Quality Deer Management –
Past, Present and Future

Brian Murphy
CEO / Wildlife Biologist
Quality Deer Management Association
How Did We Get Here?
The Dark Period
(1850-1910)

Market & subsistence hunting and habitat destruction
Washington was one of very few states that did not use outside sources to recover its whitetail population
Rise of Traditional Management and the “Buck pole Generation”
(1940s - 1970s)
Rise of the QDM Philosophy
(1970s -1980s)

Quality Management is…

The approach under which young bucks are protected from harvest combined with an adequate harvest of female deer to produce healthy deer herds in balance with existing habitat conditions.
Since 1985, the U.S. whitetail population has doubled from 15 to 30+ million
Rapidly increasing whitetail populations, combined with heavy buck harvests, resulted in heavily skewed sex ratios and young buck age structures.

This set the stage for a new paradigm in deer management.
Rise of the Quality Deer Management Association

Late 1970s - Al’s book inspired SC wildlife biologist Joe Hamilton

Mid 1980s – Joe visited Australia and was inspired by the Australian Deer Association
1988 – The QDMA is Born

Joe married the principles of QDM from Texas with the organizational structure from Australia and established the South Carolina Quality Deer Management Association.

Joe & Donna Hamilton in front of the QDMA “National Headquarters” from 1994-1997
About the QDMA

• 28-year-old 501(C)-3 nonprofit conservation organization with nearly 60,000 members in all 50 states, Canada and several countries

• 170 Branches in 35 states and Canada

National Headquarters & Education Center
Athens, Georgia
QDMA’s Mission

“To ensure the future of white-tailed deer, wildlife habitat and our hunting heritage.”

Better Deer and Better Deer Hunting!
QDMA’s Educational Resources
QDMA’s Landmark REACH Program was Launched in 2006.

QDMA’s Mission

The Future of Deer Hunting.
QDMA’s REACH in Action Since 2006

• **Research** – $500,000 for projects in 22 states

• **Educate** – 1,800+ educational events in 36 states and several provinces

• **Advocate** – 500+ policy or management issues in 30+ states and several provinces

• **Certify** – Nearly 2,000 Deer Steward graduates, and growing involvement in QDMA’s Land Certification program

• **Hunt** – Rack Pack Program, Share Your Hunt Program
Impact of QDMA on Deer Hunting and Management in the U.S
Rise of the “Modern” Deer Hunter
(1990s to present)

• More knowledgeable about deer hunting & management
• More likely to embrace QDM
• More engaged in land management and wildlife conservation
• More concerned about the future than previous generations
Increasing Support for Quality Deer Management

Do you follow the principles of QDM when hunting deer?

(all respondents)

Source: Bass Pro Survey 2013
Increasing Involvement in QDM Cooperatives
Increasing Willingness to Harvest Antlerless Deer

1999 was first year that more antlerless deer were harvested nationwide than antlered bucks

By 2005, 65% of all states were harvesting more antlerless deer than antlered bucks
Increasing Willingness to Protect Yearling Bucks

29% reduction in 25 years – resulting in nearly 800,000 fewer yearling bucks harvested today!

Percentage of Yearling and Adult Bucks in the Nationwide Harvest (1989-2014)
### Top-5 States With Lowest Percentage of Yearling Bucks in Buck Harvest

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>8</td>
</tr>
<tr>
<td>Mississippi</td>
<td>13</td>
</tr>
<tr>
<td>Missouri (APR counties)</td>
<td>15</td>
</tr>
<tr>
<td>Kansas</td>
<td>16</td>
</tr>
<tr>
<td>Louisiana</td>
<td>17</td>
</tr>
</tbody>
</table>

### Highest Percentage of Yearling Bucks in Buck Harvest

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>48</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>48</td>
</tr>
<tr>
<td>Maine</td>
<td>47</td>
</tr>
<tr>
<td>Maryland</td>
<td>47</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>46</td>
</tr>
<tr>
<td>New Jersey</td>
<td>46</td>
</tr>
</tbody>
</table>

### Top-5 States With Highest Percentage of 3½-Plus Bucks in Buck Harvest

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mississippi</td>
<td>74</td>
</tr>
<tr>
<td>Arkansas</td>
<td>67</td>
</tr>
<tr>
<td>Louisiana</td>
<td>67</td>
</tr>
<tr>
<td>Texas</td>
<td>62</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>60</td>
</tr>
</tbody>
</table>

