A Structured Decision Making Approach to White-Tailed Deer Buck Harvest Management in New York State

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EXECUTIVE SUMMARY

The New York Department of Environmental Conservation's (DEC) 2012 Deer Management Plan called for reducing the harvest of yearling (1.5 yr) white-tailed deer bucks "in accordance with hunter desires." Previous efforts to determine hunter desires found that hunters had conflicting views about what constitutes a satisfying buck hunting experience. Some hunters would like to have the "freedom of choice" to harvest the buck of their preference. Other hunters would prefer to forgo the harvest of yearling bucks, with the expectation that this would create more opportunities to harvest older, larger-antlered bucks. Hunters in favor of reducing yearling buck harvest have requested that mandatory antler point count restrictions (MARs) be implemented throughout the state. This type of regulation would require that a buck have a specified number of points on one antler to be legal for harvest. However, other hunters were concerned that MARs would limit their freedom to choose which buck to harvest.

DEC recognized that the implementation of MARs was a contentious issue among New York hunters, and that there were other objectives associated with managing white-tailed deer buck harvest in the state. The process used by DEC when implementing MARs has been to require that a super majority (67%) of hunters in a region support the regulations before implementation in any wildlife management unit. They also required that "strong opposition" not exceed 20% among surveyed hunters. This decision-making protocol was not satisfactory to most of the stakeholders involved, including DEC staff. Thus, DEC decided to engage in a different kind of decision-making protocol that would allow for increased transparency and a formal evaluation of the multiple objectives of the different stakeholder groups, and those of DEC.

Together with a small group of DEC biologists and managers, we used a structured decision making (SDM) framework to evaluate potential buck harvest management regulations throughout New York State. Structured decision making is a defensible, transparent, objective way to evaluate complex decisions by breaking decisions into component parts. The steps of SDM guide decision makers through a values-based process that includes formulating the decision context, establishing objectives for the decision and attributes of those objectives that can be measured effectively, using the objectives to establish management alternatives to be evaluated, identifying key uncertainties that affect the decision, and making tradeoffs among objectives (Gregory et al. 2012).

A region-specific approach was used to evaluate potential harvest regulations. The state was divided into seven groups of wildlife management units. These "buck management zones" (BMZs) were similar in deer population parameters (e.g., yearling antler beam diameter, mean fawn to doe ratio, buck kill/mi.^{2}) and environmental parameters (e.g., winter severity, land cover and use, crop productivity). We created a statewide decision framework and used region-specific data to evaluate all aspects of the management decision for each of these seven BMZs.

We used the 2012 Deer Management Plan to define the problem as, "develop a decision framework that uses objective criteria to evaluate optimal strategies for reducing harvest of yearling bucks, including mandatory antler restrictions (MARs)."

We then defined a set of objectives that described the values of the relevant stakeholder groups. Three overarching fundamental objectives (objectives that must be achieved to make the decision) were created that described the needs of DEC: 1) Maximize hunter satisfaction, 2) Minimize the probability of the deer population exceeding desired levels in each wildlife management unit, and 3) Minimize costs to DEC. A set of objectives that specified hunter satisfaction were created to take into account the conflicting preferences of hunting groups within the state: 1) Maximize the opportunity to encounter and shoot an older, larger-antlered buck (≥2.5 yr) - "Big Buck", 2) Maximize the opportunity to encounter and shoot any buck (≥1.5 yr) - "Any Buck", 3) Maximize the opportunity to encounter and shoot any deer (fawn, doe, buck) - "Any Deer", 4) Maximize other hunter-related satisfactions.

In addition to fundamental objectives, the team defined means objectives (objectives that must be met in order to achieve the fundamental objectives) for some of the fundamental objectives. For the other hunter-related satisfactions objective, the means objectives were to 1) Minimize complexity of regulations, and 2) Maximize hunting opportunity. For the cost objective, the means objectives were to 1) Minimize outreach and education costs, and 2) Minimize compliance and enforcement costs. For the population objective, the means objectives were to 1) Minimize impact on the buck take index, and 2) Maximize the ability of deer management permits to affect the population.

We created a set of buck harvest management alternatives that the group believed could reduce harvest of yearling bucks to varying degrees while also providing a spectrum of impacts on the fundamental objectives. These alternatives were created largely from previous suggestions of New York deer hunters. The potential alternatives were: 1) status quo, 2) one-buck limit across all seasons, 3) full-season MARs, 4) partial season MARs, 5) shorten the regular firearms season by 1-2 weeks (depending on the zone), and 6) encourage voluntary restraint from yearling buck harvest through new outreach and education initiatives.

We used different qualitative and quantitative methods to evaluate how well each management alternative performed in terms of achieving each of the objectives.

1. For the objectives related to the deer population (those associated with the opportunity to encounter and shoot a buck or deer and population growth), we created a stochastic, age-based deer population simulation model. We used this model to predict the number of each age class and sex of deer that would be legally available for harvest or expected to be harvested under each harvest management alternative. We also predicted the amount of population growth that could be expected under each alternative.

2. We used expert elicitation techniques to allow DEC wildlife biologists and law enforcement officers to predict the relative performance of each harvest management alternative towards achieving the means objectives related to costs and population management. These techniques were used to predict the relative amount of freedom to choose which buck to harvest provided by each harvest alternative, as well.

This decision had multiple hierarchical and often conflicting objectives, requiring that tradeoffs be made among these objectives at the different levels. Because the ultimate decision maker for

buck harvest regulations is the Commissioner of DEC, the agency staff was responsible for placing relative importance weights on the three overarching fundamental objectives. They placed the most weight on hunter satisfaction (75%), followed by impacts on deer population management and monitoring (15%), and costs to the agency (10%). Within the hunter satisfaction fundamental objective, we required BMZ-specific input from hunters regarding how much relative value they place on each of the four hunter satisfaction objectives. In collaboration with the Human Dimensions Research Unit at Cornell University, we developed a statewide deer hunter survey that was sent to 7,000 randomly selected deer hunters. Rather than ask those surveyed their preferred management alternative, we used the results of this survey to calculate the relative weights of the four hunter satisfaction objectives for each BMZ. Throughout the state, the weights on the Big Buck, Any Buck, and Any Deer objectives were quite close, with any one of these objectives having the greatest weight depending on the zone. The other hunter-related satisfactions objective consistently received the least weight.

We created an additive multi-attribute utility model that calculated a weighted average of the consequences of each alternative on each objective. In each BMZ, the alternative with the greatest score from this utility model was considered to be the optimal harvest management alternative for that zone. Based on our decision analysis and the tradeoffs that were made, we determined that the Status Quo scenario best achieved the multiple objectives in all zones followed closely by Voluntary Restraint in most zones. In the Adirondack and Northwestern zones, Shorter Season was the second highest ranked strategy, followed by Voluntary Restraint. In the Southeast zone, Status Quo was followed by MARs then Voluntary Restraint.

The decisions for each BMZ were robust to many forms of uncertainty, including demographics and vital rates used in population modeling and confidence intervals around hunter survey responses used to weight the hunter satisfaction objectives. The optimal harvest strategy for each BMZ did not differ under different models of uncertainty in population demographics (e.g., juvenile and fawn survival rates, density dependence). A suite of sensitivity analyses was performed to understand the sensitivity of the optimal decision in each zone to the results of the population model and the hunter survey results. The decision was found to be robust in each of these analyses.

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ABBREVIATIONS USED

BMZ	Buck Management Zone
DAFT	Desired Adult Female Take
DEC	New York State Department of Environmental Conservation
DMP	Deer Management Permit
EVPI	Expected Value of Perfect Information
MARs	Mandatory Antler Restrictions
NZ	Northern Zone
PrOACT	Problem, Objectives, Alternatives, Consequences, Tradeoffs
SDM	Structured Decision Making
SZ	Southern Zone
WMU	Wildlife Management Unit
WSI	Winter Severity Index

INTRODUCTION

The New York State Department of Environmental Conservation (DEC) manages white-tailed deer (*Odocoileus virginianus*) populations within the state to balance stakeholder interests and ecological constraints related to managing the species. In 2011, DEC released its first comprehensive Deer Management Plan, following a multi-year process of engaging the public about deer management priorities. The *Management Plan for White-tailed Deer in New York State, 2012-2016* (DEC 2011; hereafter Deer Management Plan) included language stating that DEC should encourage the reduction of the harvest of yearling (≤ 1.5 year old) bucks "in accordance with hunter desires". Mandatory antler restrictions (MARs) are one method of reducing harvest of yearling bucks, and many hunting groups have been vocal in their support of MARs. Mandatory antler restrictions require that bucks must have a designated number of antler points to be legally harvested, with the goal of reducing harvest of young, small-antlered bucks and thereby increasing the number of larger-antlered bucks subsequently available for harvest. A 2010 statewide survey of deer hunters indicated that 57% of hunters supported MARs in New York, though this support varied throughout the state and opposition was strong, at 34% (Enck et al. 2011). However, the survey also found that 54% of hunters supported voluntary antler restrictions, reflecting the conundrum faced by managers in addressing this issue. Mandatory antler restrictions would reduce the freedom of hunters to choose which buck to harvest, which is important to many hunters in the state, while voluntary antler restrictions may not reduce harvest of young bucks as quickly or substantially as other hunters would prefer. Clearly, there are different views from hunters regarding their interest in MARs in New York.

Many states, mostly in the southeastern United States, have implemented some form of antler restriction, either statewide or on a management unit basis. Mississippi was the first state to implement statewide antler restrictions in 1995, and Arkansas implemented statewide antler restrictions in 1998. By 2008, antler restrictions for at least one buck were present in 22 states (Adams and Hamilton 2011), including some pilot wildlife management units in southeastern New York. In 2002, Pennsylvania was the first state in the northeast to implement a statewide antler restriction (Diefenbach and Shea 2011). In recent years, hunters in northeastern states have also begun to voluntarily reduce harvest of younger bucks (Diefenbach and Shea 2011; unpublished data, DEC). When states have implemented antler restrictions, their decision process stemmed either from a perceived biological need or because of political pressures based on desires of some hunters, and a structured, values-based approach generally was not used to evaluate or set harvest management regulations.

The shift to MARs has been contentious among hunters in states where implemented. The majority of hunters surveyed in Pennsylvania (61 – 70%) supported antler restrictions before and three years after the implementation of the restrictions (Wallingford 2012). However, 22 – 37% of surveyed hunters believed that the restrictions would reduce their enjoyment of deer hunting (Wallingford 2012), which is not an insignificant portion of the hunting population. Similarly in New York, after 5 years of a pilot antler restriction program, 56 – 71% of surveyed hunters supported continuation of the program while 13 – 30% preferred the program be discontinued (Enck and Decker 2011). Further complicating the issue, a majority of hunters in New York's pilot program reported being dissatisfied and having unmet expectations regarding: the number

of antlered bucks compared to antlerless deer seen, the number of older, larger-antlered bucks seen, and their opportunity to shoot larger-antlered bucks (Enck and Decker 2011).

Staff at DEC recognized that the implementation of MARs was a contentious issue among New York hunters, and that there were other competing objectives associated with managing white-tailed deer buck harvest in the state. The process used by DEC when implementing MARs had been to require that a super majority (67%) of hunters in a region support the regulations before implementation in any wildlife management unit (WMU). They also required that "strong opposition" not exceed 20% among surveyed hunters. This decision-making protocol was not satisfactory to most of the stakeholders involved, including DEC staff, as it resulted in ambiguity when both thresholds were met and ultimately led to greater levels of political activism. In addition, although the Deer Management Plan stated that the agency should use various strategies to reduce yearling buck take, alternative management options had not been adequately considered. The effects of potential management alternatives on the deer population and hunter satisfaction were unknown, and these uncertainties needed to be considered explicitly. Finally, DEC was concerned that vocal parties lobbying for a particular management action could obscure the desires of New York hunters as a whole. For these reasons, the DEC decided to engage in a decision making framework that would allow transparency and a formal evaluation of the multiple objectives.

Structured decision making (SDM) is a defensible, transparent, objective way to evaluate complex decisions by breaking decisions into component parts. Structured decision making combines applied ecology and decision theoretic approaches to evaluate decision problems that include technical complexity as well as potentially difficult group dynamics (Gregory et al. 2012). The goal of the SDM process is not to make the decision for the group, but rather to provide the decision maker with information and insight about aspects of the decision, including uncertainty, objectives of multiple stakeholder groups, and difficult tradeoffs (Clemen 1996; Gregory et al. 2012). In essence, it is a decision-aiding approach.

The steps of SDM guide decision makers through a values-based process that includes formulating the decision context, establishing objectives for the decision and attributes of those objectives that can be measured effectively, using the objectives to establish management alternatives to be evaluated, identifying key uncertainties that affect the decision, and making tradeoffs among objectives (Gregory et al. 2012). These steps are based on research in the decision sciences over the past half-century and have been applied widely in the environmental sciences. Examples include decisions pertaining to recreational fisheries (Peterson and Evans 2003; Irwin et al. 2008), threatened and endangered species protection (Conroy et al. 2008; Gregory and Long 2009; Tyre et al. 2011), invasive species management (Runge et al. 2011a), migratory bird harvest (Williams and Johnson 1995), estuarine habitat management (Robinson and Jennings 2012), and competing water uses (Gregory and Failing 2002).

The DEC engaged in an SDM framework to assess multiple strategies for reducing harvest of yearling bucks. Representatives of DEC (Kevin Clarke, James Farquhar, Jeremy Hurst, Stephen Joule, Edward Kautz, Arthur Kirsch, and Bryan Swift), the New York Cooperative Fish and Wildlife Research Unit (Angela Fuller and Kelly Robinson), and the Cornell University Human Dimensions Research Unit (HDRU; Daniel Decker and William Siemer) formed the core group

that worked on this decision problem. The majority of these group members (K. Clarke, J. Farquhar, S. Joule, A. Kirsch, B. Swift, A. Fuller, D. Decker, J. Hurst [phone], E. Kautz [phone]) attended a five-day workshop (September 12-16, 2011) at the National Conservation Training Center, in Shepherdstown, West Virginia. At this workshop, the group produced a rapid prototype of their decision-making process, in which they worked through all of the steps of SDM to lay the groundwork for the full decision analysis. Upon completion of the rapid prototype, they began to consider more fully each step of the SDM process. The results of this five-day workshop, as well as the results of previous surveys of deer hunters in New York, provided the objectives of the decision process and the management alternatives to be considered. A series of one-day meetings, smaller group sessions, and electronic communications allowed the SDM working group to modify the objectives and alternatives as needed, provide input for modeling and the evaluation of the consequences of the different management alternatives on the multiple objectives, and make tradeoffs among the objectives.

DECISION FRAMEWORK

The ***decision maker*** for this decision was the Commissioner of DEC, though support from all levels of the agency was necessary. The goal of the SDM process was to aid the Commissioner in determining how best to regulate white-tailed deer buck harvest throughout the state, recognizing that there were multiple objectives, tradeoffs, and uncertainties. The tradeoffs were apparent within different stakeholder groups. At the administrative level, tradeoffs included costs to the agency, hunter satisfaction, and managing the deer population at desirable levels. Among New York deer hunters, there were also tradeoffs regarding the value placed on the "freedom of choice" to harvest the buck or deer of their preference versus the value placed on harvesting only older, larger-antlered bucks. Uncertainty was apparent in the responses of deer population dynamics and hunters to harvest regulation changes. In the case of ecological (epistemic) uncertainty, estimates of age-specific survival within the state were rare or nonexistent, and the degree to which density dependence would influence these rates under different harvest regulations was unknown. Additionally, harvest rates under novel harvest management alternatives (i.e., regulation packages) that had not been implemented previously for deer hunting were unknown. The characteristics of this management decision required the kind of problem deconstruction inherent in structured decision making.

