

GLOBAL INSIGHTS

October 2023

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"The green [energy] transition poses a uniquely difficult policy challenge, because the stakes of failure are so high and yet the path to success is so complex."

—[Christine Lagarde, President of the European Central Bank](#)

It's Thursday, October 12

Here are this month's insights in 1,560 words (a 6-minute read).



Wind turbines are a key part of our renewable energy future. © 刘云 蔺/TNC Photo Contest 2021

Renewables are the future—but what does it take to get there?

Enough renewable energy projects have been proposed to meet 80% of the U.S.'s goal for carbon-free electricity by 2050. But fewer than [a quarter](#) of those projects will ever get built.

In Europe, four times more wind energy capacity is being proposed than is actually under construction—and those stats look similar around the world, from China to India.

Considering 31% of all planet-warming emissions come from electricity, a swift transition to renewable sources is nonnegotiable. So what's going on? We've got cutting-edge renewable energy technology, we've got projects ready to be built—and, after experiencing two of the hottest months [on record](#) this past summer, we're definitely feeling the urgency.

With the planet hanging in the balance, where is the energy transformation we need?



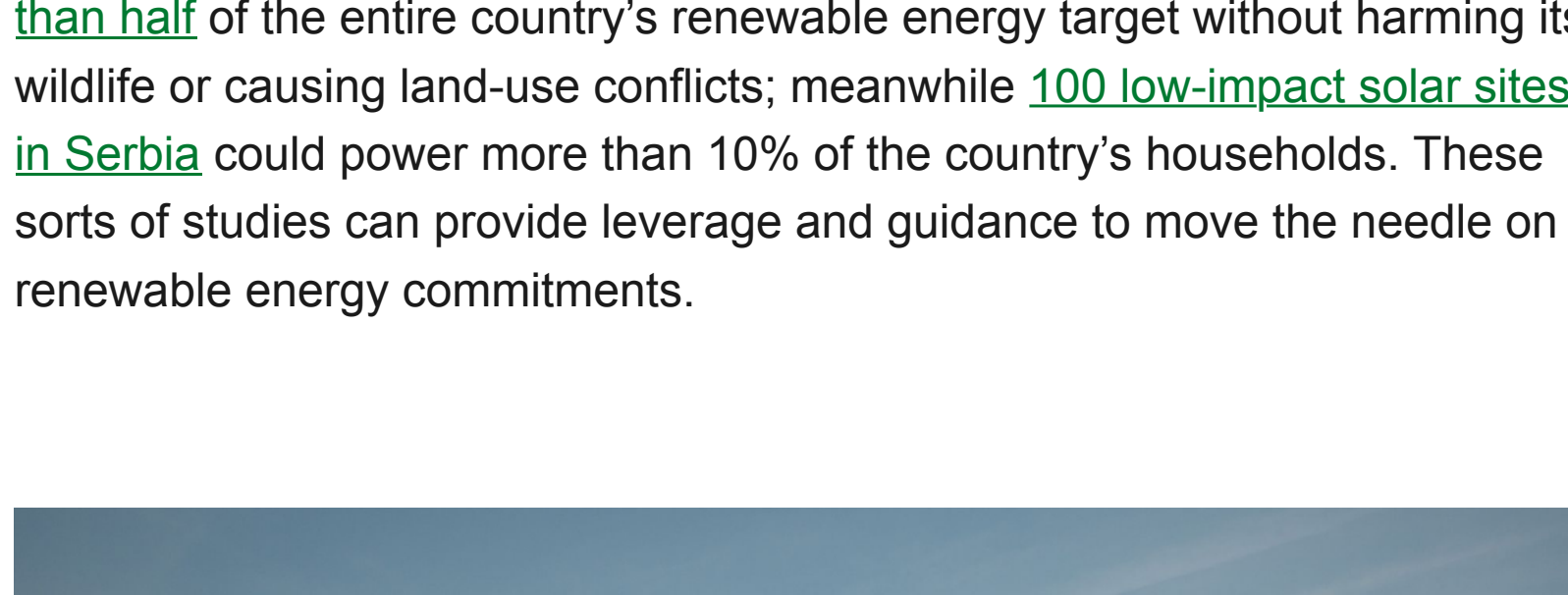
Wildlife and wind. © Sandesh Kadur/TNC Photo Contest 2022

Pathways to net-zero

Plenty of countries have "net-zero" emissions goals to accelerate a transition to a renewable energy economy. By 2050, the U.S. aims to be totally carbon neutral. The EU takes it a step further, aiming to neutralize *all* its greenhouse gas emissions, including methane and fluorinated gases, by 2050.

