

THE MYTH OF THE DUCK LIMIT

By James H. Phillips

An argument increasingly heard in conversation and internet forum exchanges involves the daily bag limit. This is especially true in debates over spinning-wing decoys. The argument goes like this:

“What difference does it make if those of us who use spinning-wing decoys stop at the legal limit? Waterfowl biologists know how many ducks we can kill each day and we should follow their advice.”

At first glance this argument appears highly credible. Its citing of anonymous waterfowl biologists provides an authority that makes the logic appear impregnable to attack by ethical nitpickers who want to ban the highly effective, battery-operated decoys.

It finds additional attraction by invoking waterfowl hunting's Holy Grail -- killing a limit. Most hunters view the daily limit as an entitlement -- the number of ducks owed to them each day by the government, the hunter's reward for purchasing a duck stamp and giving money to Ducks Unlimited. This belief is so ingrained that many hunters who exceed their limit on good days when ducks are flying rationalize their behavior on grounds the “extra” ducks make up for the days when they failed to bag a limit.

It therefore behooves us to examine in greater detail the underlying assumptions behind the “legal limit” argument to determine if it justifies the continued use of spinning-wing decoys, which most studies have shown increase the kill. We will use U.S. Fish and Wildlife Service data from 2001 -- the last year for which all data is available.

We begin by assuming that each hunter is armed with one or more spinning-wing decoys and the nationwide mallard limit is four daily.

U.S. Fish and Wildlife Service data tells us 1.4 million waterfowlers went afield during the 2001-02 hunting season, each spending an average of 10 days in the blind. If each hunter killed four mallards each time he went hunting, the annual kill would have totaled 56 million mallards -- 67.2 million if we add a 20 percent crippling rate for birds downed but not retrieved.

But all of us know that not every hunter kills a limit each time he goes afield. We will therefore assume each hunter killed a four-mallard limit 20 percent of the time he went afield. He bagged two mallards another 20 percent of the time, one mallard 20 percent of the time and failed to kill any mallards 40 percent of the time.

At season's end, our average hunter's gunning-diary summary looked like this:

	<u>Days</u> <u>Afield</u>	<u>Daily</u> <u>Kill</u>	<u>Total</u> <u>Kill</u>
	2	4	8
	2	2	4
	2	1	2
	<u>4</u>	0	<u>0</u>
<u>Total</u>	10		14

This tells us our hunter averaged 1.4 mallards per day over the course of the season for a total kill of 14. If we factor in a 20 percent crippling rate, his seasonal mallard kill increased to 17 mallards.

Using the estimate of 1.4 million U.S. waterfowl hunters, this works out to a nationwide annual kill of 23.8 million mallards.

To many waterfowlers, our average hunter scenario would not appear unreasonable – a couple of mallard limits over the course of the season, no mallards 40 percent of the time, one or two in the bag for the remaining days. Few would classify our average hunter as highly skilled. No one would describe him as a game hog.

Now, let us look at the mallard population. Biologists surveying the North American breeding grounds in the spring of 2001 found 7.9 million mallards. We will assume (as banding data suggests) the surveyed total represents 60 percent of the continental mallard population. The North American mallard breeding population therefore totaled 12.6 million.

Banding data further suggests about 20 percent of all breeding mallards die each spring and summer. This would leave only 10.1 million adults to fly south in the autumn of 2001. U.S. Fish and Wildlife Service age-ratio data further tells us there were .96 juveniles per adult (after adjusting for juvenile gunning vulnerability) in the fall flight. Thus, the fall mallard flight that year totaled 19.8 million.

Here is the rub:

If all hunters killed a limit of mallards each time they went afield in 2001 the kill (including cripples) would have totaled 67.2 million mallards – more than three times the 19.8 million that flew south.

Under our “average hunter” scenario, the kill totaled 23.8 million mallards, compared to our estimated fall flight of 19.8 million.

As you can see, under both scenarios our mallards would have been wiped out.

Admittedly, this is a rough, back-of-the-envelope calculation. I simplified our mathematical analysis to increase understanding. But further refinement would not appreciably change the result. The results are close enough to the mark to tell us in stark

terms it is the *increased kill* – not quitting shooting when you have reached the legal limit – that strikes at the biological heart of our flocks and is cause for deep concern over the continued use of the spinning-wing decoys.

In fact, biologists sometimes state publicly that limits are to be achieved only occasionally, but they say it so rarely the fact is lost on many hunters, especially the misguided and obsessed hunters who believe they are entitled to a limit every time they go afield.

Why does waterfowl management set bag limits much higher than are likely to be achieved? The short answer is politics and flawed biology.

The U.S. Fish and Wildlife Service and flyway councils win political favor when they impose high limits because hunters are less likely to grumble.

Mostly, though, it is because the service lacks a predictive population model that will allow the agency to truly manage our flocks. But that is a long, involved story, which we will explore in the near future.

In the meantime, our brief analysis tells us that stopping at the legal limit fails to biologically justify the increased kill resulting from the expanding use of spinning-wing decoys. The continued deployment of these deadly devices increases the kill at a time when our breeding flocks are declining due to a combination of poor breeding conditions on the drought-stricken prairies and over-shooting.

Is it any wonder hunters each year are complaining about seeing fewer and fewer ducks?

Is it time to impose a nationwide ban on spinning-wing decoys to allow our beleaguered flocks to rebuild?

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