



An Introduction to the Future: Flock Health Management

Part IV

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After defining the basic structural layout of your aviary, whether it be a barn, your house, or multiple freestanding buildings, you should be able to define your daily movements between the birds. These daily movements are drawn on top of the aviary map (discussed in Part III of this series) and make up the traffic flow map.

Just as the mission statement and aviary map serve as part of your aviary's physical exam, so does the traffic flow map. As you will read, some cases of aviary "disease" are due primarily to traffic flow problems.

Defining your traffic flow can be fairly simple. On a copy of your aviary map, draw a continuous line that clearly depicts your movements throughout the day. For instance, if your aviary is your house, the line should start with the beginning of your day. You may start in the kitchen preparing food then move to bedroom #1 to care for birds in that room. From bedroom #1 you may clean your hands in the closest bathroom and proceed on to the gameroom to attend those birds and so on. The traffic flow map should represent your routine movements.

Recording your daily movements serves several purposes. First, it quickly allows the veterinary/aviculturist team to look at your routine. A simple line drawing can show heavy and inappropriate traffic between different sections of your aviary. For instance, if your quarantine area is located in the middle of your traffic flow and/or is frequented because of daily movement, you increase the probability of exposing your collection to those quarantined birds. Even though the exposure is not direct (i.e., two birds physically in contact with each other), you risk spreading potential pathogens

(bacteria, viruses, protozoa, etc.) indirectly by acting as a fomite. A fomite is an inanimate object that serves to carry something and can be the bottom of your shoe carrying virus particles or a sponge used to clean food bowls and subsequent bacteria. By evaluating a traffic flow map, deficits may be found *before* a "disease outbreak" occurs as is discussed below.

Another use of the traffic flow maps is when a "disease outbreak" occurs. The obvious nightmare diseases like polyoma outbreaks in the nursery require immediate attention, but the idea of understanding traffic flow also applies to the "slower" disease outbreaks like Psittacine Beak and Feather Disease and Proventricular Dilatation Syndrome. Knowing where the disease is in your aviary and how to avoid propagating the pathogen are the big advantages of having an aviary and traffic flow map. By simply modifying your traffic flow and creating barriers (such as closing room doors, adjusting ventilation, moving cages/birds to other locations, etc), many "disease outbreaks" are controlled. Again, realize that by only treating the birds (with chlortetracycline impregnated feed, for example) during a "disease outbreak" (Chlamydiosis) and ignoring the mission statement, facility map, traffic flow, etc., the aviary as a whole is neglected and only the obvious crisis is evaluated. Addressing the birds only, often results in a repeated pattern of disease, regardless of the "bug" involved.

The following hypothetical example demonstrates the importance of the traffic flow map. At Big Bob's Bold Birds, the veterinary-aviculturist team has identified a problem—low overall productivity in the Moluccan Cockatoos.

There is no recent history or diagnosis of infectious disease in the aviary. The aviary consists of several rows of open cages with most of the neighboring species grouped by continent of origin—Australian birds in row #1, South American birds in row #2, etc.

The production numbers show that the Moluccan Cockatoos have had noticeably lower fertility over the past three years when compared with other species and with their own reproductive records from four or more years ago. Using the aviary map, all of the poor producing Moluccan Cockatoo pairs are shown to be isolated to row #7 along with two pairs of immature Bare-eyed Cockatoos with no recorded reproductive performance.

Further evaluation reveals that three years ago, the food storage shed was moved from inside the garage to out in the field next to row #7.

Originally, food storage was moved in an effort to place it in a more central location to the different rows of birds. The traffic flow map easily demonstrates the high volume of daily traffic to and from the food storage shed. Most of the traffic patterns are directly in front of the cages along row #7. As with all of the other birds, the Moluccan Cockatoos seem to get very agitated as the caretakers pass in front of their cage.

Unlike most other birds at this aviary, the Moluccan Cockatoos are being stressed constantly by the high volume of traffic in front of their cages and are not as interested in breeding.

The solution was placing a physical barrier in front of row #7 and changing nest box position so that the entrance hole was facing the back side of the cage.

The following season, these same Moluccan Cockatoos and the neighboring Bare-eyed Cockatoos, produced well. No medications or additional diagnostics were needed and the diagnosis for the infertility was inappropriate traffic flow.

This example was given to show that traffic flow can also be an important factor in non-infectious, not just infectious, disease. In our next article, we will discuss financial records and how money issues affect an aviary. ➤