Goals like these are good. But plans for achieving them are even better. Energy planners and policymakers need clear pathways for advancing net zero goals. That starts with identifying the best places to build wind turbines and solar arrays to benefit people—and [protect nature and working lands](#).

We know this can be done. In Croatia, for instance, a Nature Conservancy study demonstrated that one single county (yes, *county*) could meet [more than half](#) of the entire country's renewable energy target without harming its wildlife or causing land-use conflicts; meanwhile [100 low-impact solar sites in Serbia](#) could power more than 10% of the country's households. These sorts of studies can provide leverage and guidance to move the needle on renewable energy commitments.



Solaris solar power plant in Serbia—where sun powers the grid while sheep graze among it. © MT-KOMEX

Efficient energy planning

In 2022, the U.S. hit a milestone: more energy came from renewable sources than coal. This transition was driven by a surge in renewable projects—primarily solar, wind, and battery storage—which now make up over 95% of projects seeking approval to be built. But the U.S. is *still* not at pace to meet its climate goals, as agencies struggle to approve, and developers struggle to build, the massive influx of projects being proposed. What's holding them up?

One answer is fragmentation. The U.S. grid is managed regionally, each with its own priorities and often without long-term planning. This fragmented approach results in incremental upgrades and studies, as utilities and regional grid operators aim to accommodate requests to add renewable energy sources to the grid while ensuring it remains reliable.

One way to thoughtfully accelerate grid connection is to understand the energy landscape—literally—by identifying [low-conflict, low-impact sites](#) on which to develop renewable energy projects (think abandoned coal mines or brown fields—areas that have already been degraded). Projects sited in these areas actually take [half the time to be approved](#); these kinds of projects, ones that can prove they are "ready to build" quickly, should be prioritized to improve efficiency.

On top of that, around [30% of the U.S.'s 2050 electric portfolio](#) could be hosted by communities that have historically been economically driven by the fossil fuel industry. This could create clean energy opportunities in areas home to nearly 23 million people. Considering the Inflation Reduction Act includes tax credits for developing clean energy in fossil fuel communities, prioritizing these places for siting should help mobilize funding as it helps speed up interconnection. [Siting solar farms on abandoned mines](#) in sunny Nevada and in West Virginia coal country, for example, is aiming to show how we can bring back energy jobs while developing critical infrastructure on degraded, low-conflict lands.

