

## Make way for ducklings (w/ Video)

August 23 2010

---

Parent birds know best when it comes to taking care of their babies. But, when food gets scarce and they are forced to fly longer distances to grab a bite, "egg sitting" time drops off. What impact does this have on their brood?

"I guess everybody, from a human health perspective, knows that what a mother does during pregnancy can have all sorts of effects on her babies," says Bill Hopkins, an associate professor in the Department of Fisheries and Wildlife Sciences at Virginia Tech. He is holding a duckling in his hand. It's one of many he and his team are studying. "We study how these little guys can be affected by the things that mom does."

A member of his research team, Sarah DuRant, examines an egg. "If you look really closely," she says, "you can see the embryo moving."

With the support of the National Science Foundation (NSF), ecologists Hopkins and DuRant are studying wood ducks to better understand the impact of mom's nesting behavior on her ducklings and their ability to survive.

"How much time a female spends on her nest is going to influence the temperature that the nest is at," notes DuRant. The researchers incubate eggs at different temperatures to simulate warmer and cooler nesting conditions. "What we're interested in are very, very subtle changes in temperature, maybe a degree Celsius at most," adds Hopkins.

DuRant says they already see differences in the developing embryo.

"Our embryos in the lowest temperature are going to develop a little bit slower than [embryos](#) in our higher temperatures," she says.

And once the ducklings are hatched, researchers are finding that just a slightly cooler nest can dramatically alter the health and vitality of an individual.

"They may look healthy, but if you actually dig a little deeper, we see a number of physiological deficits. Their immune systems aren't developing as rapidly. They appear to be almost developmentally stunted," explains Hopkins. "We see that they have changes in terms of endocrine function; in terms of stress hormones. We see changes in thermoregulatory capacity and locomotor performance. They swim slower than the same individuals from the same clutch. Swimming is a critical part of their early survival. They've got to avoid predators."

This research is not just about wood ducks. It has implications for many [birds](#) living in conditions where their nesting behaviors and habitats are disrupted.

"If their [immune system](#) isn't functioning as well as it needs to be and disease wipes through, then those guys aren't going to make it," says DuRant. "For many species that are breeding earlier in the year, those young are going to be exposed to colder temperatures so if they can't regulate their body temperature, then they're also going to die."

Hopkins hopes these findings will improve future conservation strategies.

"If you have an area, say, that's subjected to ecotourism, where you may have a lot of disturbance around nesting areas, those sorts of areas may actually come at a cost," he says.

That could adversely affect the health and vigor of future generations. Hopkins and his team want to learn all they can about what it will take to keep these little guys thriving--and following in mom's footsteps.

Provided by National Science Foundation

Citation: Make way for ducklings (w/ Video) (2010, August 23) retrieved 4 May 2024 from <https://phys.org/news/2010-08-ducklings-video.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.