The PrOACT model (Problem, Objectives, Alternatives, Consequences, Tradeoffs) used to separate the components of a decision process of structured decision-making was used (Hammond et al. 1999). Within this PrOACT framework, the SDM working group began the process by defining their problem statement. Based on the context provided by the problem statement, the fundamental and means objectives of the problem were identified. ***Fundamental objectives*** define what the decision makers care about and are the main objectives of the process, whereas ***means objectives*** provide a pathway for achieving those fundamental objectives (Keeney 1992). These objectives were used to create a set of ***management alternatives*** that would achieve the fundamental objectives. Because the deer populations differed ecologically and hunter populations differed in their values around the state, the ***consequences*** and ***tradeoffs*** associated with the management alternatives were evaluated for seven different "buck management zones" (BMZs) that encompassed New York state (Figure 1). A population model

of white-tailed deer in New York was created to evaluate the effect of each management alternative on deer populations. A series of consequence tables used to evaluate tradeoffs was created that incorporated the results of the population model as well as expert opinion and stakeholder ideals and values to identify the management strategy that best achieved the multiple objectives. Each of these components is described in greater detail below.

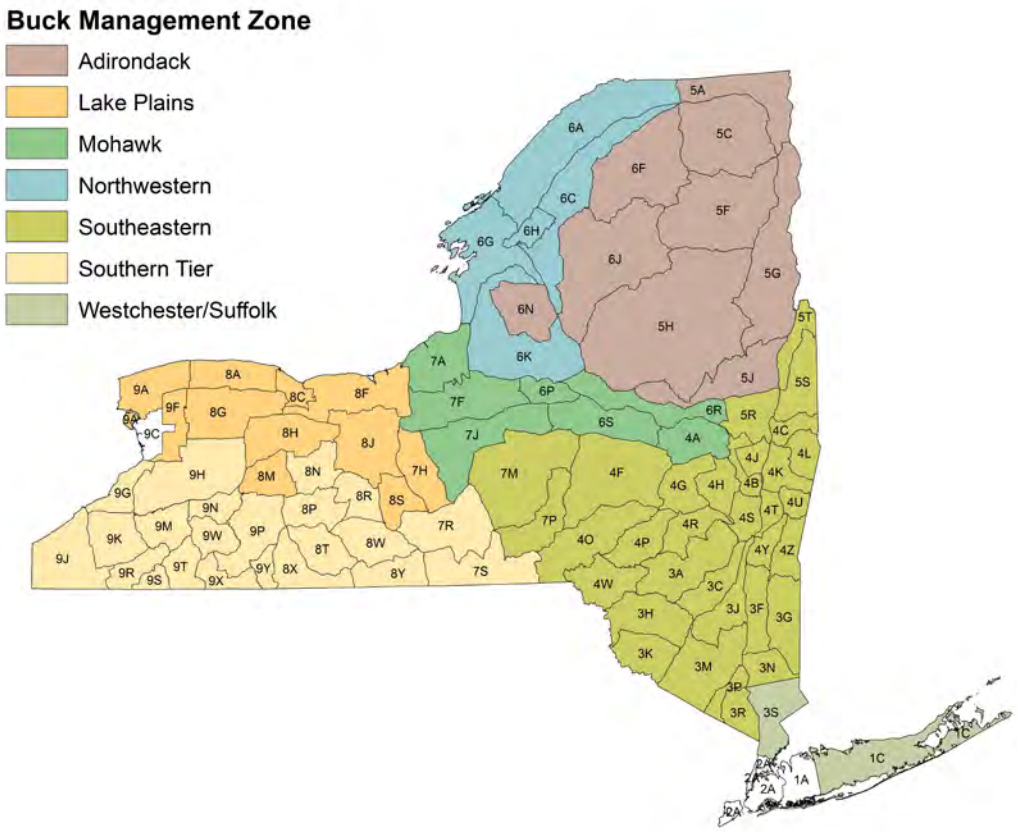


Figure 1: The seven buck management zones for which the optimal decision was determined for the decision problem of reducing yearling white-tailed deer buck harvest in New York State.

PROBLEM STATEMENT AND OBJECTIVES

The first step in an SDM process is to clearly articulate the problem because the problem statement guides the rest of the decision process (Hammond et al. 1999). In the case of white-tailed deer buck harvest management, the 2012 Deer Management Plan for DEC stated that the agency should "encourage various strategies to reduce harvest of young (≤ 1.5 years old) bucks in accordance with hunter desires" and that "objective criteria" should be used to evaluate these strategies (DEC 2011). Based on this directive in the Deer Management Plan, the ***problem statement*** for the SDM working group was to "develop a decision framework that uses objective criteria to evaluate optimal strategies for reducing harvest of yearling bucks, including mandatory antler restrictions (MARs)."

The problem statement provided the context for establishing the fundamental and means objectives for the SDM process. The fundamental objectives incorporated both social and biological aspects related to the problem of reducing yearling white-tailed deer buck harvest. At the initial workshop, three fundamental objectives were identified: to 1) maximize hunter satisfaction, 2) minimize the probability of the deer population exceeding desired levels in each wildlife management unit, and 3) minimize costs to the agency associated with a change in management strategy. The SDM working group identified a set of means objectives that would achieve each of these fundamental objectives. Means objectives for hunter satisfaction were to minimize the complexity of the harvest regulations, maximize overall hunting opportunity, maximize the opportunity for hunters to encounter and shoot any deer, maximize the opportunity for hunters to encounter and shoot any buck, and maximize the opportunity for hunters to encounter and shoot a big buck. The three means objectives of encountering and shooting different ages and sexes of deer were created to account for the portions of the hunting community that differentially valued the ability to harvest a deer as a source of meat, the freedom to choose which buck to harvest, and the protection of younger, smaller-antlered bucks. The means objective for maintaining the population at objective levels was to minimize the deviation of doe harvest from the prescribed yearly harvest levels (desired adult female take; DAFT). Doe harvest is an effective way to manage deer population size throughout New York State. Deer populations adjust very quickly to changes in adult doe mortality rates (McShea 2012). Therefore, adjusting doe harvest rates through deer management permit allocation provides an effective way to manage deer population size (Robinson et al. 2014). Cost would be minimized by minimizing the amount of staff time and monetary investment required for the implementation of the chosen harvest strategy.

The PrOACT framework is iterative because steps further along can help groups redefine earlier aspects, such as objectives and alternatives. In the yearling buck harvest decision context, through the evaluation of the consequences and tradeoffs, the SDM working group determined that they fundamentally cared about the tradeoffs associated with harvesting big bucks, any buck, and any deer. These means objectives were elevated to fundamental objectives, as they directly represented the values of the hunter groups that preferred either freedom of choice or harvesting older, larger-antlered bucks. The remaining means objectives (overall hunting opportunity and complexity of regulations) that previously made up hunter satisfaction in the objectives hierarchy were grouped into a fundamental objective of other hunter-related satisfactions. Additionally, the SDM working group found that they fundamentally cared about whether or not the deer population would exceed objective levels, and not innately whether the population would grow. The fundamental objective related to population growth and maintenance was reworded to reflect that DEC would like to minimize the probability of the population exceeding objective levels. The group decided that there were two pieces related to this fundamental objective, an ability to monitor the population to detect growth, and an ability to manage the population to counteract growth. The two means objectives, therefore, were to minimize the impact on the Buck Take Index and to maximize the ability of deer management permits (DMPs) to affect the population. Finally, the cost fundamental objective was revisited and the means objectives were changed to reflect concerns regarding outreach and education as well as compliance and enforcement issues. The finalized objectives hierarchy included seven fundamental objectives, which were laid out in two tiers (Figure 2). The two tiers of fundamental objectives were created to reflect the need for

DEC to make tradeoffs among objectives related to population growth, costs, and hunter satisfaction, and for hunters to make tradeoffs regarding what constitutes a satisfying hunting experience (i.e., big bucks, any buck, any deer, and other hunter-related satisfactions). Although all of these seven objectives were fundamental objectives, the hierarchy was arranged into two tiers: three "tier 1" overarching fundamental objectives that would be weighted by DEC and four "tier 2" fundamental objectives that would be weighted by hunters (Figure 2). The objectives hierarchy is described in detail in Box 1.

Box 1: Tier 1 overarching (Roman numerals) and tier 2 (numbers) fundamental objectives and their associated means objectives (letters) for the white-tailed deer yearling buck harvest reduction decision problem in New York State

I. Minimize costs incurred by DEC associated with implementation of deer harvest regulations
    a. Minimize costs associated with outreach and education
    b. Minimize costs associated with compliance and enforcement issues
II. Minimize probability of the population exceeding objective levels
    a. Minimize impact on the Buck Take Index
    b. Maximize ability of deer management permits (DMPs) to affect the population
III. Maximize hunter satisfaction
    1. Maximize other hunter-related satisfactions
        a. Minimize complexity of regulations
        b. Maximize hunting opportunity (including time afield and tag numbers)
    2. Maximize the opportunity to encounter and shoot an older (≥2.5 yr), larger-antlered buck ("Big Buck")
    3. Maximize the opportunity to encounter and shoot any (≥1.5 yr) buck ("Any Buck")
    4. Maximize the opportunity to encounter and shoot any deer (fawn, doe, buck; "Any Deer")

In addition to the above objectives, there was a ***constraint*** of having no more than three concurrent sets of buck harvest regulations in New York State. This decision was made by the agency so that complexity would be reduced for hunters and for wildlife managers.

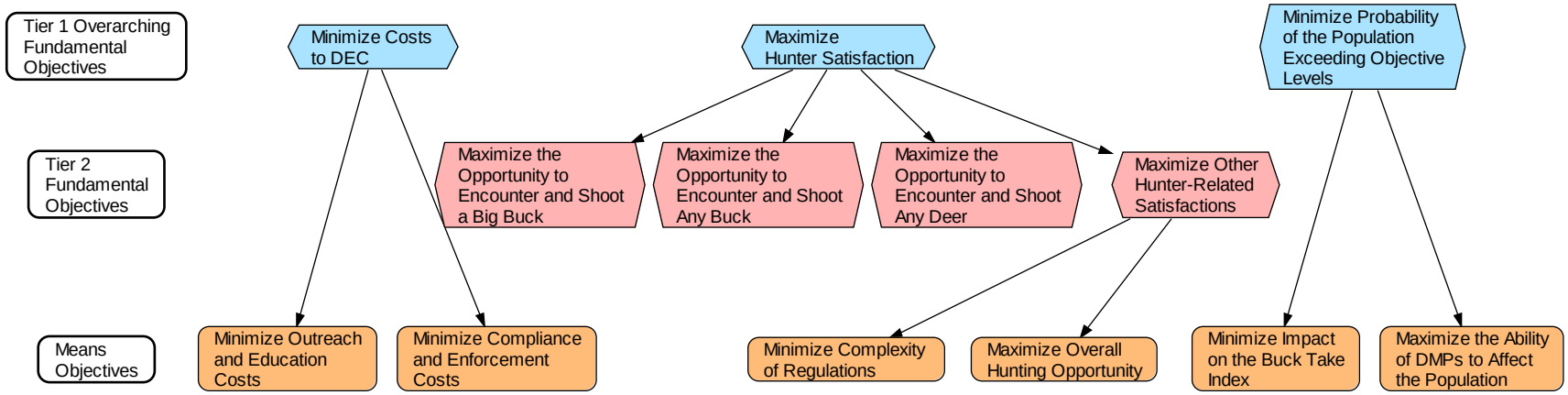


Figure 2: Objectives hierarchy for the decision problem of reducing white-tailed deer yearling buck harvest in New York State. Tier 1 overarching objectives that were weighted by DEC are blue, tier 2 fundamental objectives that were weighted with hunter survey data are red, and means objectives are orange

MANAGEMENT ALTERNATIVES / REGULATION PACKAGES

A set of six management alternatives (i.e., regulation packages) was created that could achieve the fundamental objectives in different ways (Table 1). The SDM working group created this list of alternatives largely from previous input from hunters and by considering hunter responses to questions regarding buck harvest regulation changes in previous statewide surveys (Enck and Brown 2008, Enck et al. 2011). The management alternatives were 1) Status Quo, 2) one-buck limit ("One-Buck"), 3) full-season MARs ("MARs"), 4) MARs from October 1 through the first seven days of regular firearms season in the southern zone, and MARs from September 27 through the first two weeks of regular firearms season in the northern zone ("Partial MARs"), 5) shorten regular firearms season by omitting the last one week in the Southern Zone and last two weeks in the Northern Zone ("Shorter Season"), and 6) encourage voluntary restraint from yearling buck harvest through educational outreach ("Voluntary Restraint"). Because the regular seasons in Suffolk and Westchester counties are restricted to bowhunting only, the Partial MARs and Shorter Season alternatives were not evaluated for this zone.

Table 1: Set of alternative regulation packages considered for the white-tailed deer buck harvest management decision analysis.

Management alternative	Description
Status quo	Any buck with an antler at least 7.5 cm (3 in.) long is legal for harvest.
One-buck bag limit ("One-Buck")	Reduce the number of bucks that may be harvested in a season from two to one.
Mandatory antler restrictions ("MARs")	Bucks must have a designated number of points on one antler to be legal for harvest. Because of geographic differences in antler growth, MARs would be a 4-point on one side rule in the Lake Plains and a 3-point rule everywhere else.
Partial MARs	MARs regulations in place from beginning of archery season through the first one to two weeks of regular firearms season, depending on the region of the state.
Shorter season	Eliminate the last one to two weeks of the regular firearms season, depending on the region of the state.
Voluntary restraint	Encourage voluntary restraint from harvesting yearling bucks through educational outreach.

The Status Quo alternative represented the current set of buck hunting regulations in the state. The hunting season for white-tailed deer in New York differed in the Northern Zone and Southern Zone, as well as in Suffolk and Westchester counties (Figure 1). In the Southern Zone of New York, the deer-hunting season included three separate seasons: an archery-only season ran from October 1 through the third Friday in November, regular firearms season began the third Saturday in November and lasted 23 days, and the late archery and muzzleloader season was the nine days immediately following regular firearms season. In the Northern Zone, the archery season ran from September 27 through the Friday immediately prior to the start of

regular firearms season, an early muzzleloader season began the first Saturday after Columbus Day and ran for seven days, the regular firearms season began the second Saturday after Columbus Day and ran for 44 days, and a late archery and muzzleloader season, which only occurred in some WMUs outside of the central Adirondack region, ran for seven days after the end of the regular season. In Suffolk and Westchester counties, the entire hunting season was archery-only. The hunting season ran from October 1 through December 31 in Westchester County, and October 1 through January 31 in Suffolk County. The buck harvest regulation required that the deer have at least one three-inch (spike) antler to be considered legally harvestable. Hunters were allowed to harvest one buck during the regular firearms season. In addition, hunters could harvest one buck either during the early or late special seasons. Under these regulations, hunters had the opportunity to harvest up to two bucks throughout the deer hunting season. Deer management permits were issued according to the amount of antlerless harvest required in each WMU to maintain the population within objective levels.

