Mad Duck.org
January 3, 2005
The Alternative Voice
For Sportsmanship and
Waterfowl Conservation

HOW LONG DOES A HEN LIVE?

By James H. Phillips

What is the average lifespan of a mallard hen?

The answer, from long-term band returns, is 1.2 years, a duration barely long enough to allow a young hen to take wing, fly south for the winter, return northward to the prairies and make one nesting attempt before departing unceremoniously to the Big Marsh in the Sky.

Longevity is a critical issue because older hens are our most productive breeders. A biological rule-of-thumb is that 20 percent of the hens today produce 80 percent of the young. These productive hens are overwhelmingly the older, wiser females that have learned through experience how to avoid predators, hatch a clutch of eggs and fledge a brood. The older the average age of our breeding flocks, the greater the juvenile productivity and the larger the fall flight, all other things being equal (See *Superhens*, Dec.2, 2004.)

Yet, waterfowl management ignores this key component of waterfowl productivity. It never has established age as a management goal. Perhaps this is because the average 14-month lifespan of a hen mallard today is shockingly low, far below what might be expected if hens were given additional protections.

Some biologists argue the average lifespan of *juvenile-banded* mallards is misleading. This is because young hens are "uneducated" and during their first autumn easily are killed by hunters. These biologists argue older hens that have survived one or more hunting seasons are warier and better able to survive – the Susies that ultimately become "superhens."

This begs the question: Are older hens significantly "smarter" than juveniles? We can answer this question by examining band recoveries for hen mallards banded in prairie Canada during April-May from 1981-85. Conditions during these years were similar to today – deteriorating conditions on the breeding grounds coupled with liberal season lengths and bag limits.

The recovery data is from a 1995 study by U.S. Fish and Wildlife Service biologists Ronald E. Reynolds, Robert J. Blohm, James D. Nichols and James E. Hines. The returns are from mallard hens double-banded (one regular band, one $10 reward band) in the southern portions of Alberta, Saskatchewan and Manitoba. We assume the returns are representative of the mid-continent mallard population. We first look at

Next Page

returns from 1,246 hens banded in the spring as one-year-olds. We confine our analysis to recoveries from ducks shot or found dead within four years of banding.

YEARLING HEN BAND RECOVERIES

Banding Year	Recoveries by Year							
	1981	1982	1983	1984	1985	1986	1987	1988
1981	7	2	1	0	0	0	1	0
1982		9	9	4	2	1	0	0
1983			11	2	4	1	0	0
1984				10	2	1	1	1
1985					12	2	2	2

As you can see, the first season after banding produced 49 recoveries (58 percent of all recoveries within four years), 17 in the second year, 12 in the third year and six in the fourth year.

To simplify our calculation, we will assume each hen was banded May 1 (the midpoint of the banding period), and that each duck was shot Dec. 1 (the approximate mid-point of the hunting season). Therefore, 49 hens (the first-year recoveries) survived for 6 months after banding, 17 hens survived 18 months after banding, 12 survived 30 months and six lived for 42 months.

This tells us that on average each yearling hen survived only 1.2 years after banding. Since each hen was banded as a one-year-old, the average lifespan totaled only 2.2 years.

Interestingly, when we analyze band recoveries that were part of the same study involving 2,212 hens *at least two years old* when banded, we find survival does not increase.

ADULT HEN BAND RECOVERIES

Banding Year	Recoveries by Year							
	1981	1982	1983	1984	1985	1986	1987	1988
1981	6	4	0	2	1	2	0	0
1982		13	3	1	3	0	2	0
1983			14	9	5	1	1	0
1984				16	9	1	4	3
1985					14	9	2	0

Using the same methodology as above, we find 58 percent of all returns followed the first season after banding. These adult hens survived on average only 1.2 years after banding, the same as yearling-banded hens.

Thus, the average juvenile-banded mallard hen lives for 14 months. If it survives its first hunting season, its life expectancy increases to 26 months.

The biological implications of these findings are enormous.

For example, we know evolution has genetically engineered mallards to live longer than 14 months. A longer lifespan is necessary to allow the species to survive consecutive years of drought on the breeding-grounds. This allows hens to wait out the dry years and successfully reproduce after water refills the potholes – a necessary condition for the continued abundance and survival of the species.

The potential for a long life of a hen mallard can be seen by examining thousands of band returns. Although 95 percent of all recoveries are within five years of banding, there are scant but sufficient numbers of returns from six, seven, eight – even 13-year-old – hens to provide evidence that a hen mallard's potential longevity is far greater than the average lifespan of a hen today.

The data also suggests hens do not progressively accumulate knowledge and become warier with each passing year, as evidenced by nearly identical recovery rates between yearling and adult hens. This casts doubt on speculative assertions that old hens are "smarter" and therefore less likely to be shot by hunters.

The causes of today's depressingly short lifespan are mostly threefold. The physiological stresses of nesting and fledging a brood claim a large number of females. Carnivores on the breeding grounds kill and consume a significant number. Hunters harvest a substantial toll.

Biologists can debate which cause of death is most significant. The bottom line is that mallard hens need help so that more can survive – a process that would raise the average age and allow more to reach adulthood and achieve "superhen" status.

Why, then, are we not increasing controls on the breeding grounds to reduce losses to predators? Why do we continue to allow hunters to kill two mallard hens daily, when a few enlightened states limit the daily bag to one? Why do we allow earlier opening dates, later closing dates and longer seasons than in the past – regulatory liberalizations designed to increase the kill?

These are questions worth pondering as you sit in your blind at season's end staring at increasingly empty skies.

Previous Page

If we take care of the ducks, the ducks will take care of us.

Email to a Friend | Print this article | Return Home