### Lowest Percentage of 3½-Plus Bucks in Buck Harvest

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jersey</td>
<td>9</td>
</tr>
<tr>
<td>New York</td>
<td>18</td>
</tr>
<tr>
<td>Tennessee</td>
<td>19</td>
</tr>
<tr>
<td>Ohio</td>
<td>20</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>21</td>
</tr>
</tbody>
</table>
Deer Management Strategies

Management Intensity

No Mgt.  TDM  QDM  Trophy  Deer Farming
Typical “Pros” of QDM

• Improved balance between deer herds and their habitat
• Improved hunter knowledge and engagement with deer herd and habitat management
• Improved habitat for other wildlife
• Improved adult sex ratios and older buck age structures
• Improved deer health (body weight, antler growth, lactation, survival, etc.)
• Improved opportunity to hunt mature bucks / and utilize associated hunting tactics
• Improved hunter satisfaction
Potential “Cons” of QDM

- Can reduce enjoyment for some due to increased rules/policies
- Can create conflicts between hunters (pro vs. anti-QDM’ers)
- Can be expensive and time-consuming
- Can limit/prohibit access for some hunters
- Can increase property access fees for hunters
- Can reduce or result in a redistribution of buck harvest
- Can increase non-harvest mortality on mature bucks
- Can reduce success of new or first-time hunters if they are not exempted from buck harvest restrictions
Approximately 85% of whitetail hunting in the eastern half of the U.S. occurs on private land
# Private Land

## Top-5 States with Highest % Private Land

<table>
<thead>
<tr>
<th>State</th>
<th>% Private Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>98</td>
</tr>
<tr>
<td>Alabama</td>
<td>97</td>
</tr>
<tr>
<td>Iowa</td>
<td>97</td>
</tr>
<tr>
<td>Nebraska</td>
<td>97</td>
</tr>
<tr>
<td>Texas</td>
<td>97</td>
</tr>
</tbody>
</table>
## Public Land

### Top States
Acreage of State-Owned Land Open to Deer Hunting

<table>
<thead>
<tr>
<th>State</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin</td>
<td>7 million</td>
</tr>
<tr>
<td>Florida</td>
<td>5.9 million</td>
</tr>
<tr>
<td>Michigan</td>
<td>&gt;4 million</td>
</tr>
<tr>
<td>Minnesota</td>
<td>4 million</td>
</tr>
<tr>
<td>New York</td>
<td>4 million</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>4 million</td>
</tr>
</tbody>
</table>

### Top-5 States
Percentage of State Area That is State-Owned and Open to Deer Hunting

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin</td>
<td>20</td>
</tr>
<tr>
<td>Florida</td>
<td>17</td>
</tr>
<tr>
<td>New Jersey</td>
<td>14</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>14</td>
</tr>
<tr>
<td>New York</td>
<td>13</td>
</tr>
</tbody>
</table>
Four Cornerstones of QDM

Herd Management
Habitat Management
Hunter Management
Herd Monitoring
Antlered Buck Management

There are many ways to save bucks – and each has advantages and disadvantages!
Common Buck Harvest Restriction Methods

- Antler point restrictions
- Antler spread restrictions
- Bag limits / quotas / draws
- Weapons / season restrictions

• Age - body characteristics
• Gross Boone and Crockett score
• You shoot it, you mount it!

Options typically available to state wildlife agencies
Antler Point Restrictions

Establishes a minimum number of points a buck must have to be eligible for harvest
Antler Point Restrictions

Advantages:
• Simple
• Easy to enforce

Disadvantages:
• Poor predictor of age in high quality habitats (yearlings can have spikes to 10+ points)
• Difficult to protect yearlings and still make other age classes available for harvest
• May unintentionally focus pressure on yearlings with larger racks
Establishes a minimum antler spread a buck must have to be eligible for harvest.
Antler Spread Restrictions

Advantages:
• Better predictor of yearling vs. 2½+ year-olds
• More biologically sound than point restrictions

Disadvantages:
• More difficult than point restrictions to estimate in wild
• More difficult to enforce
• Will protect some mature bucks with narrow racks
This 5 ½-year-old buck had a 14 ½-inch outside spread.
Bag Limits / Quotas / Draws

**Advantages:**
- Can limit buck harvest to a desired level, but not guaranteed (e.g., PA and MN have 1-buck limit)
- Can help achieve site-specific management goals
- Can help improve buck age structure

**Disadvantages:**
- Can limit hunter opportunity
- Can be unpopular with hunters
- Often requires additional administration
States with a One Buck Limit
Weapons / Season Restrictions