The other five management alternatives were modifications of the Status Quo regulations. For the two alternatives that included antler restrictions, the antler point count would vary according to geographic region. Antler growth is correlated with population dynamics and nutrition, such that habitat that provides greater nutritional resources (e.g., agricultural lands in western New York) will lead to greater antler growth (Webb et al. 2012). To protect a consistent proportion of yearling bucks in all BMZs, bucks with one antler that has at least four points would be legal to harvest in the Lake Plains BMZ, and bucks with one antler with at least three points would be legal in the rest of New York State (Figure 1). This same strategy is currently in place in Pennsylvania (Diefenbach and Shea 2011) and in 11 pilot WMUs in the southeastern portion of New York. The Shorter Season alternative would remove the last week of regular firearms season in the Southern Zone, reducing the regular firearms season from 23 to 16 days and removing one weekend, and would remove the last two weeks in the Northern Zone, reducing the regular season from 44 days to 30 days and removing two weekends.

CONSEQUENCES

In the consequences stage of the SDM process, the consequences or outcomes (in the form of the measurable attributes) of each of the alternatives on each of the multiple objectives are determined. ***Measurable attributes*** provide a means to measure each of the objectives in the decision framework against each of the alternatives. That is, how well does each management alternative do at achieving the stated objectives. These attributes are identified in Table 2 and described with their associated objectives below.

Table 2: Measurable attributes for the fundamental and means objectives associated with the decision analysis of reducing yearling buck white-tailed deer harvest in New York State. SZ = Southern Zone, NZ = Northern Zone

Fundamental Objective	Means Objective	Measurable attribute
I. Tier 1 objective: Minimize costs incurred by DEC associated with implementation of deer harvest regulations	I.a. Minimize costs of outreach and education	I.a-1. Relative amount of outreach and education necessary for each management alternative, scale 0 – 1.
	I.b. Minimize costs of compliance and enforcement	I.b-1. Relative amount of challenge caused for law enforcement officers, scale 0 – 1.
II. Tier 1 objective: Minimize probability of the population exceeding objective levels	II.a. Minimize impact on the Buck Take Index	II.a-1. Relative change in precision of the Buck Take Index to detect population growth under each alternative, scale 0 – 1.
	II.b. Maximize ability of deer management permits (DMPs) to reduce the population	II.b-1. Population growth can be combatted with increased DMP issuance: Yes/No
III.1. Tier 2 objective: Maximize other hunter satisfactions	III.1a. Minimize complexity of regulations	III.1.a-1. Hunter rating of the value placed on the ease of ability to discern if a buck is legal: 0 – 4.
		III.1.a-2. Hunter rating of the value placed on having changes in harvest regulations during the regular firearms season: 0 – 4.
	III.1.b. Maximize overall hunting opportunity	III.1.b-1. Hunter rating of value placed on the number of days in regular big game season: 0 – 4.
		III.1.b-2. Hunter rating of value placed on the number of buck tags available in a season: 0 – 4.
III.2. Tier 2 objective: Maximize opportunity to encounter and shoot a larger-antlered, older (≥2.5 yr) buck		III.2-1. Number of ≥2.5 year bucks on the landscape and available for harvest (relative to number under current regulations).
		III.2-2. Number of ≥2.5 year bucks harvested (relative to harvest under current regulations).

III.3. Tier 2 objective: Maximize opportunity to encounter and shoot any (≥1.5 yr) buck	III.3-1. Number of ≥1.5 year bucks on the landscape and available for harvest (relative to number under current regulations). III.3-2. Number of ≥1.5 year bucks harvested (relative to harvest under current regulations). III.3-3. Inherent freedom of choice, scale 0 – 1.
III.4. Tier 2 objective: Maximize opportunity to encounter and shoot any deer (antlerless or buck)	III.4-1. Number of deer on the landscape and available for harvest (relative to number under current regulations). III.4-2. Number of deer harvested (relative to harvest under current regulations).

Evaluation of the Cost Objective (Objective I)

The overarching fundamental objective to minimize costs to the agency could be achieved through two means objectives:

Objective I.a. *Minimize costs associated with outreach and education.* The SDM working group acknowledged that all management alternatives other than status quo would require more public outreach and education to inform hunters of the new regulations. In addition, the amount of outreach necessary would vary among potential management alternatives.

> Measurable attribute I.a-1. ***Utility*** scale (0 – 1) relating the relative amount of outreach and education necessary for each management alternative. A value of one was assigned to the alternative or alternatives that would require the most outreach and education (i.e., highest cost), whereas a value of zero was assigned to the alternative that would require the least. Intermediate values reflected the difference between a given alternative and the best alternative. The direct rating method (Goodwin and Wright 2009; Cochrane 2012) was used to elicit a utility score for each management alternative from the Big Game Team. The team predicted that this objective would be best achieved with the Status Quo alternative, whereas the Voluntary Restraint alternative would require the most outreach and education (Figure 3).

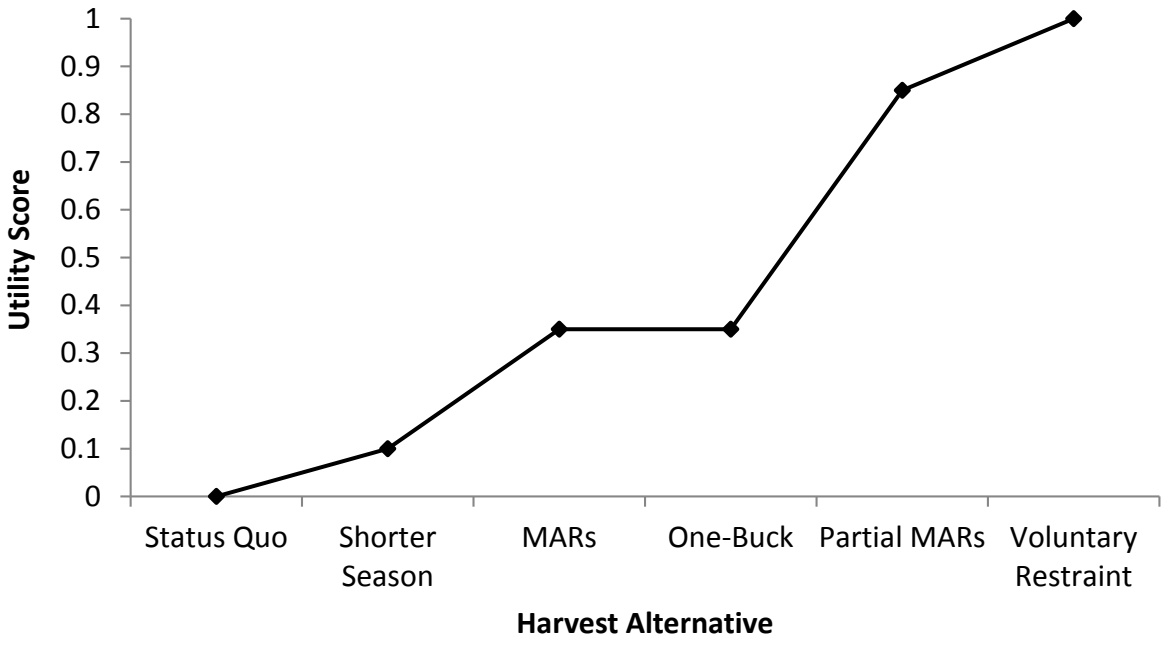


Figure 3: Utility curve describing the relative costs of each management alternative on outreach and education.

Objective I.b. *Minimize costs associated with compliance and enforcement.* The SDM working group believed that the different potential management alternatives would incur different costs

for law enforcement associated with enforcing the regulations and ensuring that hunters are complying.

> Measurable attribute I.b-1. Utility scale (0 – 1) relating the relative difficulty of compliance and enforcement, as evaluated by DEC law enforcement officials. A value of one indicated that the alternative would be the most difficult/incur the most challenge for law enforcement (and hence cost the most), and a value of zero indicated that the alternative would be the least difficult and least costly to enforce. Intermediate values reflected the difference between a given alternative and the best alternative. Members of the SDM working group used the direct rating method to elicit a utility score for each management alternative from DEC law enforcement officers. The officers expected that the Shorter Season alternative would best achieve this objective, whereas the Partial MARs alternative would be the most costly in terms of compliance and enforcement (Figure 4).

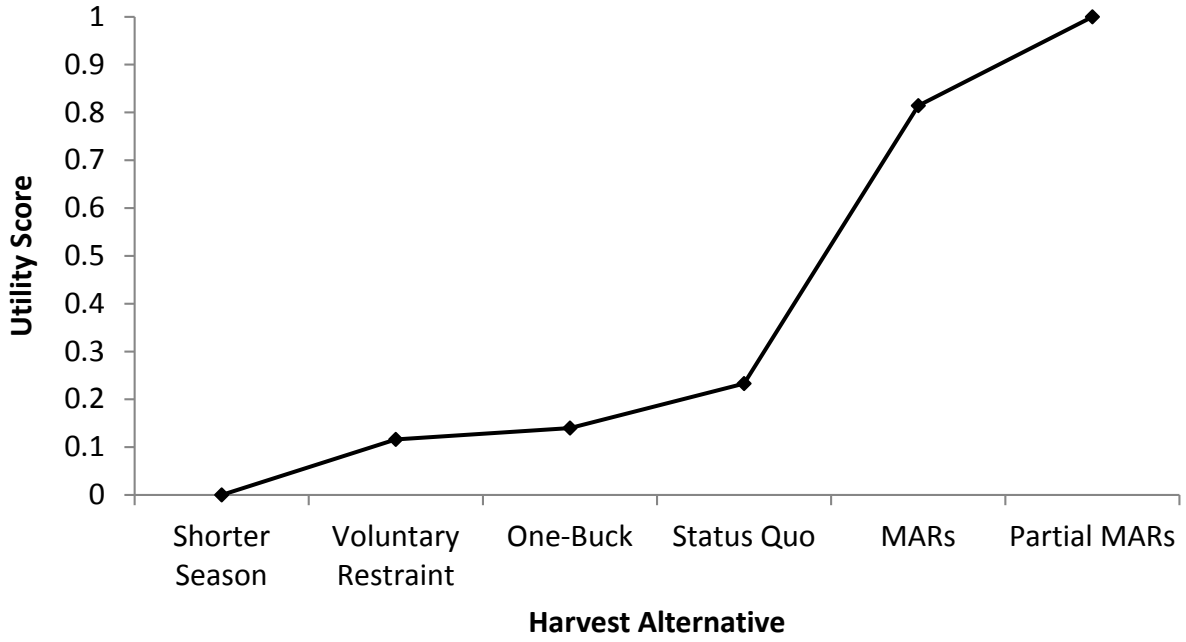


Figure 4: Utility curve describing the costs of each alternative on compliance and enforcement.

Evaluation of the Population Growth Objective (Objective II)

Objective II.a. *Minimize impact on the Buck Take Index.* The agency uses the Buck Take Index to monitor the deer population throughout the state. Annual buck harvest density is used as an index to track deer population trends and relative abundance across the state and to gauge the relationship between existing and desired population levels. This index assumes that the age distribution of harvested bucks reflects the age distribution of bucks available on the landscape. The SDM working group created this objective to represent their concern that some management alternatives might compromise DEC's ability to monitor population growth, either by reducing the number of bucks harvested or changing the age distribution of bucks harvested. This

compromise in monitoring ability might eventually be mitigated as new monitoring techniques and indices are established.

> Measurable attribute II.a-1. Utility scale (0 – 1) relating the expected relative change in precision of the Buck Take Index in detecting population growth under different management alternatives. A value of one indicated that a given alternative would greatly compromise the Buck Take Index, a value of zero indicated that a given alternative would have no effect on the Buck Take Index, and intermediate values reflected differing degrees of effect that alternatives might have on the index (Figure 5).

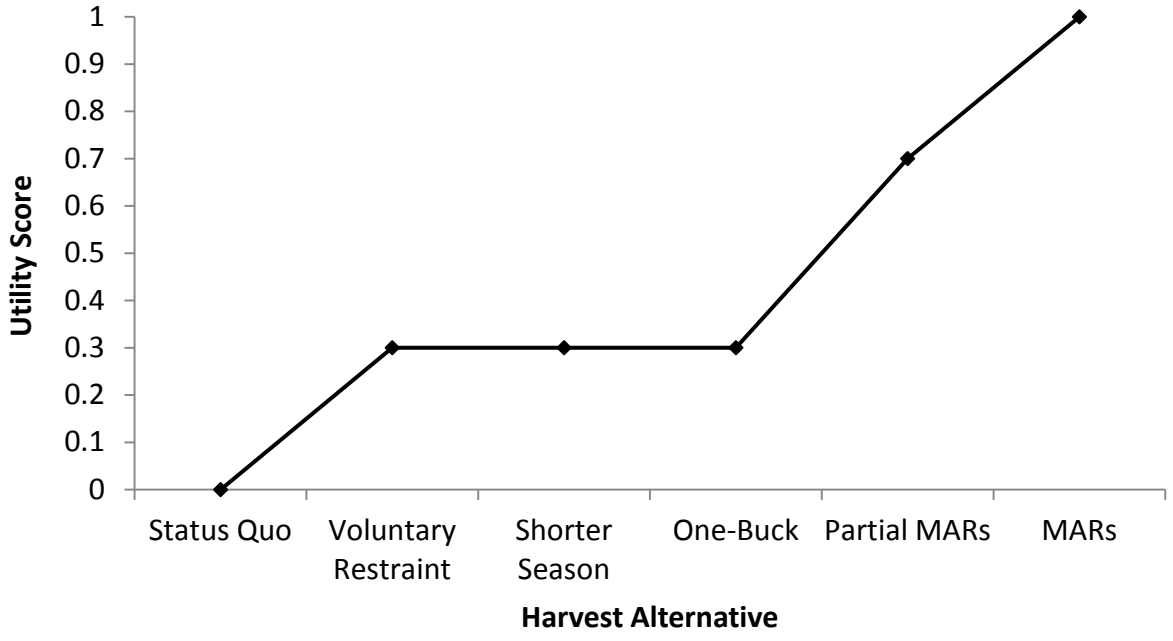


Figure 5: Utility curve describing the relative effect of each management alternative on the Buck Take Index.

Objective II.b. *Maximize ability of issuance of deer management permits (DMPs) to affect the population.* This objective reflected the concern that in some regions of the state, antlerless deer harvest was at capacity. In these regions, increased issuance of DMPs did not lead to hunters harvesting more antlerless deer, including does. Hunters in these regions could be unwilling or unable to harvest more antlerless deer for many reasons, including time or access to hunting areas. Deer population size is manipulated through doe harvest, and in regions where doe harvest was at capacity, increased population growth that might be incurred under some management alternatives could not be counteracted effectively with existing management techniques.

> Measurable attribute II.b-1. Binary response (yes/no): population growth would be offset with increased DMP issuance.

To determine when the ability of DMPs to affect the population might be compromised, two values were elicited from the SDM working group. First, each BMZ was assessed to determine if there were enough applicants to fill all necessary DMPs to regulate population growth. The linear relationship between the number of DMPs issued (1998 – 2011) and the total take from DMPs was estimated (Table 3). This relationship was used to predict how many DMPs must be issued to achieve the desired DMP take in the last two years (2012 – 2013). Then, the actual number of applicants for those two years was compared to the predicted number of DMPs necessary to meet the desired take (Table 3). If the number of applicants was less than the predicted number of DMPs needed to achieve the desired take in a zone, then the ability to affect change in population growth in the zone was considered to be Low (negative values in Table 3; Lake Plains and Westchester/Suffolk). If the number of applicants in a zone was close to the necessary predicted number of DMPs, then the ability to affect change in population growth in the zone was considered to be Medium (Mohawk). Those zones in which the number of applicants was much greater than the necessary number of DMPs to achieve the desired take were considered to be at High ability to affect change in population growth (Southern Tier, Southeastern, Adirondack, Northwestern).

