



# Pennsylvania Federation of Sportsmen's Clubs

2426 North Second St. • Harrisburg, PA 17110

Phone: 717-232-3480 • Fax: 717-231-3524

info@pfsc.org • www.pfsc.org

Providing leadership and advocacy for the enhancement of our fish and wildlife resources for the benefit of all hunters, trappers, anglers and conservationists. Protecting our 2<sup>nd</sup> Amendment Rights.

6/27/2016

**Subject: House Bill 2083** (PN 3162) Amends Title 34 (Game), in preliminary provisions adding various definitions, providing for a separate doe and buck seasons, requiring a maximum sustained yield method of deer management, and establishing the Forest and Wildlife Advisory Council and providing for its powers and duties

The Pennsylvania Federation of Sportsmen's Clubs (PFSC), established in 1932, is the largest and most active organization in the commonwealth that works to enhance opportunities relating to hunting, fishing, trapping and the exercise of our second amendment rights. PFSC works with legislators and wildlife resource agencies to achieve goals that are in line with our members and all the citizens of Pennsylvania.

## **Pennsylvania's largest sportsmen's organization OPPOSES House Bill 2083.**

House Bill 2083, recently introduced, amends Title 34, The Pennsylvania Game Code. Rather than being referred for consideration to the House Game & Fisheries Committee, HB 2083 was referred to the House State Government Committee. If enacted, HB 2083 would create a "Forest and Wildlife Advisory Council". This council would be yet another layer of government, comprised of politically appointed volunteers, who would be charged with designing a habitat program for white-tailed deer and other animals in the commonwealth. There is no mention of specific training or education requirements for council members in any area of wildlife management.

This council would dictate policy to the Pennsylvania Game Commission (PGC) and the Department of Conservation and Natural Resources (DCNR) on matters of wildlife habitat and management. The independence and ability of these two agencies to fulfill their missions, as required by statute, is critical to all Pennsylvanians. Interference by a politically appointed group on matters of policy and operations of wildlife management would be disastrous.

HB 2083 also dictates PGC Seasons and Bag limits for taking of game. This would usurp the current responsibilities of the Game Commission's Board of Commissioners (appointed by the governor and approved by the senate) who oversee this regulated process constantly.

Further, HB 2083 dictates specific deer hunting regulations as they apply to senior license holders and eliminates the Deer Management Assistance Program (DMAP) on public land. These are clearly matters for the PGC to regulate.

Finally, HB 2083 mandates adoption of "Maximum Sustained Yield", a wildlife management concept that is at best controversial and that is a conceptual model that has not been implemented as a way to manage fish and wildlife populations by any other state in the union.

Management of wildlife in the commonwealth is clearly the responsibility of the Pennsylvania Game Commission, not the legislature. Habitat management needs to remain with the PGC and DCNR. Current channels that address grievances are in place. PFSC believes that people who have a grievance should use these channels to make change. Instituting another layer of politically motivated and appointed volunteers with no formal training is not in the best interest of the commonwealth's constituents, wildlife or habitats. **Please oppose HB 2083.**

Sincerely,

John Ord, President

**More on Maximum Sustainable Yield from the Penn State Department of Ecosystem Science & Management:**

## **Maximum Sustainable Yield Deer Management Debunked**

Posted: April 11, 2016

<http://ecosystems.psu.edu/research/projects/deer/news/2016/rip-msy-2013-you-were-not-meant-for-the-real-world>

### **RIP MSY – You were not meant for the real world**

Can we apply MSY to deer management? Do we want to?

Last week I discussed the very cool theory of Maximum Sustained Yield. Referring to MSY as “very cool” reconfirms my membership in NA (Nerds Anonymous), but this theory also has important implications with regard to managing hunted populations.

Sometimes, however, application of a theory isn’t all it’s cracked up to be in the real world.

To recap, we need to know 3 things to manage a population under MSY:

- Carrying capacity,
- Population size, and
- Population mortality

**First, let’s look at carrying capacity.** This is the maximum number of animals that the habitat can support. Simple enough.

But how do you measure that? It’s a simple answer, too. You can’t.