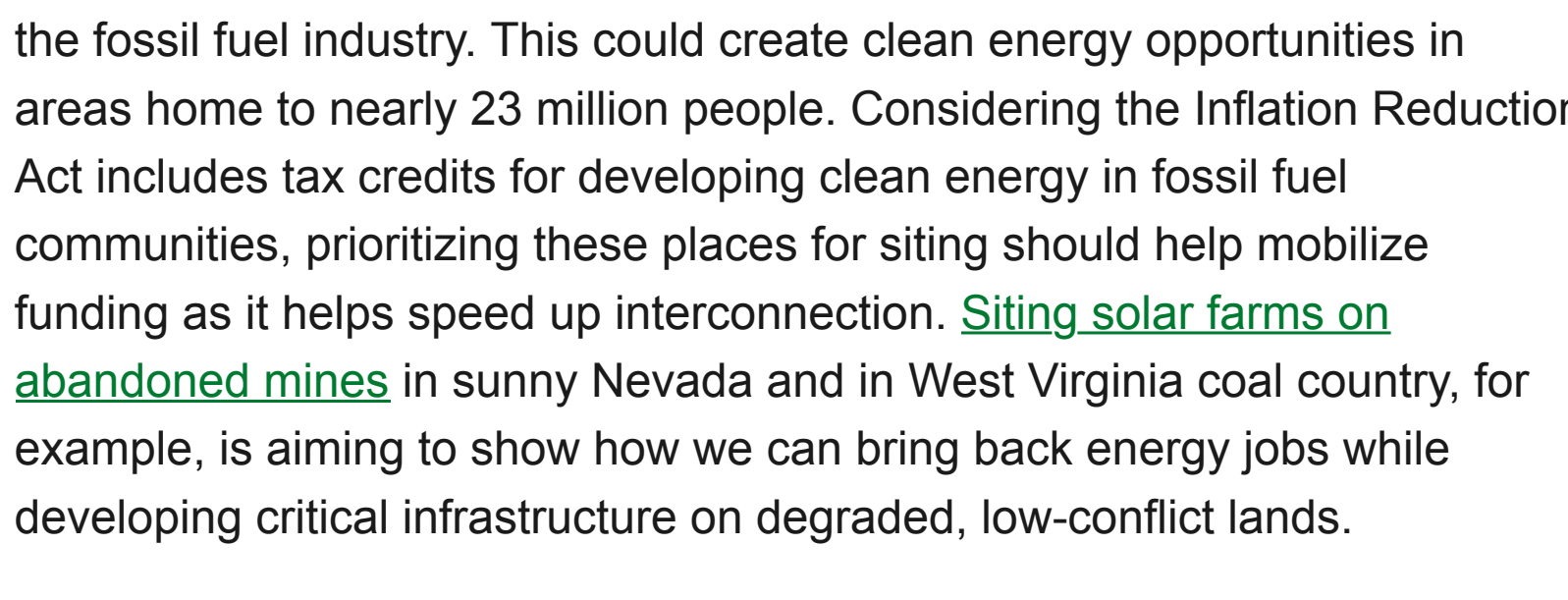
Efficient energy planning in Europe

In Europe, new legislation promotes a proactive permitting approach, wherein agencies pre-approve lands for renewable energy development and solicit applications from developers. Directly influenced by the [REPowerEU](#) plan, the EU legislation guides developers toward nationally pre-determined areas that would allow for fast-tracked permitting. EU countries have about two years to designate these areas, bound by legislation. It is crucial to get it right when proposing fast-track permitting areas to ensure they benefit communities and don't harm wildlife—like in North Macedonia, where [a recent study](#) identified *twice* the amount of land needed to meet the country's entire electricity demand by siting renewable installations on brownfields and degraded lands.

Improved transmission capacity

The other piece of the renewables puzzle is transmission: the grid of towers and wires that bring electricity to people. Once projects are built, they need to be connected to the grid, which in many cases is outdated and might not have the capacity to take on new energy sources.

To reach net-zero carbon emission goals in the U.S. by 2050, for example, we need to *triple* inter-regional transmission infrastructure. TNC studies have shown that we can [significantly reduce](#) the amount of new transmission needed by strategically locating new wind, solar and battery storage projects on or near existing generation facilities, as well as through grid upgrades, like enhancing existing lines to allow them to carry more energy farther and faster. Reconductoring, the practice of replacing old transmission cables with bigger, modernized cables on existing towers, is a good example of a grid upgrade that requires no additional land.



Starfire solar site: The reclaimed coal mine in eastern Kentucky is planned for a solar facility. © Dean Hill

Success proof points

The private sector can set precedent by sourcing its own power from strategically sited renewables that add capacity to the grid. Like at [the Starfire Mine](#), formerly one of the U.S.'s largest coal mines in Eastern Kentucky, where renewable energy developer BrightNight is building one of the largest solar sites in the nation to power more than 500,000 households, along with a 20-mile transmission line to add future renewables capacity to the grid. The Nature Conservancy partnered with the electric vehicle manufacturer Rivian Automotive to [identify and purchase the renewable power](#) this site will generate to help the corporation achieve its sustainability commitments.

Of course, none of these approaches alone will solve all renewables conflicts. But clear pathways to net-zero goals, science-backed siting guidance and a diversity of sustainable renewable energy inputs can all help mobilize developers, speed up approvals and connection, and catalyze the urgent action this decade will require.