Table 3: BMZ-specific linear regressions of the number of DMPs issued (1998 – 2011) and the total DMP take and the actual number of DMP applicants minus the necessary predicted number of DMPs that must be issued to achieve the desired take for meeting the population objective in 2012 and 2013.

		Applicants Minus Predicted Necessary DMPs	
Buck Management Zone	Linear Regression for DMPs Issued	2012	2013
Mohawk	6.39*Total Take+1,605.9	15,132	10,788
Southern Tier	2.98* Total Take+72,828.0	58,621	48,800
Southeastern	2.29* Total Take+63,270.0	50,767	43,251
Lake Plains	7.06* Total Take+4,942.0	-23,480	-54,733
Northwestern	3.40* Total Take+1,434.4	13,834	14,805
Westchester/Suffolk	10.20* Total Take+6,379.5	-10,142	-9,160

Second, the group determined a population size after five years under a given alternative, relative to Status Quo, above which they believed that DMP issuance would not be able to counteract population growth in zones with Medium ($N_{t=5}/N_{t=0} = 1.20$) or Low ($N_{t=5}/N_{t=0} = 1.05$) ability to affect change in population growth, where N is population size and t is time in years. Based on these values, if a zone was at Medium ability and population growth was projected to be ≥1.2, or if a zone was at Low ability and population growth was projected to be ≥1.05 after five years under an alternative, the measurable attribute for this means objective was "No," meaning population growth could not be offset by increased DMP issuance. Because population growth with all alternatives was not predicted to exceed management capacity in the Mohawk, Southern Tier, Southeastern, and Northwestern zones, the measurable attribute for this means objective was "Yes" for all alternatives, and it was removed from the analysis. In the Lake Plains, the consequences of this means objective were "Yes" for Status Quo, One-Buck, Shorter Season,

and Voluntary Restraint, and "No" for MARs and Partial MARs. In Westchester/Suffolk, the consequences of this means objective were "Yes" for Status Quo, One-Buck, and Voluntary Restraint, and "No" for MARs.

Evaluation of Other Hunter-Related Satisfactions (Objective III.1)

Other hunting satisfactions were composed of two means objectives:

Objective III.1.a. *Minimize complexity of regulations.* Complexity referred to the difficulty that hunters might have with determining if a buck is legal to harvest and with changes in harvest regulations during the hunting season.

> Measurable attribute III.1.a-1. Value hunters place on the ability to discern if a buck is legal by judging antler characteristics: 0 – 4 scale.
>
> Measurable attribute III.1.a-2. Value hunters place on changes in harvest regulations during the regular firearms season: 0 – 4 scale.

Objective III.1.b. *Maximize overall hunting opportunity*. The perception of hunting opportunity is an important component of hunter satisfaction (Hendee 1974, Hammitt et al. 1990, Enck and Decker 1991). Opportunity was comprised of the amount of time available to be afield during the season and the number of deer that hunters can legally harvest.

> Measurable attribute III.1.b-1. Value hunters place on the number of hunting days in the regular firearms season. 0 – 4 scale. The Big Game Team determined that the only portion of deer season for which they would consider changing season length was the regular firearms season. The team recognized that the number of hunting days and number of weekends both would affect hunter satisfaction. The number of hunting days was chosen as the measurable attribute because the number of hunting days and the number of weekends available for hunting were affected similarly by the management alternatives.
>
> Measurable attribute III.1.b-2. Value hunters place on the number of buck tags available in a season. 0 – 4 scale.

A statewide deer hunter survey (Siemer et al. 2015) was created specifically for this decision. In the survey, hunters were asked to rate, on a scale of 0 – 4, how important different aspects of buck hunting were to creating a satisfying buck hunting experience (0 = Not Important, 4 = Very Important). Within this set of questions, hunters were asked a series of questions specifically about topics pertaining to the measurable attributes of complexity and opportunity (e.g., "Continue to be allowed to take at least 2 antlered deer across all seasons (regular gun, archery and muzzleloader seasons)"; Siemer et al. 2015). The average response, by BMZ, to each of these questions was used to create a scale of satisfaction. For each attribute, there were two states or options: a more desirable option and a less desirable option as determined by the survey responses. The value for the more desirable option was assigned a score of 4, corresponding to the "Very Important" value from the hunter survey. The average response from the hunter survey

for the less desirable option was subtracted from 4 to determine how much less desirable the other option would be to hunters in each BMZ. For example, if the average response from the surveys regarding opportunity to obtain two buck tags was a 3, then that option was listed as the most desirable option with a maximum value of 4. The score for the alternative and less desirable option (e.g., one buck tag during the season) was then calculated as the maximum value (4) minus the average response (3). In this example, the less desirable option of one buck tag would have been given a score of 1, indicating that being allowed to take one buck was much less desirable than being allowed to take two bucks (Table 4). In addition, when considering the attribute "ability to tell if a buck is legal," the team expected that although the "easy" regulations would be in place for part of the season during Partial MARs, this alternative should not be assigned the same score as the other alternatives in which the "easy" regulations were in place the entire season. Therefore, the score for "ability to tell if a buck is legal" under Partial MARs was the average of the "easy" and "difficult" scores. There were two questions on the hunter survey related to season length, so the average response to these two questions was used to determine the score for a shorter season. The consequences (i.e., outcomes) of each alternative management regulation on the measurable attributes are provided in Table 4.

There were two measurable attributes that represented each of the means objectives for other hunter-related satisfactions. To determine the overall score for each means objective under each harvest management alternative, the scores for each measurable attribute were summed. For example, the scores for number of days in the field and number of buck tags available for the season, based on survey results, were summed to provide the overall score for the means objective of maximizing overall hunting opportunity. These combined scores were normalized to a 0 – 1 scale to provide a utility score (*U*) for each means objective (Table 15).

Evaluation of Buck-Related Hunter Satisfaction Objectives (Objectives III.2 – 4)

Objective III.2. *Maximize opportunity to encounter and shoot a larger-antlered, older (≥2.5 yr) buck.* This objective was created to represent the values of hunters who were interested in harvesting only larger-antlered bucks and who would prefer for DEC to enact regulations to protect yearling bucks from harvest.

> Measurable attribute III.2-1. Number of ≥2.5 year bucks on the landscape and legally available for harvest (relative to the number under status quo). The opportunity to encounter and shoot a larger-antlered buck was influenced by the number of larger bucks on the landscape.
>
> Measurable attribute III.2-2. Number of ≥2.5 year bucks harvested (relative to harvest under status quo). This attribute provided a metric of expected larger-antlered buck harvest under each alternative.

Table 4: Values of measurable attributes for hunting opportunity and complexity means objectives (tier 2 fundamental objective: maximize other hunter-related satisfactions) under each white-tailed deer buck management alternative for each BMZ, where a score of 4 represents the most desirable option and scores <4 reflect the degree to which that option is less desirable. Number of days in season and ability to tell if a buck is legal were not included in Westchester/Suffolk because the Shorter Season alternative was not considered in this zone.

Alternative	Days in Season	Bag Limit	Ability to Tell if Buck is Legal	Changes During Regular Season
Mohawk				
Status Quo	4.000	4.000	4.000	4.000
One-Buck	4.000	1.350	4.000	4.000
MARs	4.000	4.000	1.140	4.000
Partial MARs	4.000	4.000	2.570	1.860
Shorter Season	0.645	4.000	4.000	4.000
Voluntary Restraint	4.000	4.000	4.000	4.000
Southern Tier				
Status Quo	4.000	4.000	4.000	4.000
One-Buck	4.000	1.470	4.000	4.000
MARs	4.000	4.000	1.230	4.000
Partial MARs	4.000	4.000	2.615	1.770
Shorter Season	0.770	4.000	4.000	4.000
Voluntary Restraint	4.000	4.000	4.000	4.000
Southeastern				
Status Quo	4.000	4.000	4.000	4.000
One-Buck	4.000	1.380	4.000	4.000
MARs	4.000	4.000	1.050	4.000
Partial MARs	4.000	4.000	2.525	1.630
Shorter Season	0.725	4.000	4.000	4.000
Voluntary Restraint	4.000	4.000	4.000	4.000
Lake Plains				
Status Quo	4.000	4.000	4.000	4.000
One-Buck	4.000	1.530	4.000	4.000
MARs	4.000	4.000	1.300	4.000
Partial MARs	4.000	4.000	2.650	1.700
Shorter Season	0.790	4.000	4.000	4.000
Voluntary Restraint	4.000	4.000	4.000	4.000
Adirondacks				
Status Quo	4.000	4.000	4.000	4.000
One-Buck	4.000	1.230	4.000	4.000
MARs	4.000	4.000	1.390	4.000
Partial MARs	4.000	4.000	2.695	1.860
Shorter Season	0.690	4.000	4.000	4.000

Voluntary Restraint	4.000	4.000	4.000	4.000
Northwestern				
Status Quo	4.000	4.000	4.000	4.000
One-Buck	4.000	1.490	4.000	4.000
MARs	4.000	4.000	1.260	4.000
Partial MARs	4.000	4.000	2.630	1.840
Shorter Season	0.720	4.000	4.000	4.000
Voluntary Restraint	4.000	4.000	4.000	4.000
Westchester/Suffolk				
Status Quo		4.000		4.000
One-Buck		1.380		4.000
MARs		4.000		1.050
Voluntary Restraint		4.000		4.000

Objective III.3. *Maximize opportunity to encounter and shoot any (≥1.5 yr) buck.* This objective was created to represent the values of hunters who preferred to have the freedom to choose which buck to harvest. These hunters opposed regulations to limit harvest of yearling bucks throughout the hunting season. The measurable attributes for this objective were similar to those for objective 4, except that yearling bucks also were included. In addition, a measurable attribute that takes into account the inherent desire for the freedom to choose which buck to harvest was included.

Measurable attribute III.3-1. Number of ≥1.5 year bucks legally available for harvest on the landscape (relative to number under status quo).

Measurable attribute III.3-2. Number of ≥1.5 year bucks harvested (relative to harvest under status quo).

Measurable attribute III.3-2. Utility scale (0 – 1) relating the relative amount of freedom that hunters would have to choose to harvest any antlered buck that they encounter under each harvest alternative. A value of one indicated that hunters would have the same level of freedom that they currently experience to harvest the buck of their choice. A value of zero corresponded to the alternative that would provide the least amount of freedom to harvest the buck of their choice (Figure 6). Alternatives that would not require antler point count restrictions would receive a value of one, partial MARs would provide about half of the freedom of choice that hunters currently experience (0.5), and MARs would provide the least amount of freedom of choice (0).

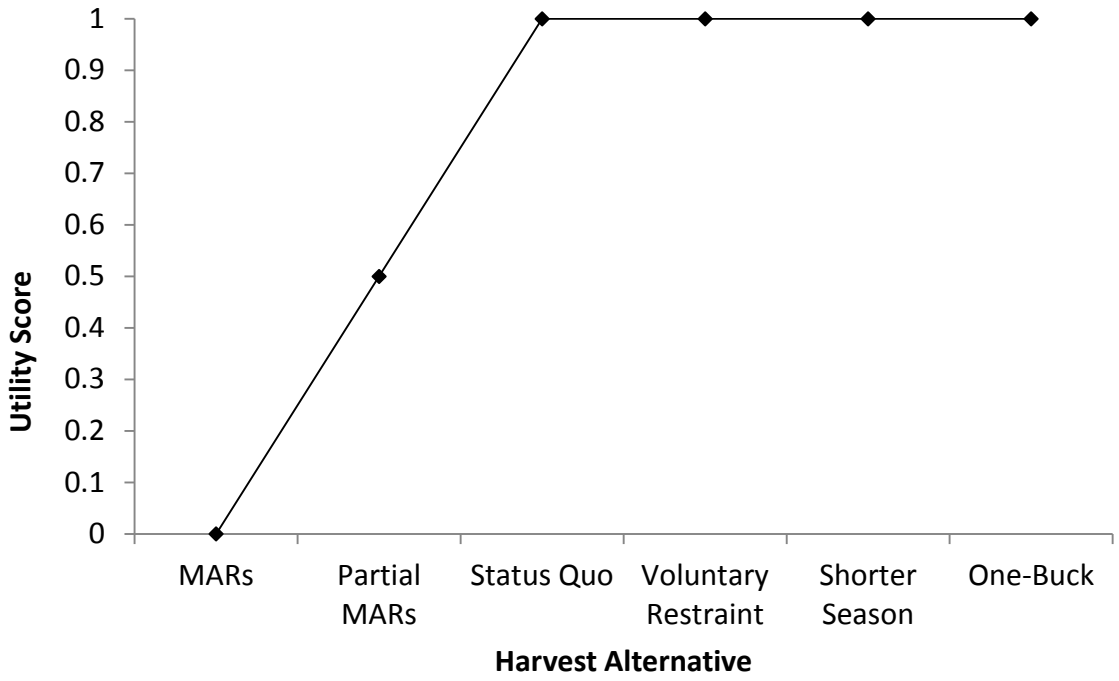


Figure 6: Utility curve describing the relative effect of each buck harvest alternative on hunters' freedom to choose which buck to harvest.

Objective III.4. *Maximize opportunity to encounter and shoot any deer (antlerless or buck).* This objective represents hunters who valued the freedom to harvest any deer on the landscape, male or female.

> Measurable attribute III.4-1. Total number of deer (antlerless and buck) legally available for harvest (relative to number under status quo).
>
> Measurable attribute III.4-2. Total number of deer (antlerless and buck) harvested (relative to harvest under status quo).

Population model

A stochastic age-based simulation model of white-tailed deer (Robinson et al. 2014) that was modified from the model of Collier (2004) and Collier and Krementz (2007) was used to predict age- and sex-specific harvest potential, age- and sex-specific availability of deer on the landscape, and population growth under each management alternative in each BMZ. The population model was parameterized with data from New York, data from other studies of white-tailed deer in the Northern United States, and the expert opinion of DEC biologists. The model simulated natural mortality, reproduction, and harvest for five years (Figure 6). The model was modified to evaluate the six management alternatives and was not intended to predict actual population sizes within the zones (Starfield 1997). The model simulated the population dynamics of juveniles (< 0.5 yr), three age classes of females (fawns [0.5 yr], yearlings [1.5 yr], and ≥2.5 year olds), and four age classes of bucks (fawns, yearlings, 2.5 year olds, and ≥3.5 year olds) using a one-year time step. The output of this population model provided values for the

measurable attributes related to the Big Bucks, Any Buck, and Any Deer tier 2 fundamental objectives (measurable attributes III.2-1, III.2-2, III.3-1, III.3-2, III.4-1, III.4-2).

The model began with an initial post-harvest population density that was drawn from a uniform distribution with a zone-specific range (Table 5; Figure 7). The population was divided into males and females based on a uniform distribution of adult sex ratios estimated from New York harvest data (Table 6). Each sex was divided into age classes based on the average proportions calculated from New York's harvest data (Table 6). These proportions provided the alpha value for a draw from a Dirichlet distribution to determine the initial age structure for each sex for the start of each simulation. The initial age structure of males and females in the model was skewed slightly because fawns were underrepresented in the harvest data. Each model simulation was run for five years under status quo regulations to equilibrate the age structure. The last year of this equilibration phase was set as time $t = 0$.

