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# Wind Turbine Color Makes Difference in Bird & Bat Deaths



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Common turbine colors attract more insects... Photo: Mark Seymour

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Here's a twist in the ongoing not-so-big problem with wind turbines killing birds ([https://www.treehugger.com/files/2007/05/cats\\_more\\_letha.php](https://www.treehugger.com/files/2007/05/cats_more_letha.php)) and bigger problem with them killing bats (<https://www.treehugger.com/files/2009/09/scientists-solve-wind-power-mass-bat-killing-problem.php>): New research published in the European Journal of Wildlife Research (<http://www.springer.com/life+sciences/animal+sciences/journal/10344>) finds that the color which turbines are painted makes a big difference in the number of insects attracted to them, and in turn how many birds and bats get killed. You can read the full study (<http://www.springerlink.com/content/p4565vx242651518/>) (pay-per-read) or the good BBC ([http://news.bbc.co.uk/earth/hi/earth\\_news/newsid\\_9067000/9067721.stm](http://news.bbc.co.uk/earth/hi/earth_news/newsid_9067000/9067721.stm)) overview, but this is the gist of the research:

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When the researchers, from Loughborough University (<http://www.lboro.ac.uk/>), examined an array of colors for wind turbines -- which they did by placing different colored cards next to a wind turbine in the UK -- they found that there were large differences between them.

They tested pure white, light grey, dark grey, sky blue, red, purple, yellow, and others.

Yellow attracted the most insects, but pure white and light grey -- the predominant wind turbine color -- drew in significantly more insects than other colors. Purple turned out to be the least attractive color.

Furthermore, the researchers discovered (perhaps not surprisingly) that the ultraviolet and infrared components of the paint used on the wind turbines also varied their insect attraction, with high levels of either meaning more insects.

Before we go painting turbines purple, the researchers caution that there are other factors at play here as well. But it is certainly interesting.

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**More on Wind Power & Bats:**

**Scientists Solve Wind Power's Mass Bat-Killing Problem**

(<https://www.treehugger.com/files/2009/09/scientists-solve-wind-power-mass-bat-killing-problem.php>)

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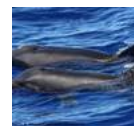
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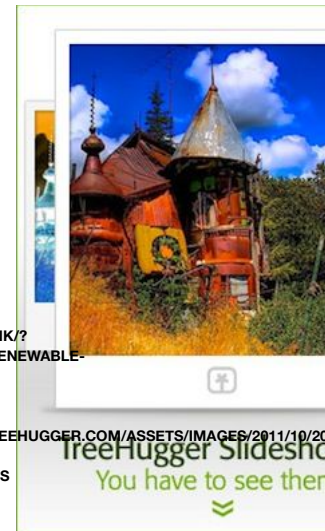
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q`Tzal • 8 years ago

While I believe that every reasonable effort should be made to reduce birds that are killed by flying in to wind turbines this same effort and level of shock needs to be leveled at more statistically significant causes of avian death.

I found this US Forest Service study from 2005:

"A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions".

The link is [http://www.fs.fed.us/psw/publications/documents/psw\\_gtr191/psw\\_gtr191\\_1029-1042\\_erickson.pdf](http://www.fs.fed.us/psw/publications/documents/psw_gtr191/psw_gtr191_1029-1042_erickson.pdf)

On page 11 is a table which shows some interesting data about what is actually killing birds:

Table 2--Summary of predicted annual avian mortality.

Mortality source	Annual mortality estimate	% composition
Buildings	550 million	58.2 %
Power lines	130 million	13.7 %
Cats	100 million	10.6 %
Automobiles	80 million	8.5 %
Pesticides	67 million	7.1 %
Communications towers	4.5 million	0.5 %
Wind turbines	28.5 thousand	<0.01 %
Airplanes	25 thousand	<0.01 %

There are much easier targets than wind turbines. With much less systemic effort applied to the root causes of the larger causative factors you could easily save more birds than making the wind turbines 100% harmless, which is impossible.

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Blindasa • 8 years ago

aren't bats blind? how will they tell the different colours?

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jeadly → Blindasa • 8 years ago

Also, I think they're saying that the bats just follow the food (bugs) who are attracted to the white blades.

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AnthonyA → Blindasa • 8 years ago

Most species of bats actually have quite good vision, so far as I'm aware. I'm not sure, however, that they can distinguish colors, but wouldn't bet against it.

^ | v • Reply • Share ›



Drew • 8 years ago

All well and good painting them a darker color, however they are painted white for a reason as well. Composite (fiberglass, carbon, whatever) blades using a polyester or epoxy resin are cured at a temperature - say 150 degrees. Great. If a component is then painted a dark color the temperature will exceed that initial cure temp (tg), and the part will basically become soft again. Melting wind turbines. This is the reason composite aircraft are nearly always painted white as well. The solution is keep them white, or cure them at a much higher temperature so that they can withstand the daytime temperatures. I have no idea what they are actually curing them at, but an autoclave (oven under vacuum) for a blade that size would add significantly to the cost of production.

^ | v • Reply • Share ›



Doug • 8 years ago

A nice blue up top, melting to green below, should work for insects and reduce visibility and maybe complaints from neighbors.

^ | v • Reply • Share ›



Guest • 8 years ago

I am so glad they're researching this. An eco friendly product is not eco friendly if it kills wildlife.

1 ^ | v • Reply • Share ›



Joshkhan2001 → Guest • 8 years ago

True, but it is still an order of magnitude better than the alternatives which kill everything, not just birds and bats.

Joshua

^ | v • Reply • Share ›



Guest → Joshkhan2001 • 8 years ago

Wind energy has amazing potential, I agree. But the way it's headed right now, they're being placed willy-nilly with no regards to wildlife. They placed some of them smack-dab in the migratory path of whooping cranes. Not good. Not good at all. It's unacceptable and we need to go about this in a more thoughtful way.

^ | v • Reply • Share ›



George Mokray • 8 years ago

People have known for years that yellow attracts insects. A popular organic treatment is to hang a yellow piece of plastic coated with a sticky substance near plants to protect them from white flies and other insects.

^ | v • Reply • Share ›



Megan → George Mokray • 8 years ago

Perhaps they did know that, but it would not be scientific if they did not include a wide variety of colours, including some that will have reaction that is anticipated by the researchers.

^ | v • Reply • Share ›

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