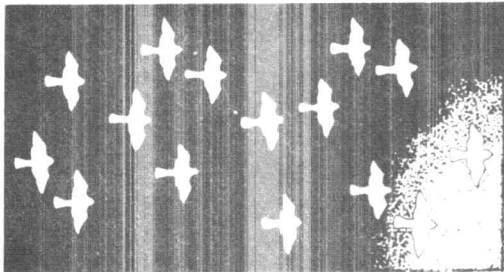


THE BIRD WATCH



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Bird Populations Institute

It is time for birders to acknowledge the fact that if they want to preserve the pleasure of watching birds, they must take the responsibility of watching over them. The protection of bird populations, however, depends on a deep understanding of their regulation, which for the most part, we lack. The BPI is committed to developing this understanding, and to communicating it to the people who care. When the impact of man's activities on bird numbers can be accurately assessed, we shall be better able to defend our conservation efforts.

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Saving The Kirtland's Warbler-Options

by Steve Fretwell

If you have never seen a Kirtland's warbler, I recommend the experience. There's just something about the species, maybe its rarity, or its tameness, or its emphatic song, that excites the observer. I saw my first one two years ago in a misty intermittent rain, among some jack-pines planted in rows in a management area in Michigan. Somehow the soaking added to the experience, which I still vividly recall.

As most of you know, there are fewer than 400 breeding individuals left in this species; all of these spend the summers in central Michigan and the winters in the Bahamas.

How do we arrange things so that this splendid bit of bird life will stay on with us, as we all face an uncertain future? Of course it has its own drive to live, and perhaps all we need to do is to give it a place where it can express that drive. But the Kirtland's warbler leads a complex life, traveling back and forth from Michigan to the Bahamas. Providing a place in which it may



live year round is a worthwhile but impossible objective. We all share this world, and cannot readily set aside any place where man's influence does not reach, somehow. Moreover, aside from its small breeding area in Michigan, the warbler potentially uses all of several states for breeding, including Ohio and North Carolina, as well as major portions of other parts of the eastern U.S.

The best we could do and have done, is to provide the warbler with a place where it can live part of the time. Even then, we have to watch out for the infringement of man's influence, watching the species closely in order to understand how it will be affected by the inevitable changes.

Another attitude to take is that of stabilizing management. In this approach, one would attempt to understand the species: we would study its population increases and declines and would ask why the population stays at the numbers it does. Then we would test our management capability by trying to increase the populations. We would do something, see what happened, and keep trying things until our understanding was so improved (or we got lucky enough) that our efforts worked. Finally we would monitor the population, responding to observed decreases with management efforts that we have proved will lead to an increase.

I suppose the latter attitude is the more sensible, but also the more expensive alternative. But let us, in hopeful optimism, suppose that the 10,000,000 or so bird lovers in America could be marshalled to contribute \$.10 each to the cause. It would take a March of Dimes sort of effort, but I believe that there is at least this much desire to save the species, even if it has to be done the hard way. That would be enough money to find out what we need to know, and I'm willing to think at length about what steps we should take, when the money is gathered.

My approach is to consider the options: what could be true? Where do we begin looking?

The basic life equation for any wild species is the balance of births and deaths. Like a sensible bank-book, these two must balance for the species to remain at a normal level. And, as with balancing a bank-book, adjustments in income (births) and expenditures (deaths) usually accompany any deficits or excesses. These adjustments, in the end, are what make a population stable. Somehow, when the population suffers a catastrophe and drops below normal, extra offspring need to be produced to raise the numbers to normal. Or perhaps fewer deaths might occur, to allow the normal level of breeding to restore the loss. The question is — and it is the key question in all of wildlife management — what causes the adjustments?

There are presently several population adjustment mechanisms known or suspected for other song birds. These are:

1) Nest Predation. If a population suffers a decline, it is likely to have a lower density of nests in the breeding season. This will discourage possible predators from looking for nests. Therefore, more nests survive, production increases, and populations are restored to higher levels.

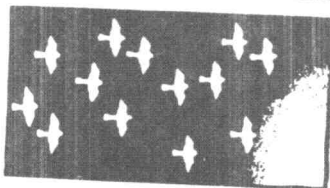
2) Winter food. If a population suffers a decline, it is likely to have fewer claimants for the available winter food, allowing each individual a larger share.

Then each bird has less chance of dying. The normal rate of breeding then restores the population.

3) Winter Roosting Sites. If a population suffers a decline, it is likely that fewer birds will compete for choice roosting sites that optimize both protection from the elements (usually low near the ground), and predation from night prowling predators (usually high off the ground). With more birds in good sites, more survive and again normal breeding restores the population.

Other factors thought to play a role in determining population size are cowbird parasitism and breeding season food abundance. Cowbirds do cause some, perhaps profound, losses to some nesting songbirds. But all available data indicates that songbirds suffer less as they become more numerous. Usually, a dense population of nests receives less parasitism per nest than a sparse population. Apparently the cowbirds quickly run out of eggs! But in this case, a decline in population can only worsen the hosts situation, and will cause further decline in the absence of some other adjustment factor.

Thus, a population stabilized in the presence of cowbirds is likely to be stabilized by some factor other than the next parasitism. Of course a population declining in the presence of cowbirds might be in severe trouble and need immediate help in dealing with the cowbirds. In this case, some other adjustment factor has started to slip, letting the population



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