Restoring fish populations leads to tough choice for Great Lakes Gulls

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You might think that stocking the Great Lakes with things like trout and salmon would be good for the herring gull. The birds often eat from the water, so it would be natural to assume that more fish would mean better dining. But a new report published in the April Journal of Ecology by the Ecological Society of America says that the addition of species such as exotic salmon and trout to the area has not been good for the birds, demonstrating that fishery management actions can sometimes have very unexpected outcomes.

Craig Hebert (National Wildlife Research Center in Ottawa, Canada) and his team analyzed 25 years of data on the gulls and found that throughout the Great Lakes region, the birds were in poor health in many areas. Tests of their fatty acids showed an increase in the type of transfat that mostly comes from food produced by humans.

“It seems that the birds are being forced to make a dietary shift from fish to terrestrial food, including garbage,” says Hebert.

Although no one is certain why the birds are eating more garbage, evidence points to fish stocking. When exotic salmon and trout have been added to the waters, the birds seem to be out competed for their favorite prey of smaller fish, such as alewifes.

Herring gulls, which differ from the ring necked gulls that often populate American beaches and parking lots, are by no means endangered.

But the birds have long been used as monitors of environmental conditions on the Laurentian Great Lakes. Their eggs are collected annually and analyzed for insights into how the region's food webs are changing.

Gulls are top predators in this system. When fish are unavailable, the birds turn to land instead for their foraging. When given a choice between prey fish and garbage, the birds readily chose the fish. Thus scientists assume that they only eat garbage when the prey fish numbers are low.

Prey fish in the Lake have been declining since 1980. Although multiple factors may be at play, predation by piscivorous fish appears to be the one factor that was universally important across all five Great Lakes because of massive fish stocking. The stocking was done to create recreational activities, and to reduce populations of exotic prey fish in the hope of restoring populations of native fishes.

"The effects on other species that are more closely tied to the water, such as terns, may be more severe," says Hebert. "Those kinds of birds can only eat fish, so their diet may be affected by this, too. They don't have the option of eating food found on land."

Source: Ecological Society of America