.

On its own, a smartphone has very little energy impact: estimates put it at less than a dollar of electricity per year on the high end, depending on who you ask. But the real cost is less obvious, encompassing the cell phone towers that keep you connected, the vast networks that connect them, the data centers that process your data, and so on.

Tracing your phone's real energy impact isn't a trivial task, but let's take a quick look at the places your bits and bytes might go, and what it takes to get them there.

The mobile network

Because we can't literally see our data traveling across the world, it's easy to forget that our phones have an energy impact beyond the power they drink up when we charge them.

As your phone's 4G LTE modem fires up and connects to the network, you're consuming energy both on your device and at the receiving end: your carrier's vast network of towers, which ensure you're always online. Cell phone towers, or base stations, use large amounts of energy to dissipate signal over extended distances. This can make up a big chunk of your phone's energy impact—though just how much depends on where you live.

Into some more networks

Mobile networks are just one hop on your data's journey. As you fire up, say, Snapchat to take photos and send them, you're touching a sprawling mobile network that uses electricity at an unprecedented scale to deliver your self-deleting photos. Once your photo wings its way beyond your provider's cell tower, it travels through the company's vast switching network, out into interconnecting networks, and across

a massive, convoluted set of devices to reach its destination: a cloud service . . . where it's processed for delivery and ultimately stored for the long term.

A single request could touch DNS servers, undersea cables between continents, content delivery networks, and make many, many more hops to get to the data center at the speed you'd expect.

To get to that end point successfully, your data touches dozens of servers, switches, routers, and underwater cables around the world. A single request, for example, could touch DNS servers, undersea cables between continents, content delivery networks, and make many, many more hops to get to the data center at the speed you'd expect. And once it's delivered to the data center, the same data must travel across the globe again as it makes its way to the recipient.

The impact of your personal rectangle

Because smartphones make it so simple to jump on a video call, fire off a photo, or upload an entire album, unlimited data plans are becoming the rule, rather than the exception. Needless to say, we're using more data than ever.

The rise of 4G LTE—and soon 5G—unleashed a race for the fastest speeds and ever-increasing data caps, but paid little attention to the larger-scale energy impact mobile devices could have. And consumers, even if pushed, might not find it easy to grasp the scale of this energy impact, because they never see the sprawling data centers, switches, and network cables their data travels through. Consumers simply aren't aware of what's going on behind the scenes as they use their devices, because those devices abstract away the complexity of the networks behind the apps.

So it's up to networks and cloud providers to push energy efficiency forward—and developers can seize the opportunity to build efficient mobile apps, too. Every megabyte has a cost, even if it's not readily visible, but it's easy to forget that. From the solo developer to the cloud host, awareness and ownership of energy efficiency is key.

<https://increment.com/energy-environment/the-secret-energy-impact-of-your-phone>



* * * UPCOMING EVENTS * * *

National Audubon Society's 124th Christmas Bird Count December 14, 2023 to January 5, 2024

One of the most popular birding events of the year is the annual Christmas Bird Count. Rarely held on the actual designated holiday itself, counts are scheduled to take place on various days surrounding 12/25, within the official count period noted above. Counting takes place anytime during the 24 hours, midnight-to-midnight.

The goal is to find, identify, and count all birds within a 15-mile diameter "count circle." Find the count circle maps [HERE](#)

Consider taking part in a count this season. All are welcome! Compilers do their best to make sure that beginners join a group with at least one experienced birder.

There are many options for covering an assigned area.

Field counting is often accomplished by combining driving and walking, but, depending on conditions, participants may decide to bicycle, ski, or snowshoe. Birding entirely from within a vehicle is another option. Some people start at the crack of dawn, others even earlier for owling. Some are out until the very last minutes of daylight, while some folks can only dedicate a few hours. It's all good!



Photo by Anne Greene

You can even participate from home as long as you are within a CBC circle, counting birds that visit your feeders or are otherwise seen on your property. Check the circle map to be sure you are within the boundaries, and contact the compiler for instructions on how to proceed.

Some compilers end the day with a meet-up, refreshments, and tally session. It's always fun sharing birding experiences and learning what birds were spotted throughout the day. Usually there are a few interesting stories, too!