Each age class (≥0.5 yr) was subjected to natural mortality in two ways: winter mortality and baseline mortality (Tables 5 and 6). Winter mortality, which correlates with winter severity, was used to incorporate zone-specific environmental stochasticity into the population. DEC defined the winter severity index (WSI) as the ratio of the number of days with ≥38.1 cm (15 inches) of snow on the ground to the total number of days for which this was measured each year (Robinson et al. 2014). Winters were divided into mild (WSI < 0.35), moderate ($0.35 \leq$ WSI < 0.7), and severe (WSI ≥0.7; Sage 2003). Zone-specific WSI values were calculated from 1988 – 2013, and the WSI for each year was drawn from a beta distribution based on the 26-year mean and variance, weighted by the area of each WMU that made up each BMZ (Table 5). Fawn winter mortality rate ranges were estimated by DEC (E. Kautz, DEC, personal communication) with the model of Organ (2007), and yearling and ≥2.5 year mortality rates were calculated with equations from the Adirondack white-tailed deer population model (Sage 2003; Table 6). Baseline survival rates encompassed survival exclusive of mortality incurred from winter severity. Survival rates from previous studies of white-tailed deer in other areas of northeastern North America provided the ranges for the model because recent studies of white-tailed deer survival in New York did not exist (Tables 5 and 6). Baseline survival rates for each year of the simulation were drawn randomly from a uniform distribution and were discounted by the winter mortality rate for each age class. Survival of each individual was the product of a Bernoulli trial with this discounted rate as the probability of survival.

Table 5: BMZ-specific estimates of parameters used for the white-tailed deer population model for the yearling buck harvest reduction decision problem in New York State. Unless otherwise stated, age classes are juveniles (<0.5 yr), fawns (0.5 yr), yearlings (1.5 yr), 2.5 year-olds, and ≥3.5 year-olds.

Parameter	Mohawk	Southern Tier	Southeastern	Lake Plains	Adirondack	Northwestern	Westchester/ Suffolk
Initial density[a] (per km^2)	10 – 20	23 – 38	16 – 26	17 – 26	5 – 8	12 – 21	3 – 10
BMZ size[b] (km^2)	3835.0	8534.7	7926.5	4921.6	11177.9	4715.4	1334.1
Initial male age structure [a] (0.5 yr, 1.5 yr, 2.5 yr, ≥3.5 yr)	0.55, 0.34, 0.08, 0.03	0.58, 0.37, 0.04, 0.02	0.57, 0.36, 0.05, 0.02	0.56, 0.32, 0.07, 0.03	0.42, 0.27, 0.22, 0.09	0.48, 0.30, 0.16, 0.06	0.48, 0.30, 0.16, 0.06
Initial female age structure [a] (0.5 yr, 1.5 yr, ≥2.5 yr)	0.38, 0.23, 0.39	0.36, 0.23, 0.41	0.35, 0.22, 0.43	0.38, 0.24, 0.38	0.35, 0.22, 0.43	0.36, 0.23, 0.42	0.35, 0.22, 0.43
Average winter severity index [b] (variance)	0.189 (0.019)	0.010 (0.009)	0.135 (0.017)	0.042 (0.002)	0.302 (0.014)	0.201 (0.009)	0.032 (0.003)
Juvenile survival rate [c-f]	0.75 – 0.85	0.75 – 0.85	0.50 – 0.80	0.70 – 0.90	0.20 – 0.35	0.50 – 0.80	0.60 – 0.80
Fawn survival rate [e, g-k]	0.70 – 0.90	0.75 – 0.95	0.70 – 0.90	0.85 – 0.95	0.50 – 0.70	0.70 – 0.90	0.70 – 0.90
≥1.5 year female harvest rate [b]	0.18 – 0.32	0.20 – 0.37	0.16 – 0.25	0.20 – 0.40	No harvest	0.16 – 0.25	0.12 – 0.35

Yearling female harvest proportion [b]	0.252 – 0.338	0.295 – 0.370	0.219 – 0.302	0.307 – 0.422	No harvest	0.145 – 0.316	0.284 – 0.439
Fawn female harvest rate [a]	0.09 – 0.14	0.12 – 0.15	0.08 – 0.10	0.14 – 0.21	No harvest	0.06 – 0.10	0.21 – 0.30
Fawn male harvest rate [a]	0.11 – 0.14	0.13 – 0.16	0.08 – 0.11	0.18 – 0.24	No harvest	0.06 – 0.11	0.16 – 0.23

[a] Derived with New York sex-age-kill model (1998 – 2013; E. Kautz, New York State Department of Environmental Conservation [DEC], personal communication); [b] aggregate-specific data collected by DEC (1998 – 2013; E. Kautz, DEC, personal communication); [c] western Massachusetts (Decker et al. 1992); [d] Pennsylvania (Vreeland et al. 2004); [e] southwestern Michigan (Burroughs et al. 2006); [f] Minnesota (Carstensen et al. 2009); [g] southern Illinois (Rohm et al. 2007); [h] northern Michigan (Van Deelen et al. 1997); [i] north-central Minnesota (Powell 2004); [j] north-central Minnesota (DelGuidice et al. 2006); [k] Nova Scotia (Patterson et al. 2002)

Table 6: Ranges of estimates of population demographic parameters used in the white-tailed deer population simulation models for all BMZs in the yearling buck harvest decision problem for New York State. All mortality and survival rates are for males (M) and females (F). Unless otherwise noted, age classes are fawns (0.5 yr), yearlings (1.5 yr), and ≥2.5 year. WSI = winter severity index

Parameter	Range	Location
Adult sex ratio (M:F; ≥0.5 yr)	0.20 – 0.40	New York, deer harvest data, 1988 – 2013[a,b]
Fetal sex ratio (M:F)	0.515 – 0.535	New York, deer harvest data, 1988 – 2013[a,c]
Fawn winter mortality rate	$\begin{cases} 0.35 - 0.63 & \text{if WSI} > 0.70 \\ 0.07 - 0.32 & \text{if } 0.35 < \text{WSI} < 0.70 \\ 0 - 0.13 & \text{if WSI} < 0.35 \end{cases}$	New York[d]
Yearling winter mortality rate	$\begin{cases} \text{WSI} * 0.30 & \text{if WSI} > 0.70 \\ \text{WSI} * 0.20 & \text{if } 0.35 < \text{WSI} < 0.70 \\ \text{WSI} * 0.05 & \text{if WSI} < 0.35 \end{cases}$	New York[e]
≥2.5 year winter mortality rate	$\begin{cases} \text{WSI} * 0.15 & \text{if WSI} > 0.70 \\ \text{WSI} * 0.10 & \text{if } 0.35 < \text{WSI} < 0.70 \\ 0 & \text{if WSI} < 0.35 \end{cases}$	New York[e]
Yearling survival rate	0.93 – 1.00	Michigan (Northern)[f], Michigan (Southwestern)[g], Minnesota (North-central)[h,i], New Brunswick (Northern and Southern)[j], Nova Scotia[k], Pennsylvania (Central and Western)[l]
≥2.5 year survival	0.84 – 1.00	Michigan (Northern)[f], Michigan (Southwestern)[g], Minnesota (North-central) [h,i], New Brunswick (Northern and Southern)[j], Pennsylvania (Central and Western)[l]
Fawn reproductive rate	0.03 – 0.12	New York[m], Pennsylvania (WMUs 1B, 2F, 3A, 3C)[n]
Yearling reproductive rate	1.25 – 1.41	New York[m], Pennsylvania (WMUs 1B, 2F, 3A, 3C)[n]
≥2.5 year reproductive rate	1.67 – 1.71	New York[m], Pennsylvania (WMUs 1B, 2F, 3A, 3C)[n]

[a] E. Kautz, New York State Department of Environmental Conservation [DEC], personal communication; [b] 10^{th} – 90^{th} percentiles- calculated with equation from Severinghaus and Maguire (1955); [c] calculated with equation from Moen et al. (1986); [d] interquartile range- calculated with model from Organ (2007); [e] Sage (2003); [f] Van Deelen et al. (1997); [g] Burroughs et al. (2006); [h] Powell (2004); [i] DelGuidice et al. (2006); [j] Whitlaw et al. (1998); [k] Patterson et al. (2002); [l] Wallingford (2012); [m] Hurst and Kirsch (2012); [n] Rosenberry et al. (2007)

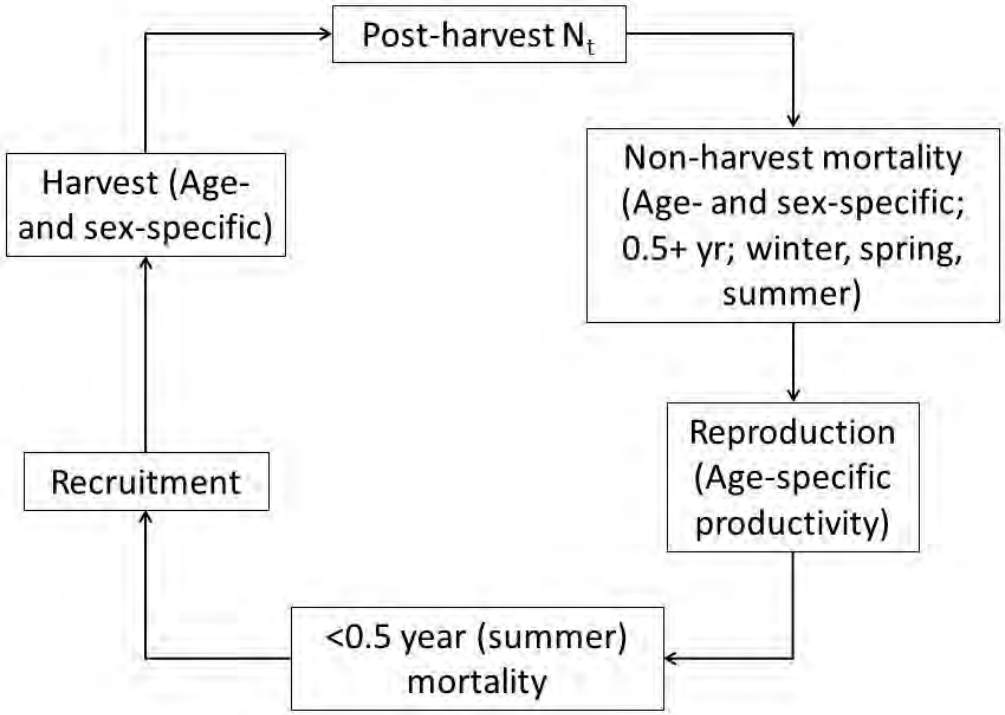


Figure 7: Simplified schematic of the white-tailed deer population simulation model used to evaluate the consequences of the management alternatives on the Big Bucks, Any Buck, Any Deer, and Population objectives (from Robinson et al. 2014).

There was uncertainty regarding whether density dependence was an important aspect of the population dynamics of white-tailed deer in New York. Generally, in the northern regions of the white-tailed deer range, density dependence is overshadowed by density-independent factors like predation and climate (Diefenbach and Shea 2011). However, population growth under some management alternatives might be great enough to cause density dependence to exert an effect on deer population dynamics. To account for the possibility of density dependence, one-half of the model runs for each management alternative included density-dependent survival (Bartmann et al. 1992; Lubow et al. 1996; Collier and Krementz 2007). Density-dependent survival for each age class (≥0.5 yr) was represented as:

$$\hat{S}_{age} = \frac{1}{1 + e^{-\left(\ln\left(\frac{S_o}{1-S_o}\right) - 0.0069 * D\right)}} \qquad \text{Equation (1)}$$

where S_o is the discounted baseline survival rate, 0.0069 is the slope, and D is population density (no./km^2).

After the mortality event, the surviving females in the model reproduced according to age-specific productivity rates. These productivity rates were drawn randomly each year from uniform distributions of reported rates for fawns, yearlings, and ≥2.5-year-olds based on fetal

counts from studies in New York (Hurst and Kirsch 2012) and northern Pennsylvania (Rosenberry et al. 2007; Table 6). The resulting juveniles were subjected to mortality. Juvenile (<0.5 yr) survival rates were assembled from survival rates reported in previous studies in northeastern North America (Table 5), because studies of survival of juveniles in New York did not exist. Survival rates were drawn randomly from zone-specific uniform distributions. Previous studies and data from New York's deer harvest have shown that juvenile survival is greater in areas with greater agricultural land cover, presumably because of lower predator densities and potentially because of better foraging resources (Vreeland et al. 2004; unpublished data, DEC). The survival rate range was adjusted upwards for zones with greater proportions of agricultural land cover (e.g., western New York), such that the population remained stable over 50 years of simulations under the Status Quo management alternative. As with survival of older age classes, density-dependent juvenile survival was incorporated into one-half of the model runs. Equation 1 was used to calculate density-dependent neonate survival, but the slope was increased to 1.95 (Collier and Krementz 2007). Survival of an individual juvenile was the product of a Bernoulli trial with this survival rate as the probability of survival. The surviving juveniles were divided into males and females by a random draw from a uniform distribution of fetal sex ratios calculated from data from New York deer harvest data (Table 6).

After survival and reproduction, all animals advanced an age class, such that juveniles (<0.5 yr) became fawns (0.5 yr), fawns became yearlings, etc. The three age classes of does and four age classes of bucks then were subjected to harvest mortality. For all ages and sexes, harvest mortality for each individual was the product of a Bernoulli trial with the seasonal harvest rate as the probability of mortality. Historic adult (≥1.5 yr) harvest rates for males and females (2005-2013) for each BMZ were used as the Status Quo harvest rates in the model (E. Kautz and J. Kelly, DEC, personal communication), though adult female harvest rates in the model were adjusted such that population size under Status Quo remained stable.

Buck harvest rates (≥1.5 yr) differed for each management alternative under which the population was simulated (Table 7). Under Status Quo, harvest rates of all ages of bucks (≥1.5 yr) were assumed to be equal. For each year of the simulation, a harvest rate was drawn randomly from a uniform distribution of the range of BMZ-specific harvest rates from the last eight years of available data (Table 7). This harvest rate was applied to yearlings, 2.5 year, and ≥3.5 year bucks. Under all other management alternatives, a combination of existing data from New York and Pennsylvania and the expert opinion of DEC biologists were used to determine appropriate harvest rates for all buck age classes.

In New York, relatively few (approximately 6%) of hunters who report taking a buck also report taking a second buck. Likely, because the rate of harvest reporting is low (44 - 47%; unpublished data, DEC), the actual proportion of hunters who take two bucks per year is slightly higher. Nonetheless, the data were not available to determine the ages of bucks harvested by specific hunters. The SDM working group decided that if this alternative was determined to be the optimal decision, then further evaluation of the nuances of how hunters who take two bucks in a season generally hunt could be completed via a sensitivity analysis. The group assumed all hunters who historically had harvested two bucks harvested a yearling and an older buck (≥2.5 yr). Under the new one-buck limit regulation, the group assumed a best-case scenario where that 6% of hunters would harvest only ≥2.5 year-old bucks. To predict impact of a one-buck bag

limit, we discounted the yearling harvest rate range from Status Quo by the proportion of harvested yearling bucks taken by hunters who reported harvesting two bucks in a season (6%). The yearling harvest rate for each year of the simulation was drawn from a uniform distribution of this reduced harvest rate range. The harvest rates for 2.5 year and ≥3.5 year bucks were assumed to be equal, and one rate for each year of the simulation was drawn from the same range used in the Status Quo alternative (Table 7).

