

# ScientiFiQ

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## BRIGHT LIGHTS, BIG PITY

ARTICLE BY JOSHUA

Can dimming City Lights  
save Migratory Birds?

NASA's New Planetary  
Exploration

Counter Chemical Weapon  
Threat



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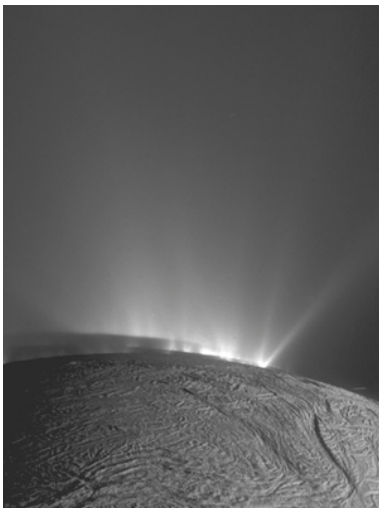
## Adaptive Evolution

A fascinating example suggests that commercial fishing drove rapid evolutionary change in an Atlantic salmon population over the past 40 years. What surprises is —that fishing for salmon drove evolution in the opposite direction from what one would typically expect, and that salmon evolution also was affected by fishing for other species in the ecosystem.



## Planetary Traget

A magazine is a periodical publication, which can either be printed or published electronically. It is issued regularly, usually every week or every month, and it contains a variety of content. This can include articles, stories, photographs, and advertisements.



## Macrophage Infiltration

Cell migration through compact tissues within multicellular organisms is essential for normal embryonic development, immune response, and cancer metastasis. Frequently, migrating cells find a path of least resistance; however, relatively little is known about invasion into cell-dense tissues with no preexisting paths. Studying fruit flies, Akhmanova et al. discovered that embryonic macrophages can penetrate into tissues when at least one surrounding tissue cell divides at the site of invasion.

# How Radar Powered Forecasts Save Birds From Deadly City Lights

BY JOSHUA SOKOL

First, when the cumulative glow of light above cities is bright enough to outshine the Milky Way, it sucks in passing migrants from up to 200 kilometers away, a 2018 study using weather radar found.



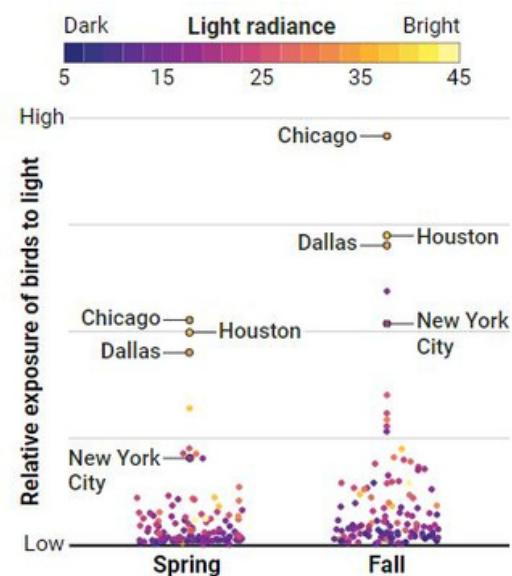
THESE WARBLERS AND OTHER BIRDS DIED AT THE WORLD TRADE CENTER IN NEW YORK CITY ON 20 SEPTEMBER 2021

Every 11 September at dusk, in memory of the 2001 attacks, New York City mounts the Tribute in Light, an art installation in lower Manhattan. And every year, as twin towers of light bloom skyward, they attract thousands of migrating birds, predators take advantage of the confusion. On each anniversary, bird conservationists wait below, counting and listening to disoriented chirps. If the observers report too many birds circling aimlessly in the beams, organizers flip off the lights.

In 2017, a once-a-year installation attracted a total of about 1.1 million birds. Within 20 minutes of lighting up, up to 16,000 birds crammed themselves into a half-kilometer radius. But when the lights flicked off, the dense clouds of birds on the radar screen dissipated just as fast, a finding later confirmed by on-site thermal cameras.

"That was  
really  
illuminating  
—pun not  
intended"

BENJAMIN VAN DOREN



(GRAPHIC) K. FRANKLIN/SCIENCE; (DATA) K. HORTON, A. FARNSWORTH ET AL., FRONTIERS IN ECOLOGY AND THE ENVIRONMENT, 17, 4, (2019).





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