WILDLIFE MANAGEMENT INDIANA DIVISION OF FISH&WILDLIFE AND RESEARCH NOTES

No.		DATE
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	TITLE: 2010 Deer Damage Control Program	

Abstract: In 2010, district wildlife biologists issued 457 deer control permits for out of season use, resulting in the removal of 2,282 deer statewide. Of the deer killed, 76% were female. Primary crops implicated in damage were soybeans (44%) and corn (33%) during June and July. One-hundred percent (100%) of landowners utilize hunting during the regular season on their property, though damage is often associated with wooded habitat on adjacent private and governmental properties. Deer damage complaints have proven to be a valid secondary indicator for the state's deer herd level, though precautions should be taken to use the statistic for local trends.

Indiana has a tiered approach when dealing with deer damage occurring on commercial or non-commercial property. Landowners experiencing deer damage in Indiana first contact the IDNR and report the damage. Of land exhibiting deer damage, most complaints are observed on agricultural properties. A landowner complaint may result in an inspection by a biologist who will discuss non-lethal and lethal options. Based on the inspection, the biologist provides technical advice tailored to meet the needs of the landowner. Except in cases where sport hunting is not feasible, district biologists recommend hunting as the most important step a landowner can take to reduce deer damage. Biologists provide guidelines for the landowner on a harvest strategy to optimize herd control. Recommendations for non-lethal control, such as fences and repellents, are made when appropriate. If lethal options are deemed appropriate, Deer Damage Control Permits for out-of-season removal of deer may then be issued. During 2010, 420 damage reports were filed, with soybeans and corn being the most frequently damaged crop. The number of control permits issued and deer removed on those permits in 2010 are 457 and 2,282, respectively.

Deer Damage Control Permits.— The deer damage control permit system was adopted by the IDNR in 1987 as a means of giving farmers immediate relief from severe localized deer damage problems by allowing farmers and their designated shooters the ability to remove those deer specifically causing the damage. The objective of deer damage control permit system is to give farmers a tool for preventing additional damage to their crops during that growing season. The system allows landowners to remove deer outside the deer-hunting season in situations where damage from deer exceeds $500 and non-lethal control measures are inadequate. Does are recommended for harvest, and antlers from bucks harvested on a damage permit are required to be surrendered to the appropriate authority.

These management notes are issued periodically to provide a quick source of information on wildlife surveys and investigations, and various wildlife programs prior to more terminal reports. Any information provided is subject to further analysis and therefore is not for publication without permission

The Deer Damage Control Permit program is not a deer population control tool, but rather a tool to address an immediate problem on a specific property. Deer population control measures are addressed during the deer hunting seasons at the county level through annual adjustments to county bonus antlerless permit quotas.

Deer Damage Reports.— During 2010, 420 damage complaints were received by the IDNR. This was a 9.4% decrease from the 464 complaints reported in 2009. Despite efforts to reduce and stabilize the statewide deer population since 2003, the number of complaints this year rank the third highest of any years following the elimination of the Deer Depredation Zones in 1995 (Figure 1). Ninety-seven percent (97%) of the damage complaints received involved properties with a previous history of deer damage. A total of 69% had previously notified and worked with IDNR personnel on damage problems. Of all properties filing damage complaints, 100% of the landowners hunted their property (Table 1).

Soybeans were the principal crop damaged in nearly 44% of the complaints, followed by corn at 33% of the reports (Table 2). The percentage of crop most commonly lost ranged from 1-5% (49.9% of all complaints; Table 3). Most of the complaints for deer damage were submitted during the June-July period (61.5%; Table 4).

Investigating biologists evaluated whether a particular cover type and/or adjoining land ownership was associated with the damage area. Deciduous woodland and riparian areas (90.5%; Table 5) were most commonly associated with damage. Privately owned parcels adjoining damaged property was implicated as a contributing factor to damage in 69.5% of the cases investigated, while governmental land holdings accounted for over 10% of parcels adjoining damaged property (Table 6).