We hope you'll think about joining one or more of the local CBCs!

Read about CBC history, science, and data at:

<https://www.audubon.org/conservation/science/christmas-bird-count>



Photo by Alan Rawle

STURBRIDGE CBC

Thursday, December 14, 2023

Blizzard date: Friday, December 15th

Compiler: Mark Lynch 508 799-9343

moa.lynch@charter.net

WORCESTER CBC

Saturday, December 16, 2023

Snow/ice date: Sunday December 17th

Compiler: John Liller 508 877-5770

john.liller@worcesteracademy.org

ATHOL CBC

Saturday, December 16, 2023

Compiler: Dave Small 978 413-1772

dave@atholbirdclub.org

UXBRIDGE CBC Sunday, December 17, 2023

Compiler: Strickland Wheelock 508-265-2896 skwheelock@yahoo.com

GROTON-OXBOW CBC Sunday, December 17, 2023

Compiler: Jon Skinner 978-894-3698 jonrisk@gmail.com

QUABBIN CBC Saturday, December 30, 2023

Compiler: Scott Surner ssurner@aol.com

WESTMINSTER CBC Monday, January 1, 2024

Date subject to change depending on weather

Compiler: Charles Caron 978-874-5649 caronenv@aol.com

PRINCETON OPEN SPACE COMMITTEE - PRINCETON HIKES!

HIKING STUART POND,
CAT ROCKS,
AND THE ONION PATCH
EAST PRINCETON

Saturday December 9th 9 a.m.



This hike of four miles is a moderate-level effort that includes a visit to the Cat Rocks ledges, a jumble of rocks off the beaten path.



For more information or to register:
TrilaroundprincetonMA@gmail.com

HARVARD FOREST

Seminar--FOREST ESTIMATION
IN THE AGE OF BIG(GER) DATA

with Kelly McConville

Department of Statistics, Harvard University

Wednesday December 13th 11 a.m. - noon

In-person at Harvard Forest, 324 North Main Street, Petersham,
or Livestream via ZOOM

Kelly McConville is a senior lecturer in the Department of Statistics at Harvard University.

She is also a survey statistician who develops estimation techniques that combine complex survey data with big data sources. Whether it's to estimate official statistics, canopy cover or occupational statistics or to assess the impact of voter ID laws, she enjoys creating methods to learn from data. Kelly is a big fan of the statistical software, *R*, and has written one *R* package called *pdxTrees* for exploring the trees of Portland, Oregon. She has supervised undergraduate research students on forestry data science projects.



Contact [Joshua Plisinski](#) for ZOOM link

Seminars are free and open to the public. No pre-registration is required.



Nicklas Gustafsson

PRINCETON OPEN SPACE COMMITTEE - PRINCETON HIKES!



RUSSELL
CORNER
LOOP HIKE

Wednesday
December 13th 2 p.m.

This easy-to-moderate 3-mile hike will take us on a well-used trail through a new growth forest and down to a beaver pond (Jones Meadow), looping back up and around a pine forest.

HIKING HIGH RIDGE
WILDLIFE MANAGEMENT AREA
WESTMINSTER/GARDNER
Saturday December 30th 9 a.m.

This will be an easy-to-moderate level loop hike covering about 4 miles.

For more information or to register:
TrailaroundprincetonMA@gmail.com



Photo by Bill Platenik

FORBUSH BIRD CLUB



Photo by Bill Platenik

NEW YEAR'S BIRDS IN
WORCESTER

Sunday, January 1, 2024
12 noon

Leader: John Shea 508 667-1982
John@beachwells.com

Start your birding year off with a look around some attractive spots in Worcester. Ponds attract waterfowl, and winter resident species are around in good numbers.

Meet at the entrance to
All Faiths Cemetery, 7 Island Road, Worcester.

ATHOL BIRD & NATURE CLUB

GEOLOGY DIVISION

Friday 4- 6 p.m. weekly

The ABNC Geology Division meets Fridays at 4 p.m. in the "Quarry" located in the basement of the Millers River Environmental Center. To join the Geology email list or if you are coming for the first time contact Max MacPhee at commustar@gmail.com and let him know you are coming.