To approximate age-specific buck harvest under MARs, yearling and 2.5 year harvest rates were discounted by the proportion of the age class that would be protected, based on antler point counts from zone-specific harvest data (2008 – 2011). Harvest rates of ≥3.5 year bucks were reduced by the average adult harvest rate reduction observed in Pennsylvania following the implementation of statewide antler restrictions (Norton et al. 2012**,** Wallingford 2012). For each year of the simulation, a harvest rate for each age class was drawn from a uniform distribution of the range of age-specific harvest rates under MARs (Table 7).

For the Partial MARs alternative, the four-step elicitation method (Speirs-Bridge et al. 2010) and the modified Delphi method (Kuhnert et al. 2010) were used to elicit the expert opinion of the SDM working group regarding age-specific buck harvest rates. The deer hunting season in the Southern Zone was broken into four portions: bow season, the first seven days of regular firearms season, the last 16 days of regular firearms season, and the late special season. Mandatory antler restrictions would be in place during the bow season and the first seven days of regular firearms season. Status Quo buck harvest regulations (three-inch spike antler) would be in place for the rest of the season. In the four-step method, experts are asked to provide four pieces of information: the lowest the value could realistically be, the highest the value could realistically be, their best guess of the value, and their confidence (from 50 to 100%) that the true value is captured in the range they provided (Speirs-Bridge et al. 2010). Experts were provided harvest rates for each time period and age class under Status Quo, as well as expected harvest rate ranges for yearlings during the MARs portion of the season, based on point count and daily harvest count data from a group of central New York WMUs (7F, 7H, and 7J). Experts were asked to provide their harvest rate and confidence estimates for the remaining seasons and age classes and a small description of their thought process. These responses were summarized and provided to all experts for discussion. After discussion, experts were allowed to change their individual responses if they desired. The elicited ranges were converted to 80% "derived" confidence intervals, assuming a normal distribution, to facilitate comparisons among experts and calculation of summary statistics (Speirs-Bridge et al. 2010, Runge et al. 2011a; Table 8). In addition, the SDM working group assumed that 15% of yearling bucks would be ineligible for harvest after the MARs part of the season because these animals would have learned over the course of the season to avoid areas of gunfire.

To estimate seasonal harvest rates in the Southern Zone under partial MARs, the average low and high values for each elicited harvest rate for each age class (yearlings, 2.5 yr, ≥3.5 yr) were used to calculate the expected change in the aggregate-specific range of harvest rates relative to historic rates in the Southern Zone (Table 7). All experts agreed that yearling buck harvest rates during the MARs portion of the season should be calculated by discounting the yearling harvest rate under Status Quo by the proportion of the yearling bucks that would be protected based on antler point-count data (2008 – 2011), similar to the MARs alternative.

Table 7: BMZ-specific harvest rates of yearling (1.5 yr), 2.5 yr, and ≥3.5 yr white-tailed deer bucks under each management alternative. For the "shorter season" alternative, the proportion of the status quo harvest corresponding to the new season length was drawn from a uniform distribution and used to decrease the status quo (SQ) harvest rate drawn for the year.

Alternative/Age Class	Mohawk	Southern Tier	Southeastern	Lake Plains	Adirondack	Northwestern	Westchester/ Suffolk
Status Quo							
Yearling	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78
2.5 yr	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78
≥3.5 yr	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78
One-buck							
Yearling	0.61 – 0.65	0.60 – 0.65	0.56 – 0.62	0.65 – 0.73	0.44 – 0.50	0.57 – 0.65	0.69 – 0.72
2.5 yr	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78
≥3.5 yr	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78
MARs							
Yearling	0.24 – 0.36	0.21 – 0.32	0.09 – 0.19	0.16 – 0.21	0.08 – 0.14	0.09 – 0.20	0.20 – 0.21
2.5 yr	0.62 – 0.69	0.62 – 0.68	0.49 – 0.59	0.52 – 0.65	0.36 – 0.49	0.49 – 0.67	0.62 – 0.64
≥3.5 yr	0.39 – 0.43	0.38 – 0.43	0.34 – 0.40	0.43 – 0.51	0.22 – 0.28	0.35 – 0.43	0.47 – 0.50
Partial MARs							
Yearling	0.26 – 0.43	0.23 – 0.42	0.26 – 0.40	0.27 – 0.48	0.33 – 0.38	0.41 – 0.48	
2.5 yr	0.49 – 0.61	0.50 – 0.63	0.45 – 0.59	0.53 – 0.67	0.47 – 0.54	0.53 – 0.59	
≥3.5 yr	0.59 – 0.68	0.61 – 0.71	0.55 – 0.66	0.62 – 0.73	0.59 – 0.65	0.56 – 0.61	
Shorter season							
Yearling	SQ*U(0.955, 0.990)	SQ*U(0.967, 0.992)	SQ*U(0.960, 0.972)	SQ*U(0.961, 0.979)	SQ*U(0.692, 0.862)	SQ*U(0.752, 0.881)	
2.5 yr	SQ*U(0.965, 1.000)	SQ*U(0.959, 0.986)	SQ*U(0.969, 0.987)	SQ*U(0.947, 0.981)	SQ*U(0.581, 0.843)	SQ*U(0.671, 0.897)	
≥3.5 yr	SQ*U(0.926, 0.991)	SQ*U(0.960, 0.987)	SQ*(U0.960, 0.987)	SQ*U(0.890, 0.981)	SQ*U(0.455, 0.807)	SQ*U(0.625, 0.824)	
Voluntary restraint							
Yearling	0.62 – 0.66	0.61 – 0.66	0.57 – 0.62	0.66 – 0.73	0.46 – 0.52	0.58 – 0.65	0.69 – 0.72
2.5 yr	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78
≥3.5 yr	0.67 – 0.71	0.66 – 0.71	0.62 – 0.68	0.71 – 0.79	0.50 – 0.56	0.63 – 0.71	0.75 – 0.78

Table 8: Results of the expert elicitation of age-specific buck harvest rates under the partial mandatory antler restrictions (MARs) management alternative for WMUs 7F, 7H, and 7J. Average (standard error) harvest rates and confidence levels for each portion of the hunting season for each age class are reported.

	Four-point Elicitation				80% Derived Confidence Interval	
	Low	High	Best	Confidence	Low	High
Yearling bucks						
Bow season (MARs)	0.027 [a]	0.031 [a]	0.029 [a]	[b]	0.027	0.031
First 7 days regular season (MARs)	0.075 [a]	0.086 [a]	0.080 [a]	[b]	0.075	0.086
Last 16 days regular season	0.240 (0.033)	0.341 (0.026)	0.293 (0.027)	71.25 (1.25)	0.229 (0.034)	0.351 (0.026)
Late special season	0.017 (0.011)	0.034 (0.022)	0.024 (0.015)	77.50 (3.23)	0.015 (0.010)	0.036 (0.023)
Seasonal harvest rate					0.347	0.502
2.5 Year-old bucks						
Bow season (MARs)	0.119 (0.017)	0.158 (0.016)	0.139 (0.017)	73.75 (6.57)	0.116 (0.019)	0.160 (0.015)
First 7 days regular season (MARs)	0.373 (0.027)	0.475 (0.021)	0.425 (0.024)	73.75 (4.73)	0.367 (0.023)	0.481 (0.024)
Last 16 days regular season	0.093 (0.019)	0.140 (0.020)	0.118 (0.017)	68.75 (4.73)	0.086 (0.018)	0.147 (0.022)
Late special season	0.008 (0.001)	0.014 (0.003)	0.011 (0.001)	73.75 (6.58)	0.007 (0.001)	0.015 (0.003)
Seasonal harvest rate					0.576	0.802
≥3.5 *Year-old bucks*						
Bow season (MARs)	0.163 (0.009)	0.218 (0.006)	0.191 (0.003)	78.75 (8.26)	0.164 (0.006)	0.216 (0.003)
First 7 days regular season (MARs)	0.423 (0.011)	0.515 (0.009)	0.472 (0.005)	81.25 (7.18)	0.427 (0.006)	0.511 (0.007)
Last 16 days regular season	0.080 (0.011)	0.130 (0.012)	0.107 (0.008)	80.00 (7.07)	0.082 (0.009)	0.128 (0.010)
Late special season	0.004 (0.001)	0.007 (0.001)	0.005 (0.000)	82.50 (7.50)	0.004 (0.001)	0.006 (0.001)
Seasonal harvest rate					0.677	0.861

[a] No standard error is reported because antler point-count data were used; [b] No confidence level is reported because antler point-count data were used

In the Northern Zone, the partial MARs alternative would require that antler restrictions be in place from the beginning of the archery season through the first 14 days of the regular firearms season. Status Quo regulations would be in place for the remainder of the hunting season. To extrapolate the results of the expert elicitation process to the Northern Zone, the season was split into the MARs and status quo portions, and the proportion of the harvest of each age class that comprised each part of the season was estimated from daily harvest check data for 2008 – 2011. Unlike in the Southern Zone, more than half of the harvest of all age classes of bucks occurred in what would remain the status quo portion of the season. Therefore, the minimum and maximum harvest rates attributed to this portion of the season were retained as the range of harvest rates for the status quo portion of the partial MARs alternative (day 15 of regular firearms season through the end of the hunting season). For yearling and 2.5 year bucks, the portion of the annual harvest rate that would occur during the MARs part of the season was decreased based on the proportion of each age class that would be protected under point count restrictions, similar to the MARs alternative. To estimate the harvest rate of ≥3.5 year bucks during the MARs part of the season in the Northern Zone, the average proportional change in harvest rate for this age class that was elicited for the Southern Zone for partial MARs was calculated. The minimum and maximum harvest rates that were observed for the proposed MARs portion of the season were decreased by this proportional change in harvest rate (Table 7).

For the Shorter Season alternative, a harvest rate was drawn randomly from the same distribution used for Status Quo, and that rate was discounted by the proportion of the harvest attributed to the portion of the regular season that would be omitted, based on zone-specific daily deer harvest data (2008 – 2011). This harvest rate was assumed to be the same for each age class, similar to Status Quo. The harvest rate for each year of the simulation was drawn from a uniform distribution of the range for this alternative (Table 7).

Data from the hunter survey created for this project were used to estimate the reduction in yearling buck harvest rate that could be expected under the Voluntary Restraint alternative. In the survey, hunters were asked two questions regarding voluntary restraint, and for each answer, they could choose from options ranging from “never” to “always” (Siemer et al. 2015). The first question served as the baseline level of restraint from shooting at small-antlered bucks that was occurring within each BMZ: “Over the last 5 years, how often have you voluntarily passed up a chance to shoot a small-antlered buck when you had a clear shot and an unfilled tag?” The second question asked the hunters to consider a series of conditions and to rate how often they would practice restraint under each condition (“How often would you voluntarily pass up a shot at a small-antlered buck under the following conditions?”). The condition “Voluntary restraint was promoted (by DEC or local hunting organizations) to result in more big-antlered bucks in the area you hunt most often” was used to estimate the change in yearling buck harvest that would occur under Voluntary Restraint. The proportion of hunters that answered “always” in the baseline question was subtracted from the proportion of hunters that answered “always” when given the condition that DEC or their hunt club promoted voluntary restraint as a means to increase the number of larger-antlered bucks on the landscape. In the survey, 448 of 2,481 hunters responded that, in the last five years, they have always refrained from taking shots at small-antlered bucks. In addition, the 24 hunters that responded that they were not allowed to shoot at small-antlered bucks where they hunted were added to the “always” category. In total, 19.0% of hunters stated that they have always passed up shots at small-antlered bucks in the last

five years. A total of 662 of 2,479 hunters (26.7%) responded that they would always pass up shots at small-antlered deer if this method were promoted to increase the number of large-antlered bucks on the landscape. Based on survey data, 7.7% more hunters said they would refrain from shooting at small-antlered bucks if this alternative were implemented. Therefore, the range of yearling buck harvest rates under Status Quo for each BMZ was reduced by 7.7% for Voluntary Restraint (Table 7).

To approximate the DEC's ability to regulate population size with deer management permits, threshold population sizes were used to trigger different ranges of doe harvest rates in the model. For all alternatives, if the pre-harvest population size in each simulated year ($N_{t=1\text{-}5}$) remained within 20% of the pre-harvest population size at $t = 0$ ($N_{t=0}$), then the doe harvest rate was drawn randomly from a uniform distribution of harvest rates that would maintain the population within these bounds. If the population was >120% of $N_{t=0}$, then the harvest rate range was increased to reduce population size. If the population size was <80% of $N_{t=0}$, then the harvest rate range was reduced to increase population size. All adult does (≥1.5 yr) were subjected to the same harvest rate, and harvested yearling and ≥2.5 year does were divided into age classes with a random draw from a uniform distribution of yearling harvest proportions observed in each BMZ (1998 – 2013; Table 5). Within each BMZ, sex-specific fawn harvest rates also were drawn from uniform distributions of zone-specific ranges of estimated harvest rates (Table 5).

The final population size after harvest became the starting population size for the next year of the simulation. The population model provided, for each management alternative, the population growth, the number of each age and sex available for harvest, and the number of each age and sex harvested, all relative to these values at $t = 0$ (Status Quo conditions).

We evaluated epistemic uncertainty in some of our parameter estimates and the extent to which density dependence is occurring in the population by simulating the population under different models of uncertainty. Epistemic uncertainty results from incomplete understanding of a system (Runge et al. 2011b), such as our uncertainty regarding the rates of some demographic parameters for deer populations in New York State. Based on conversations with the SDM working group, as well as the paucity of data from New York for survival rates of younger age classes, we evaluated uncertainty of estimates of survival rates of juveniles and female and male fawns, as well as whether or not density dependence was occurring. For the survival rate evaluations, we simulated deer populations with 1) a uniform distribution of the full range of literature-based survival rates for the age- and sex-class being evaluated, 2) a uniform distribution of the upper half of the full range of survival rates, and 3) a uniform distribution of the lower half of the full range of survival rates (Table 5). We also simulated deer populations with and without density dependence. Each combination of these four sources of uncertainty was evaluated, for a total of 54 different combinations of juvenile survival rate range, female fawn survival rate range, male fawn survival rate range, and state of density dependence. In this way, we were able to evaluate the sensitivity of the decision to these sources of uncertainty.

The results of the population simulations were projected over a five-year time horizon and the average number of deer available and harvested was calculated for 1,000 replicates of the stochastic model, under each combination of the four sources of uncertainty, for a total of 54,000 replicates per alternative. All population simulations were performed in R (R Core Team 2012).

The consequences for the buck-related tier 2 fundamental objectives are shown in Table 9. These consequences represent the outcome for each measurable attribute under complete uncertainty about the four models of epistemic uncertainty. The outcomes for each combination of models of epistemic uncertainty (n = 54) are located in Appendix 2.