Deer Damage Control Permits. —A total of 457 deer permits were issued in 2010, down from the 535 issued in 2009. Under this program, 6,672 deer were authorized to be taken. This was a 9.6% decrease from the 7,346 deer in 2009. Of the authorized deer for 2010, 2,282 deer were reported harvested (Table 7) for a success rate of 34%. The number of deer harvested in 2010 decreased 27% from 2009 under the deer damage permit program; harvest has increased 78% from the 1,282 deer harvested in 2003. Of the 2,282 deer harvested, 294 were reported as adult male (13%), 252 were reported as button bucks (11%), and 1,736 were reported as female (76%).

RECOMMENDATIONS:

Deer damage complaints have been used as a secondary trend indicator for Indiana deer management for more than 20 years. The basic assumption is that as deer densities increase, so should deer damage, and therefore damage complaints. However, Downing (1980) warned that some crops may be more palatable than native forage and will be eaten in large quantities at any population level. McCaffery (1987) noted that damage problems may be unrelated to population levels because of unique unquantifiable local situations. Temporal and spatial variation in the number of crop damage complaints received might be related to deer densities. Supporting this argument is analyses done in the 2004 Federal Aid Report (McNew 2004) stating that deer damage reports correlate strongly to total statewide deer harvests, moderately to antlered deer harvests, and poorly to county harvest models. The high correlation between DDCP and total statewide deer harvest supports the use of damage complaints as a secondary population trend indicator for the state. Locally, complaints are likely influenced by changes in the tolerances of landowners to

damage, familiarity with Division programs, ease of access to Division personnel, weather (as it affects crop yield), and possibly crop prices. Unless control can be exerted over these auxiliary factors, or variation in these factors can be measured, or at the very least assumed to be consistent across time and space, then use of deer damage reports as a population index at the county level is likely compromised. Regardless, this program continues to remain necessary to provide economic relief to landowners and tenants who are receiving crop damage due to deer herbivory during the susceptible time of the year when it most impacts yield.