Dive Deeper

- [Download](#) the Power of Place Report
- [Explore](#) the Site Renewables Right tool
- [Read](#) the Purpose-Driven Toolkit

THE RACE TO 2030

The Nature Conservancy is committed to reducing or storing 3 gigatons of CO2 emissions annually through the power of nature and the strength of policy and markets, while supporting the more than 100 million people on the front lines of climate impacts. [Learn more about all our 2030 Goals.](#)

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WE'RE ON IT: SCIENCE THAT MATTERS FOR YOUR WORLD

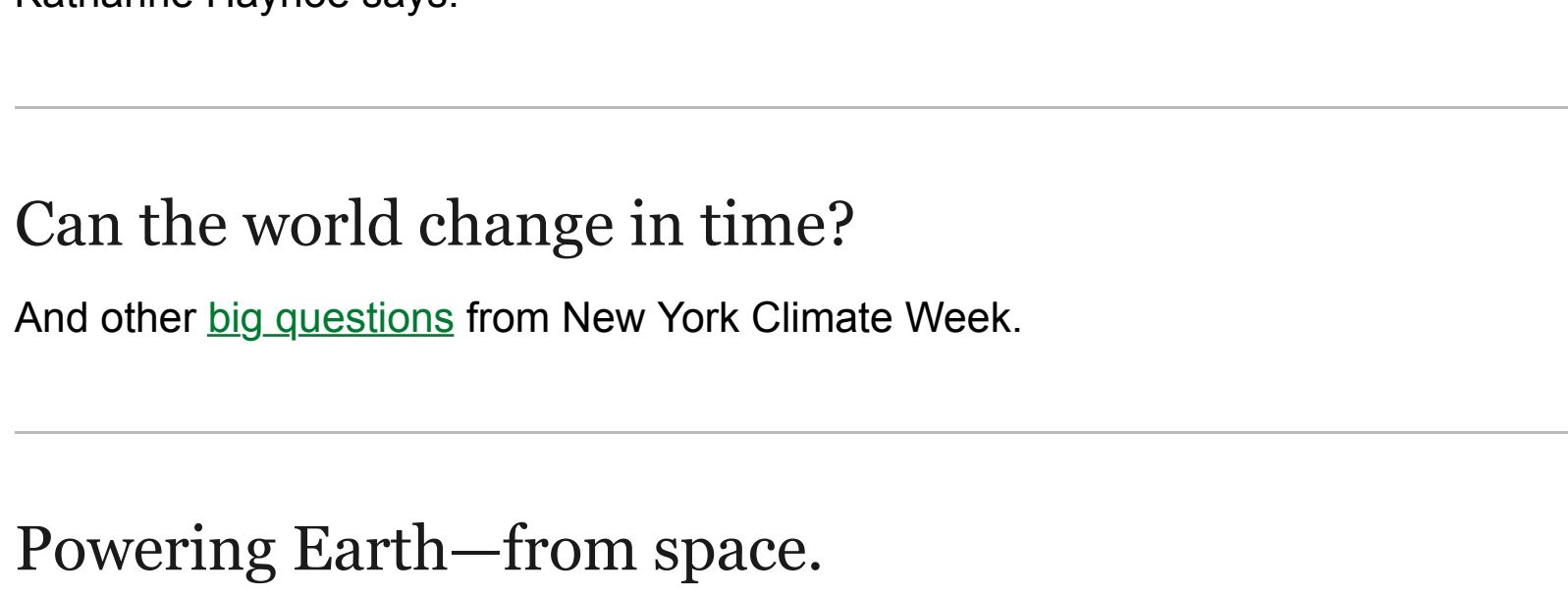
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A year's rainfall in 24 hours.
How climate change intensified [flooding devastation](#) in Libya.

The mammal era is halfway over.
Science suggests that mammals have about [250 million years left](#).



Grazer, our 2023 fat bear week queen © NPS Photo/F. Jimenez

...and one more thing

You know the age-old adage—the fatter the bear, the richer the ecosystem. No?

Well, that's the whole philosophy of [Fat Bear week](#) in Alaska's Katmai National Park. Between June and late September, brown bears spend all their time gorging on the park's plentiful sockeye salmon. And we spend our time admiring the hustle.