For some measurable attributes, one alternative consistently yielded the best results, but for others, the results varied among BMZs. After five years of simulation under a given alternative, MARs resulted in the greatest predicted number of ≥2.5 year bucks available relative to status quo (1.5 – 3.7) and the greatest predicted number of ≥2.5 year bucks harvested relative to status quo (2.1 – 3.1) in all BMZs (Table 9). These numbers corresponded to a predicted 50 – 270% increase in available Big Bucks and a predicted 110 – 210% increase in harvested Big Bucks, relative to status quo. Partial MARs was predicted to perform the worst for number of ≥2.5 year bucks harvested (0.79 – 0.88; 12 – 21% fewer bucks than status quo) in the Mohawk, Southern Tier, Southeastern, and Adirondack zones, but Status Quo was predicted to yield the fewest average number of ≥2.5 year bucks harvested in the other three zones. Status Quo was predicted to result in the fewest number of ≥2.5 year bucks available for harvest in all BMZs.

For the Any Buck objective, MARs was predicted to result in the fewest number of ≥1.5 year bucks harvested in all BMZs (0.76 – 0.94; 6 – 24% fewer than status quo). Status Quo resulted in the greatest average number of ≥1.5 year bucks harvested in all zones. A wide range of alternatives resulted in the greatest number of ≥1.5 year bucks available, depending on the BMZ. For the Any Deer objective, MARs was predicted to result in the fewest number of deer harvested relative to status quo (0.76 – 0.97; 3 – 24% fewer than status quo) and the fewest number of deer available relative to status quo (0.97 – 1.05; 3% fewer to 5% greater than status quo) in all zones (Table 9).

Population growth was predicted to be greatest under the MARs alternative in all zones, with predicted increases of 6 – 12% on average (Table 10). These levels of population growth would not be of concern in most BMZs, either because the zone was at High ability to affect change in population growth (Southern Tier, Southeastern, Adirondacks, and Northwestern) or because the zone was at Medium ability to affect change in population growth (Mohawk) and projected growth was < 20%. However, the Lake Plains and Westchester/Suffolk were at Low ability for additional doe harvest with DMPs, so the predicted population growth in these zones (11% and 7%, respectively) under MARs was greater than the 5% growth threshold set for these zones. Additionally, population growth in the Lake Plains under the Partial MARs alternative (7%) exceeded the threshold levels.

Table 9: Values of the measurable attributes related to population size for the Big Bucks (number of ≥2.5 yr bucks available, number of ≥2.5 yr bucks harvested), Any Buck (number of ≥1.5 yr bucks available, number of ≥1.5 yr bucks harvested), and Any Deer (number of deer [≥0.5 yr males and females] available, number of deer harvested) tier 2 fundamental objectives for each BMZ. "Available" refers to animals that are legal to harvest. Each number represents the mean value, relative to status quo, after five years of harvest under each alternative, from 54,000 models runs. Partial MARs and Shorter Season were not considered for the Westchester/Suffolk zone.

	Alternative					
Measurable Attribute	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Mohawk						
Number of ≥2.5 yr bucks harvested	0.997	1.189	2.113	0.881	1.054	1.157
Number of ≥2.5 yr bucks available	0.996	1.187	2.508	1.480	1.080	1.155
Number of ≥1.5 yr bucks harvested	0.994	0.988	0.915	0.961	0.991	0.989
Number of ≥1.5 yr bucks available	0.994	1.049	1.013	1.133	1.018	1.040
Number of deer harvested	0.997	0.994	0.960	0.982	0.995	0.994
Number of deer available	0.991	1.000	0.982	1.014	0.995	0.999
Southern Tier						
Number of ≥2.5 yr bucks harvested	1.034	1.228	2.244	0.845	1.075	1.196
Number of ≥2.5 yr bucks available	1.032	1.226	2.662	1.487	1.104	1.194
Number of ≥1.5 yr bucks harvested	1.031	1.024	0.937	0.993	1.028	1.025
Number of ≥1.5 yr bucks available	1.030	1.086	1.041	1.162	1.051	1.077
Number of deer harvested	1.034	1.030	0.986	1.016	1.032	1.031
Number of deer available	1.029	1.037	1.002	1.049	1.032	1.036
Southeastern						
Number of ≥2.5 yr bucks harvested	1.008	1.178	2.204	0.790	1.066	1.164
Number of ≥2.5 yr bucks available	1.005	1.175	2.812	1.154	1.093	1.161
Number of ≥1.5 yr bucks harvested	1.005	0.998	0.866	0.990	1.001	0.998
Number of ≥1.5 yr bucks available	1.004	1.058	1.068	1.052	1.032	1.054
Number of deer harvested	1.007	1.004	0.942	1.000	1.005	1.004
Number of deer available	0.998	1.007	0.987	1.006	1.003	1.006
Lake Plains						
Number of ≥2.5 yr bucks harvested	1.035	1.281	3.080	1.155	1.121	1.260
Number of ≥2.5 yr bucks available	1.031	1.277	3.735	2.360	1.170	1.256
Number of ≥1.5 yr bucks harvested	1.024	1.018	0.908	0.953	1.020	1.018
Number of ≥1.5 yr bucks available	1.023	1.080	1.071	1.329	1.055	1.075
Number of deer harvested	1.032	1.029	0.967	1.001	1.030	1.029
Number of deer available	1.023	1.030	0.985	1.065	1.027	1.030
Adirondacks						
Number of ≥2.5 yr bucks harvested	0.965	1.084	1.476	0.631	1.050	1.044

Number of ≥2.5 yr bucks available	0.962	1.081	2.148	0.539	1.584	1.041
Number of ≥1.5 yr bucks harvested	1.000	0.986	0.761	1.045	0.908	0.991
Number of ≥1.5 yr bucks available	1.000	1.052	1.050	0.817	1.270	1.035
Number of deer harvested	1.000	0.986	0.761	1.045	0.908	0.991
Number of deer available	1.000	1.052	1.050	0.817	1.270	1.035
Northwestern						
Number of ≥2.5 yr bucks harvested	1.036	1.222	2.432	1.144	1.335	1.206
Number of ≥2.5 yr bucks available	1.033	1.219	3.013	1.607	1.765	1.203
Number of ≥1.5 yr bucks harvested	1.028	1.021	0.896	0.992	0.986	1.021
Number of ≥1.5 yr bucks available	1.028	1.083	1.072	1.201	1.248	1.079
Number of deer harvested	1.031	1.028	0.968	1.014	1.011	1.028
Number of deer available	1.023	1.032	1.007	1.049	1.056	1.031
Westchester/Suffolk						
Number of ≥2.5 yr bucks harvested	1.002	1.244	3.151			1.256
Number of ≥2.5 yr bucks available	1.000	1.347	3.725			1.254
Number of ≥1.5 yr bucks harvested	1.002	0.993	0.908			0.996
Number of ≥1.5 yr bucks available	1.001	1.077	1.035			1.056
Number of deer harvested	1.014	1.009	0.963			1.011
Number of deer available	1.000	1.008	0.967			1.006

Table 10: Predicted population growth for each BMZ under complete epistemic uncertainty. Each value represents the mean population growth, relative to status quo, after five years of harvest under each alternative, from 54,000 models runs. The Partial MARs and Shorter Season alternatives were not considered for the Westchester/Suffolk zone.

	Alternative					
Zone	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Mohawk	0.99	1.00	1.06	1.01	1.00	1.00
Southern Tier	1.03	1.04	1.09	1.05	1.03	1.04
Southeastern	1.00	1.01	1.10	1.01	1.00	1.01
Lake Plains	1.02	1.03	1.11	1.07	1.03	1.03
Adirondacks	1.02	1.03	1.10	1.00	1.06	1.03
Northwestern	1.02	1.03	1.12	1.05	1.06	1.03
Westchester/Suffolk	1.00	1.01	1.07			1.01

DECISION ANALYSIS AND TRADEOFFS

Cost and Population Objectives Weighting

The DEC, specifically the Commissioner, was the final decision maker in this process. Therefore, DEC was tasked with weighting the tier 1 overarching fundamental objectives related

to costs, population regulation, and hunter satisfaction, to reflect agency values. DEC provided ***weights*** for the fundamental objectives of minimizing costs to the agency (0.10) and maximizing the ability to maintain the population at objective levels (0.15). Additionally, they provided a weight for the tier 1 overarching fundamental objective of maximizing hunter satisfaction (tier 2 fundamental objectives of maximizing other hunter-related satisfactions and maximizing the opportunity to encounter and shoot a big buck, any buck, and any deer; 0.75). DEC believed that this decision problem largely was a social issue, and therefore placed most of the weight on the overarching objective of hunter satisfaction. Within the overarching objective of hunter satisfaction, the hunter survey data informed the weights on the individual objectives (see below).

DEC also was tasked with weighting the means objectives within the cost and population regulation objectives. Swing weighting (von Winterfeldt and Edwards 1986) was used to elicit weights on the means objectives. Swing weighting is a technique that allows the decision maker to take into account the predicted range of outcomes for each objective when assigning objective weights. For example, a decision maker might consider an objective very important, but if the range of predicted outcomes for the objective is quite small, the weight on this objective might be adjusted down. They decided that the two means objectives within the cost fundamental objective deserved equal weight (0.5 on each objective). For the population objective, DEC placed more weight on the ability of DMPs to affect population growth (0.625) and less weight on the impact on the Buck Take Index (0.375). In the cases in which the ability of DMPs to affect population growth was an irrelevant objective (i.e., did not vary across the management alternatives), DEC wanted to maintain their original value on the Buck Take Index. They had applied a weight of 0.10 to the population tier 1 fundamental objective, such that the Buck Take Index means objective represented 3.75% of the weight in the model, and the DMP objective represented 6.25% of the weight in the model. The weight originally applied to the DMP objective (0.625*0.15 = 0.09375) was subtracted from the population objective and proportionally added to each of the other tier 1 fundamental objectives, such that w_{cost} = 0.10/0.90625 = 0.11, $w_{population}$ = (0.15-0.09375)/0.90625 = 0.06, and $w_{satisfaction}$ = 0.75/0.90625 = 0.83.

Hunter Satisfaction Objectives Weighting

Hunter satisfaction was represented in this decision analysis by the fundamental objectives of maximizing other hunter-related satisfactions (means objectives: minimize complexity of regulations and maximize overall hunting opportunity), maximizing the opportunity to encounter and shoot a big buck, maximizing the opportunity to encounter and shoot any buck, and maximizing the opportunity to encounter and shoot any deer. The measurable attributes associated with these objectives (Table 2) were created based on the components of hunter satisfaction that the working group believed were relevant to this decision (Table 11).

A rating and ranking system was created with Cornell HDRU to provide weights on the fundamental objectives, means objectives, and constituent measurable attributes of the weighted indices. The objectives were characterized as dimensions of satisfaction and the components represented aspects of these dimensions that would be affected by the different management alternatives (similar to the measurable attributes). This system of questions became the survey

instrument that was mailed to a random selection of 7,000 hunters (6,729 deliverable) throughout New York State (Siemer et al. 2015).

The rating portion of the survey was used to calculate weights for each measurable attribute of the Big Buck, Any Buck, and Any Deer objectives. These weights were used to calculate weighted indices for each objective (Gregory et al. 2012). Hunters rated how important each of the measurable attributes within an objective was to them on a 0 – 4 scale (0 = Not Important, 4 = Very Important). The survey questions for each objective were grouped, and the response for a measurable attribute was divided by the sum of the responses for all measurable attributes for that objective to determine the weight to be placed on the attribute. If two survey questions applied to the same measurable attribute, the responses were averaged. The resulting estimates were the weights used for the weighted index calculations (Table 12).

The ranking portion of the survey was used to calculate the weights on the tier 2 fundamental objectives, as well as the two means objectives within the other hunter-related satisfactions fundamental objective. These weights described how much hunters valued each of the fundamental objectives and means objectives of hunter satisfaction. Hunters were asked to rank seven dimensions of satisfaction ("Opportunity to take a big-antlered buck," "Opportunity to take any buck I choose," "Opportunity to take at least one deer," "Opportunity to take more than one buck," "Overall opportunity to be in the field," "Consistency in buck harvest rules/regulations," "Being able to easily see if a buck is legal to shoot") based on how they value the dimensions relative to one another (Siemer et al. 2015). The first three dimensions corresponded to the fundamental objectives of Big Bucks, Any Buck, and Any Deer. The latter four dimensions made up the fundamental objective of other hunter-related satisfactions. The ranks for these latter four dimensions were averaged for each individual survey respondent for fundamental objective weight calculations. The ranks for the four fundamental objectives were then re-ranked 1 to 4. The rank-order centroid method was used to calculate the weights on the fundamental objectives (Edwards and Barron 1994; Goodwin and Wright 2009). This method assumes that the differences among weights assigned to objectives ranked at the top are greater than the differences among the weights assigned to objectives ranked lower (Hajkowicz et al. 2000). The rank-order centroid weights were calculated as:

$$w_k = \left(\frac{1}{K}\right)\sum_{i=k}^{K}\left(\frac{1}{i}\right) \qquad \text{Equation (2)}$$

where K is the total number of objectives, i is the number of each individual objective, and w_k is the weight of the k^{th} objective (Edwards and Barron 1994). These weights were calculated for each survey respondent in a BMZ that correctly answered the ranking portion of the survey, and the weights were averaged across all respondents within that zone (Table 13).

Table 11: Components of hunter satisfaction for the decision analysis for reducing yearling white-tailed deer buck harvest in New York State.

Objective (Dimension)	**Components**
Complexity of Regulations	Having simple regulations is more satisfying than complex regulations a. Minimizing number of areas (e.g. buck management zones) with different regulations b. Minimizing difficulty associated with determining whether a buck is legal for harvest
Overall hunting opportunity	Having more time to hunt is more satisfying for hunters a. Number of days in the season b. Number of weekends in the season c. Total number of deer I am allowed to take (number of tags)
Encounter and shoot a big buck	Opportunity: Number of large bucks available for harvest a. Number of ≥2.5 year old bucks available b. Number of bucks I am allowed to take Harvest Success (Achievement): a. Successfully shooting a big buck b. Successfully shooting more than one big buck
Encounter and shoot any buck	Opportunity: Number of bucks of any age available for harvest a. Number of ≥1.5 year old bucks available b. Number of bucks I am allowed to take Harvest Success (Achievement) a. Shooting a buck of any age (≥1.5 year) b. Shooting more than one buck of any age (≥1.5 year) Inherent freedom to choose to harvest any antlered buck encountered
Encounter and shoot any deer	Opportunity: Number of deer available for harvest (bucks and antlerless) a. Number of antlerless deer available b. Number of ≥1.5 year old bucks available c. Number of bucks I am allowed to take d. Number of antlerless deer I am allowed to take Harvest Success (Achievement): a. Shooting a deer of any age or sex b. Shooting more than one deer

Table 12: Weights used to calculate the weighted indices for Big Bucks, Any Buck, and Any Deer tier 2 fundamental objectives for each BMZ. Weights from the Southeastern Zone were used for Westchester/Suffolk because there were an insufficient number of survey respondents for this zone.

	Buck Management Zone						
	Mohawk	Southern Tier	Southeastern	Lake Plains	Adirondacks	Northwestern	Westchester/ Suffolk
Number of ≥2.5 yr bucks harvested	0.470	0.462	0.451	0.459	0.446	0.448	0.451
Number of ≥2.5 yr bucks available	0.530	0.538	0.549	0.541	0.554	0.552	0.549
Number of ≥1.5 yr bucks harvested	0.283	0.275	0.270	0.272	0.250	0.268	0.270
Number of ≥1.5 yr bucks available	0.365	0.359	0.387	0.373	0.399	0.366	0.387
Inherent freedom of choice to harvest any ≥1.5 yr buck	0.352	0.366	0.343	0.355	0.351	0.366	0.343
Number of deer harvested	0.457	0.448	0.441	0.467	0.392	0.445	0.441
Number of deer available	0.543	0.552	0.559	0.533	0.608	0.555	0.559

Table 13: BMZ-specific weights for the four tier 2 fundamental objectives (Big Bucks, Any Buck, Any Deer, Other Hunter-Related Satisfactions). Weights from the Southeastern zone were used for Westchester/Suffolk because there were an insufficient number of survey respondents for this zone.