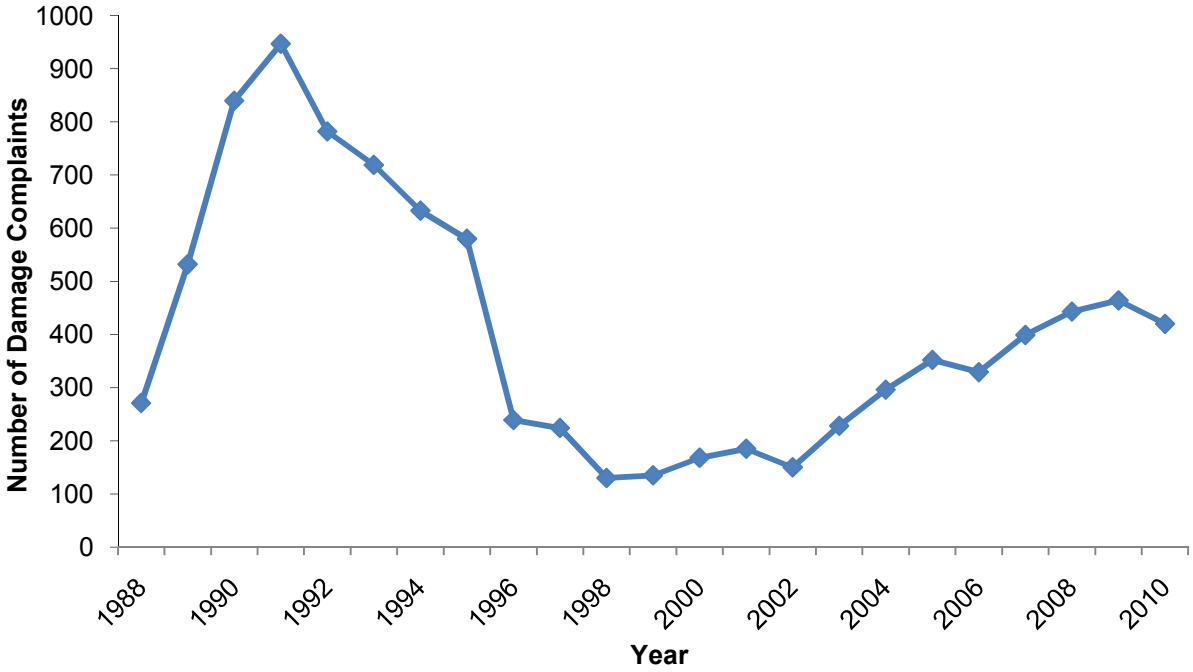

Figure 1. Number of damage reports filed between 1987-2010.

Table 1. Total proportion of landowners who filed damage reports in 2010.

	% of Reports Previous Contact with Biologist	% of Reports Previous History of Damage	% of Reports Allow Hunting
Yes	69	97	100
No	31	3	0

Table 2. Crops and other property associated with deer damage in Indiana for 2010

Crop Type	% of Complaints
Soybeans	43.8
Corn	33.0
Tree Nursery	5.3
Truck crops	4.8
Hay Crops	3.0
Orchard	3.0
Landscaping	1.8
Vineyard	1.8
Other	1.5
Berry Crops	0.8
Other Grains	0.8
Christmas Trees	0.5
Wheat	0.3

Table 3. Estimated percentage of crop lost to deer damage in Indiana for 2010

% Crop Lost	% of Complaints
< 1%	9.0
1 - 5%	49.9
6 - 10%	15.5
11 - 20%	6.5
> 20%	15.3

Table 4. Months associated with 2010 deer damage reports

Month Damage Occurred	% of Associated Reports
January	5.3
February	2.4
March	3.2
April	2.6
May	8.2
June	30.9
July	30.6
August	14.5
September	2.4
October	0.0
November	0.0
December	0.0

Table 5. Major cover-types associated with 2010 deer damage reports

Cover Type	% of Associated Reports
Brushland	1.7
Coniferous woodland	0.8
Deciduous woodland	77.6
Fallow/idle area	0.4
Other cover type	0.8
Riparian & woodland	12.9
River/stream	2.1
Wetland	3.7

Table 6. Adjoining land ownerships associated with 2010 deer damage reports

Adjoining Land Type	% of Associate Reports
Active Mine Land	0.3
Adjacent Private Property	28.9
Complainant's Own Property	18.9
National Forest	2.8
National Park	0.3
Other	0.9
Other Gov't Land	0.9
Private Land	40.6
State Forest	0.3
State FWA	1.6
State Nature Preserve	0.9
State Park	2.5
State Reservoir	0.9

Table 7. Summary of Indiana's deer damage control program, 1987-2010

Year	DDCP	Deer Authorized	No. of Deer Harvested	% Success
1987[a]	30	271	104	38
1988	88	754	207	27
1989	68	610	148	24
1990	135	1,113	349	24
1991	193	1,819	529	29
1992	137	1,218	382	31
1993	59	531	207	39
1994	226	2,063	545	26
1995	249	2,357	994	42
1996	226	2,516	1,048	42
1997	288	2,674	837	31
1998	158	1,459	453	31
1999	169	1,494	536	36
2000	199	1,701	625	37
2001	204	1,814	640	35
2002	201	1,685	687	41
2003	302	2,627	1,282	49
2004[b]	330	3,228	1,431	44
2005	413	4,035	1,406	35
2006	398	3,802	1,499	39
2007[c]	486	4,970	2,181	44
2008[d]	429	6,869	2,777	40
2009	535	7,346	3,126	42
2010	457	6,672	2,282	34

a. The Deer Damage Control Program was initiated in August 1987 and was not fully implemented until 1988.
b. Data for District 20 lost due to computer error. Thus, deer authorized for 2004 is likely 8-15% higher and deer harvested is likely 10-20% higher than reported.
c. Data corrected from previous report
d. Some data from District 12 was lost, and numbers may range 1-5% higher than reported.