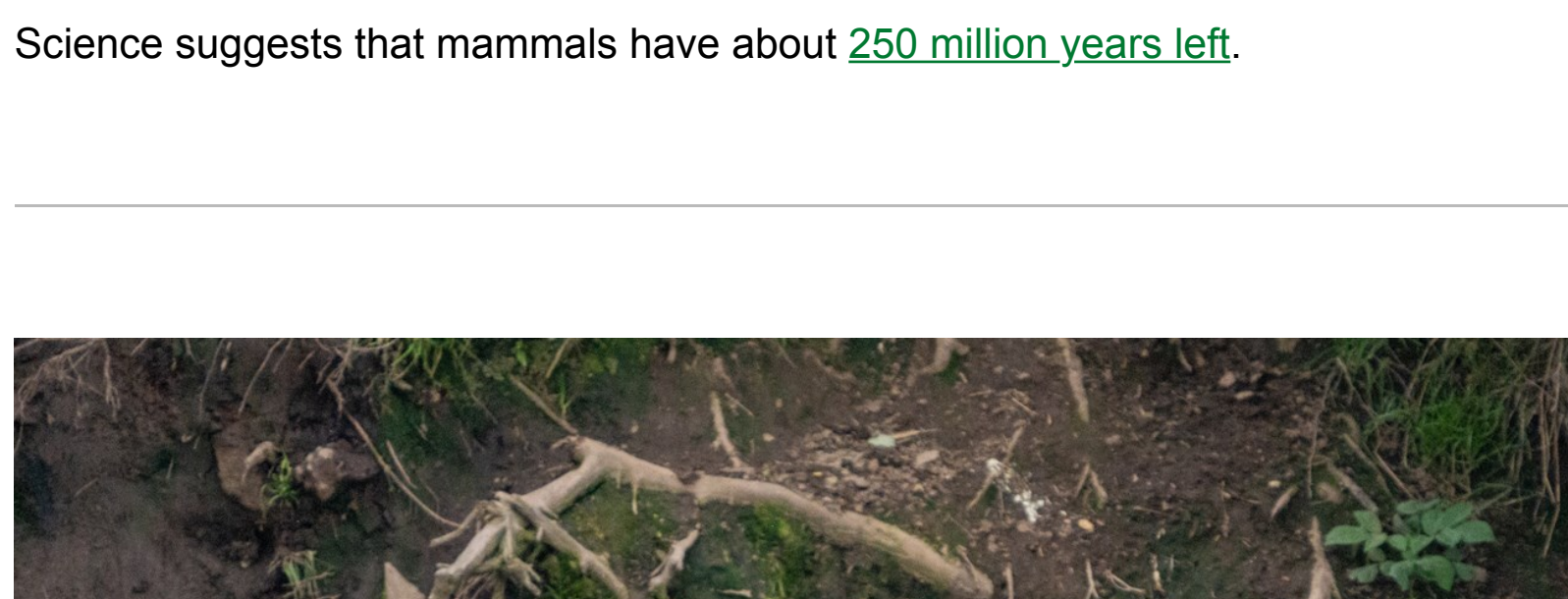
The challenge? Pack on enough fat to survive a whole winter of hibernation—without food or even water. The winner? The chunkiest of them all.

This year, the competition was as fierce as it was fat. Twelve rotund bears faced off to pack on the most pounds, even as threatened like a looming shutdown of the United States government threatened to [derail the entire bracket](#) at the federally operated national park.

But the government stayed open and the votes rolled in. All eyes were on fan-favorite, 27-year-old Otis, a two-toothed heavyweight champion, with four wins under his belt (er, folds?), as well as 2022's winner 747, also known as Bear Force One, a 1400-pound, fat-packing machine.

This year, though, a thick girl boss took the cake. Grazer, as she's called, has been known to strike fear into the hearts of even the roundest boys, a fearlessly aggressive single mama who would charge any bear who dare even look at her cubs. She blew it out of the water, too, racking up 108,231 votes. She even beat out one of her own cubs to win the crown.

Bears might be the star of the week—and Grazer might be the star of the show—but salmon are the real unsung hero, as they give their lives in the goriest way to chunk up our favorite mammals for a long, restful winter.