**Advantages:**
- Can limit buck harvest to a desired level
- Can help improve buck age structure

**Disadvantages:**
- Can limit hunter opportunity
- Can impact resource allocation
- Can be unpopular with hunters
- Often requires additional administration
States with Firearms Seasons 17 Days or Less

Includes muzzleloader seasons
## Top-5 States Percentage of Harvest by Bow

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jersey</td>
<td>57</td>
</tr>
<tr>
<td>Connecticut</td>
<td>48</td>
</tr>
<tr>
<td>Ohio</td>
<td>46</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>43</td>
</tr>
<tr>
<td>Illinois</td>
<td>39</td>
</tr>
</tbody>
</table>

## Top-5 States Percentage of Harvest by Rifle/Shotgun

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Carolina</td>
<td>89</td>
</tr>
<tr>
<td>Texas</td>
<td>89</td>
</tr>
<tr>
<td>Alabama</td>
<td>86</td>
</tr>
<tr>
<td>Maine</td>
<td>86</td>
</tr>
<tr>
<td>South Dakota</td>
<td>85</td>
</tr>
</tbody>
</table>

## Top-5 States Percentage of Harvest by Muzzleloader

<table>
<thead>
<tr>
<th>State</th>
<th>2014 Percentage</th>
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</thead>
<tbody>
<tr>
<td>Rhode Island</td>
<td>42</td>
</tr>
<tr>
<td>Tennessee</td>
<td>27</td>
</tr>
<tr>
<td>Virginia</td>
<td>25</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>23</td>
</tr>
<tr>
<td>Indiana / Massachusetts</td>
<td>23</td>
</tr>
<tr>
<td>Vermont</td>
<td>20</td>
</tr>
</tbody>
</table>
From a biological standpoint, age restrictions are typically best because they are the most precise and flexible way to achieve management goals.

Since this approach is not available to state agencies, other approaches must be considered. Regardless, education is the key!

<table>
<thead>
<tr>
<th>Year</th>
<th>1½ Years Old</th>
<th>2½ Years Old</th>
<th>3½ Years Old &amp; Older</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>23%</td>
<td>26%</td>
<td>51%</td>
</tr>
<tr>
<td>2011</td>
<td>25%</td>
<td>24%</td>
<td>51%</td>
</tr>
<tr>
<td>2012</td>
<td>15%</td>
<td>19%</td>
<td>66%</td>
</tr>
</tbody>
</table>
Antlerless Deer Management
Why Harvest Does?

To control population growth and density

To balance the sex ratio
Why Harvest Early in Hunting Season?

To reduce the harvest of buck fawns

To increase nutrition available to other deer
Why Focus Harvest on Adult Does?

They are the most reproductive segment of the herd.

It reduces the chances of harvesting button bucks.
Changes in Total Whitetail Harvest
2003 vs. 2012

- Southeast: 20000000 (2003), 20000000 (2012)
Top 5 States - # Deer Hunters
% change in total harvest from 2003 to 2012
Factors Causing Deer Population Declines

1. Hemorrhagic Disease
2. Predators / Declining Fawn Recruitment Rates
3. Abnormally High Winter Mortality
4. Habitat Loss – Especially in CRP Acres
5. Intentional & Unintentional Herd Reductions
Four Cornerstones of QDM

Herd Management
Habitat Management
Hunter Management
Herd Monitoring
Habitat Management

Food Plots, Natural Vegetation Management and Supplemental Feeding
Annual Food Habits

- Forbs: 44%
- Browse: 35%
- Grasses: 13%
- Acorns: 8%
Food Plots

Size – Generally ¼ - 5 acres

Total Acreage – 1%-5% of total area
Natural Vegetation Management
Reasons to Manage Natural Vegetation

- Majority of deer’s diet
- More economical
- Easier to maintain
- Plants better suited
- Most already established
- Provides cover as well
Supplemental Feeding

Controversial practice among biologists, hunters and nonhunters
Nutritional Carrying Capacity
Number of days 1 deer can be supported on 1 acre
Nutritional Carrying Capacity

- Deer - days/acre

- Burn
- Herbicide
- Control
- Burn*Herbicide
What’s the Bottom Line?

While not a panacea, QDM is a biologically sound and flexible management approach that improves deer herd quality and increases satisfaction for a growing number of hunters. Those practicing QDM recognize the tangible and intangible benefits and understand the intimate relationship it establishes between the hunter, the hunted and the land. These are key reasons why QDM has become the most popular deer management approach of our time.
Questions?