You can certainly try, but what do you measure? Carrying capacity will never be constant. Season to season, year to year – carrying capacity is dynamic and a moving target.

What if there is a bumper acorn crop – the habitat can support a lot more deer, but how many more? What if it snows and all of those acorns disappear under two feet of snow?

More importantly, when do management decisions take place? PGC biologists have to make recommendations to the Board of Commissioners in April the year before. You can’t even begin to predict how many acorns (or how much snow will fall) 8 months beforehand. So to accurately use MSY as a population management tool, you have to be able to predict the future.

**Second, let’s take a look at population size.** Can we estimate that? Yes, but not perfectly. Most biologists would consider deer population estimates “good” if they had a CV (coefficient of variation) of 20% - that means if we made repeated estimates of the population, two-thirds of those estimates would vary within plus or minus 20% of the true estimate. The other third would differ by even more.

That’s good enough to give you an idea of population size, detect trends, and make management decisions but not so good for making MSY decisions.

The problem is that if we *overestimate* population size, we end up harvesting *too many* animals. If we *underestimate* population size then we end up harvesting *too few* animals.

**Maximizing a sustained yield ends up being an exercise in futility as this is also a moving target.**

**Third, let's look at mortality.** This is the one parameter we can estimate pretty well. Harvest estimates in PA, by WMU, have a precision (CV) generally <10% and some WMUs can be as low as 3% (Rosenberry et al. 2004). On top of that, we know that adult non-hunting mortality is not that variable from one year to the next.

Even though we cannot observe mortality perfectly, of the three pieces of information needed we actually have a chance of estimating it accurately and precisely.

Meatloaf sings that 2 out of 3 ain't bad. But in this case, we only have 1 out of 3, at best.

**The bottom line** - whenever MSY has been applied in the real world, it has failed miserably. Mostly because a) we can't measure carrying capacity (it's a concept, not some measurable entity) and b) we can't estimate population size accurately enough.

Just ask the fisheries peeps. For decades, both the wildlife AND fisheries professions (since the 1970s) have recognized MSY as a nice concept, but as a procedure to manage populations it does not work in the real world.

In fact, P. A. Larkin (1977) said it best when he wrote an epitaph for MSY:

**M. S. Y. 1930s-1970s**  
Here lies the concept, MSY.  
It advocated yields too high,  
And didn't spell out how to slice the pie.  
We bury it with the best of wishes,  
Especially on behalf of fishes.  
We don't know yet what will take its place,  
But hope it's as good for the human race.  
R. I. P.

**So if anyone suggests to you that Pennsylvania should manage deer under MSY, just ask them how they are going to measure carrying capacity... every year... and predict what it will be 8 months in the future. Then ask them exactly how many deer there are, as well.**

If you want to find out the answer to Larkin's (1977) question of what will replace MSY, (i.e., how deer management recommendations are developed) then take a look at the Deer Management Plan and the resulting annual deer population report.

*-Duane Diefenbach*

**A few comments to follow up on my previous post on MSY**

1. The PA Game Commission has never used MSY to manage white-tailed deer. In fact, I'm not aware of any state agency that has attempted to manage white-tailed deer based on MSY, but my "deer career" is only about 20 years young.
2. I'm not sure I would even want to manage deer for MSY. I certainly don't want deer to have an adverse effect on the environment, but I like to see deer. I wouldn't see near as many deer under MSY than if the population were higher on that theoretical logistic curve. Based on what I know about the population dynamics of Pennsylvania deer, to manage at MSY would most certainly require a smaller deer population in most areas of the state.
3. The importance (and detriment) of MSY to wildlife management was best summarized by Holt and Talbot (1978), when they argued for alternative approaches to managing populations that were more comprehensive. They noted that the concept of MSY has "played a significant role in the evolution of understanding of wild populations. However, like some other simplified concepts, MSY has become institutionalized in a more absolute and precise role than intended by the biologists who were responsible for its original formulation."

4. As a concept, MSY is fundamental to how wildlife managers think about the effects of hunting on a population. And simple models can be very instructive to consider how populations may respond to management actions. But MSY is not a model upon which we can use real-world data to make management decisions.