Grazer, our 2023 fat bear week queen © NPS Photo/F. Jimenez

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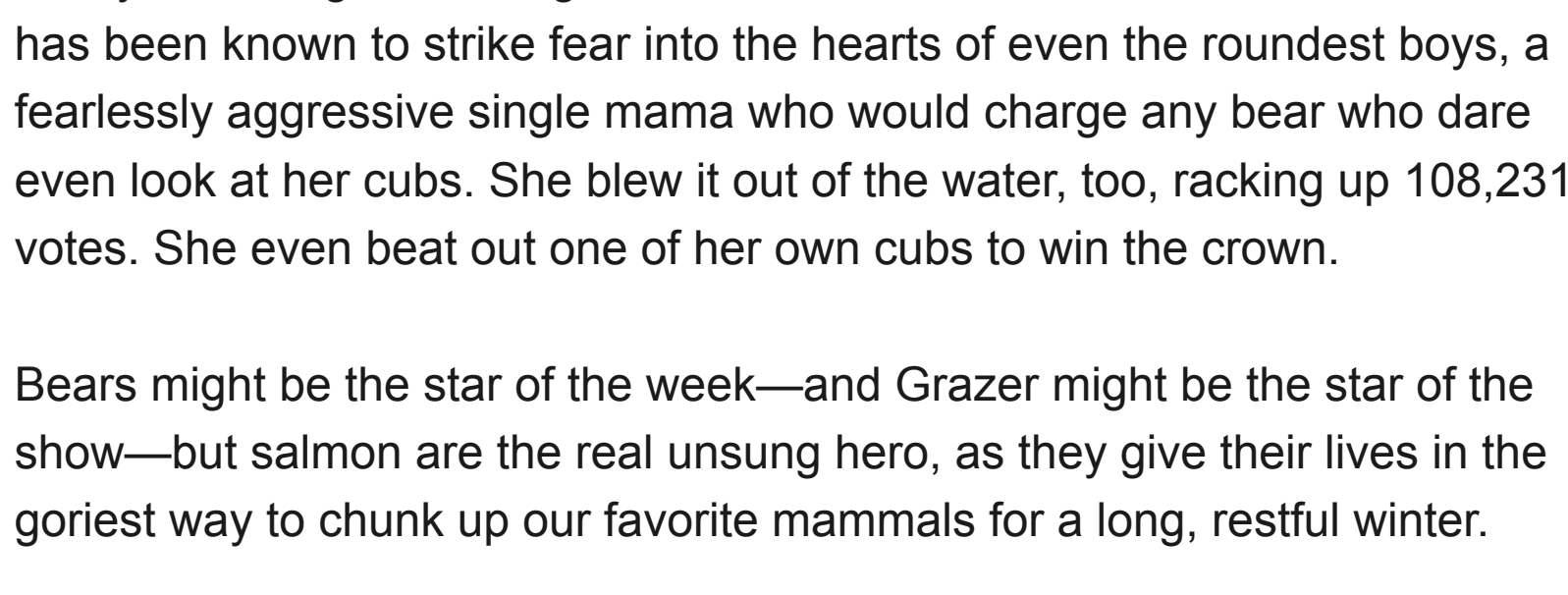
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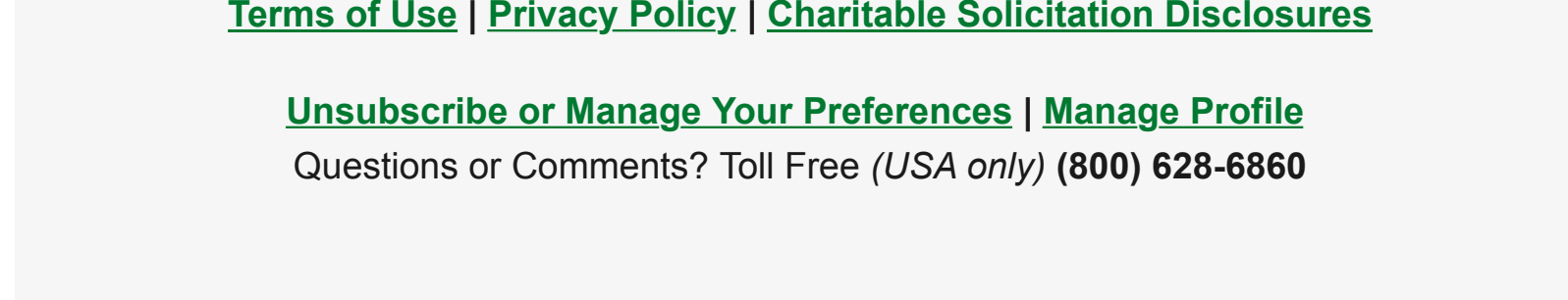


Grazer, our 2023 fat bear week queen © NPS Photo/F. Jimenez

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