Fundamental Objective	Buck Management Zone						
	Mohawk	Southern Tier	Southeastern	Lake Plains	Adirondacks	Northwestern	Westchester/ Suffolk
Big Bucks	0.245	0.250	0.277	0.259	0.271	0.261	0.277
Any Buck	0.278	0.277	0.252	0.262	0.335	0.289	0.252
Any Deer	0.302	0.305	0.288	0.294	0.227	0.280	0.288
Other Hunter-Related Satisfactions	0.175	0.168	0.184	0.186	0.167	0.170	0.184

Table 14: BMZ-specific weights for the two means objectives (maximize hunting opportunity and minimize complexity) of the other hunter-related satisfactions fundamental objective. Weights from the Southeastern zone were used for Westchester/Suffolk because there were an insufficient number of survey respondents for this zone. The overall weights between these zones differ because some portions of the rankings did not apply to Westchester/Suffolk.

Means Objective	Buck Management Zone						
	Mohawk	Southern Tier	South-eastern	Lake Plains	Adirondacks	Northwestern	Westchester/ Suffolk
Maximize Hunting Opportunity	0.648	0.640	0.627	0.610	0.621	0.629	0.615
Minimize Complexity	0.352	0.360	0.373	0.390	0.379	0.371	0.385

The zone-specific weights on the four fundamental objectives that composed hunter satisfaction differed slightly among zones, though other hunter-related satisfactions consistently received the least weight (0.167 – 0.186). The relative ranking of the other three objectives, Big Bucks, Any Buck, and Any Deer, varied across zones, but the difference between the highest and lowest weights for these objectives within a zone was <0.1 in all but the Adirondacks (difference = 0.108; Table 13). Hunters in the Southeastern, Adirondacks, and Westchester/Suffolk zones placed the second most weight on the Big Bucks objectives, whereas this objective ranked third in the Mohawk, Southern Tier, Lake Plains, and Northwestern zones. Overall, there was not one objective that consistently had the greatest weight, and the weights for the three buck-related objectives differed very little within each zone. However, among the buck-related objectives, opportunity to take Any Buck was weighted greater than opportunity to take a Big Buck in all zones except the Southeastern Zone.

To determine the weights on the means objectives of minimizing complexity and maximizing hunting opportunity, the four measurable attributes of complexity and opportunity (ability to tell if a buck is legal, complexity of regulations, number of days in the field, number of buck tags available) from the rankings data were re-ranked to 1 to 4. A weight for each measurable attribute was calculated using equation 2, and the weights for each measurable attribute of each means objective were summed to determine the total weight for the means objective. The weights for the measurable attributes were calculated for each respondent and then averaged across respondents (Table 14). Hunters across New York State consistently placed more weight on the means objective of maximizing hunting opportunity (0.610 – 0.648) than on the means objective of minimizing complexity (0.352 – 0.390).

The weights on the objectives related to hunter satisfaction were incorporated into an additive multi-attribute utility function (Keeney 1992; Gregory et al. 2012). This utility function also included the weights on the cost and population objectives that were elicited from the SDM working group. The statewide hunter survey yielded only 26 responses from hunters that reported hunting in Suffolk and Westchester counties, which was not a large enough sample size to calculate summary statistics and weights for this BMZ. Therefore, in all instances in which hunter survey data were used in the decision framework for Westchester/Suffolk, the data from hunter responses in the Southeastern zone, which was adjacent to this zone, were used.

Tradeoffs Among Objectives

An additive multi-attribute utility function was created to calculate the expected utility value [*E(U)*] for each of the management alternatives (Keeney 1992; Gregory et al. 2012). The alternative with the greatest ***expected utility value*** was determined to be the optimal management strategy for the management zone in question. The expected utility value was calculated as:

$$E(U) = w_{DEC}(w_{DEC} * U_{\text{Outreach and Education}} + w_{DEC} * U_{\text{Compliance and Enforcement}}) + w_{DEC}(w_{DEC} * U_{\text{DMP Effectiveness}} + w_{DEC} * U_{\text{Buck Take Index}}) + w_{DEC}(w_{\text{Hunters}} * I_{\text{Big Buck}} + w_{\text{Hunters}} * I_{\text{Any Buck}} + w_{\text{Hunters}} * I_{\text{Any Deer}} + w_{\text{Hunters}} * I_{\text{Non-Buck}}) \quad \text{Equation (3)}$$

where w_{DEC} represents weights provided by DEC and w_{Hunters} represents weights calculated from hunter survey data. Each *I* represents a weighted index for the hunter satisfaction fundamental

objectives and each *U* represents the utility score for a measurable attribute. Each of these indices and utility scores must be on the same scale before calculating the expected utility values, such that the weights assigned to each objective are correctly interpreted. Although the consequences for all measurable attributes related to costs and population regulation were elicited on a 0 to 1 scale, the utility scales for the objectives that were minimized were created such that the best performing alternative (i.e., the alternative that best minimized an objective) received a 0. These utility scales were transposed before inclusion in the utility function, so that the best performing alternative for each objective was scored as a 1. In addition, the attributes for the buck-related hunter satisfaction objectives were not on a 0 – 1 scale, but rather were the weighted indices of the number of deer available for harvest and expected to be harvested, relative to the Status Quo management alternative (see Tables 9 and 12).

The measurable attributes related to deer population size for the Big Bucks, Any Bucks, and Any Deer objectives were estimated as the expected number of deer harvested and available for harvest under a given alternative relative to the number under Status Quo. The average value of each attribute, as estimated from the population model, was used to calculate the weighted index for each of these objectives. However, the range of expected outcomes under the different alternatives varied greatly among the objectives (Table 9). For example, the estimated number of ≥2.5 year bucks available for harvest (Big Bucks objective) was two to three times as great under MARs as under Status Quo, whereas the estimated number of deer available for harvest (Any Deer objective) varied by < 10% across alternatives (Table 9). Swing weighting is the typical method of accounting for this difference in scales among objectives, such that the decision maker takes into account the expected range of values for an objective when determining objective weights (von Winterfeldt and Edwards 1986). The weights from the hunter survey data for each of these fundamental objectives were "importance weights" because hunters were asked what was most important to them, irrespective of the potential outcomes that could be expected under the specific management alternatives being evaluated. Because of the use of importance weights, normalizing each measurable attribute for each objective to a 0 to 1 scale separately, based on the local scale (range of values under the alternatives at hand), and then weighting the outcomes with the importance weights would be inappropriate. Instead, global scales were used to normalize the measurable attributes for the three buck-related objectives.

The global scale takes into account more than just the outcomes under the alternatives at hand; it considers the best and worst values that hunters might perceive could occur (Monat 2009). In the survey, hunters were asked questions about seeing deer and harvesting deer of different sizes and sexes, which corresponded to the Big Bucks, Any Buck, and Any Deer objectives. The wording of these questions forced hunters to consider a minimum value (the number of deer they have typically seen in the last five years) and a maximum value (more deer than they have seen in the last five years), which would constitute the global scale for a survey respondent. Although each respondent had a different global scale, when a respondent considered all attributes related to number of deer available for harvest, (s)he likely was considering the same global scale. The same assumption was made for number of deer harvested. Based on this assumption, the same scale was used for each measurable attribute related to number of deer available and each attribute related to number of deer harvested. To normalize the measurable attributes for availability, the minimum and maximum expected number of deer available across the three objectives was used. The same method was used for expected number of deer harvested across

all three objectives. These normalized values were used to calculate the weighted index for each of the three objectives. This process ensured that the consequences for all of the objectives in the multi-attribute utility function were on the same scale.

As a visual aid, a consequence table was created to combine all data used to determine the overall optimal decision for each BMZ (normalized consequences and hierarchical weights). A consequence table provides a succinct way to make tradeoffs among the objectives through evaluating the consequences of each alternative on each objective as well as the weights placed on each of the objectives (Gregory et al. 2012). The consequence table shows the normalized consequences for each objective under each alternative and the weights for each objective in the objectives hierarchy. The bottom row of the table shows the calculated expected utility value for each alternative (Table 15).

Based on our analysis, we determined that the Status Quo scenario best achieved the multiple objectives in all zones followed closely by Voluntary Restraint in most zones (Table 15; Figure 8). In the Adirondack and Northwestern zones, Shorter Season was the second highest ranked strategy, followed by Voluntary Restraint. In the Southeastern zone, Status Quo was followed by MARs then Voluntary Restraint.

Analysis of the Optimal Decision Under Uncertainty and Value of Information

In the context of structured decision-making, the only uncertainty that matters is uncertainty that would change the decision (Runge et al. 2011b). In our analysis, there were four sources of epistemic uncertainty that could potentially affect the decision: uncertainty regarding the extent to which density dependence could affect the population, and uncertainty regarding the survival rates of juveniles, male fawns, and female fawns in New York State. To evaluate the effects of epistemic uncertainty on the decision, an ***expected value of perfect information*** (EVPI) analysis was performed for each BMZ. Expected value of perfect information describes the improvement in the metric of interest from a state of complete uncertainty to a state in which all uncertainty has been resolved, and is defined as:

$$\text{EVPI} = E_s[\max_a U(a,s)] - \max_a E_s[U(a,s)] \qquad \text{Equation (4)}$$

where a is the alternative, s is a hypothesis about the uncertainty, and U is the utility value (Raiffa and Schlaifer 1961; Runge et al. 2011b). We calculated the EVPI of the optimal management strategy under all combinations of the models representing the four sources of epistemic uncertainty, assuming equal weight for each model of uncertainty.

The EVPI of the optimal management strategy was calculated for each BMZ. For all zones, the EVPI was 0 for the optimal management strategy, which indicates that the uncertainties in population demographics do not influence the decision for buck harvest regulations. Resolving these uncertainties would not provide any benefit for this decision analysis.

Table 15: Consequence tables for the reducing white-tailed deer yearling buck harvest in New York State decision analysis. Max = maximize, Min = minimize, w_{MO} = weight on a means objective, $w_{Hunters}$ = weight calculated from hunter survey data, w_{DEC} = weight elicited from DEC staff, DMP = deer management permit, *E(U)* = expected utility value. Cells in light yellow are the optimal alternative for a given objective, cells in light red are the least optimal alternative for a given objective, cells in bright yellow have the highest expected utility value and correspond to the optimal decision, and cells in bright red have the lowest expected utility value and correspond to the least optimal decision.

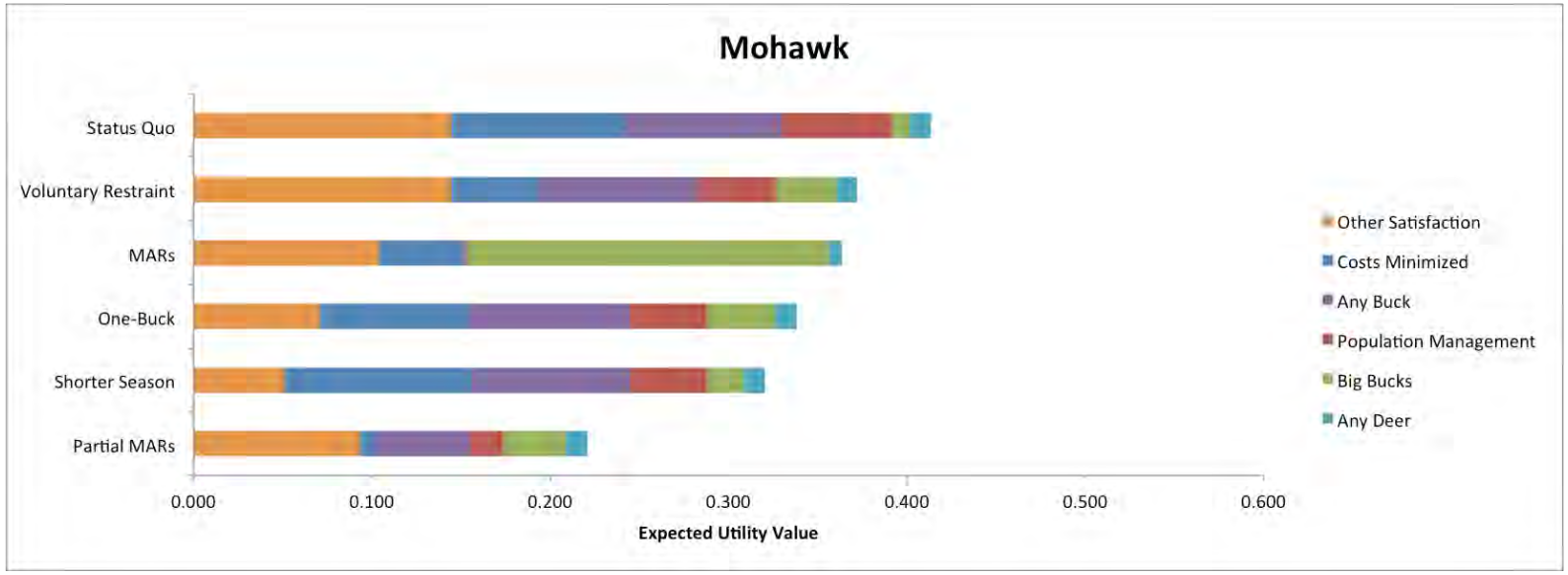
Fundamental objective (Tiers 1 and 2)	Means objective	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint	w_{MO}	$w_{Hunters}$	w_{DEC}
Mohawk										
Min. costs	Min. costs of compliance and enforcement	0.767	0.860	0.186	0.000	1.000	0.884	0.500		0.11
	Min. costs of outreach and education	1.000	0.650	0.650	0.150	0.900	0.000	0.500		
Min. probability of population exceeding objective levels	Min. impact on buck take index	1.000	0.700	0.000	0.300	0.700	0.700			0.06
Max. opportunity to encounter and shoot a big buck		0.049	0.188	1.000	0.173	0.100	0.165		0.245	0.83
Max. opportunity to encounter and shoot any buck		0.381	0.393	0.015	0.231	0.386	0.391		0.278	
Max. opportunity to encounter and shoot any deer		0.046	0.048	0.029	0.049	0.047	0.048		0.302	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.210	1.000	1.000	0.000	1.000	0.648	0.175	
	Min. complexity	1.000	1.000	0.199	0.000	1.000	1.000	0.352		
E(U)		**0.413**	**0.338**	**0.364**	**0.221**	**0.320**	**0.372**			
Southern Tier										
Min. costs	Min. costs of compliance and enforcement	0.767	0.860	0.186	0.000	1.000	0.884	0.500		0.11
	Min. costs of outreach	1.000	0.650	0.650	0.150	0.900	0.000	0.500		

	and education									
Min. probability of population exceeding objective levels	Min. impact on buck take index	1.000	0.700	0.000	0.300	0.700	0.700	0.375		0.06
Max. opportunity to encounter and shoot a big buck		0.072	0.199	1.000	0.157	0.109	0.178		0.250	0.83
Max. opportunity to encounter and shoot any buck		0.409	0.419	0.026	0.247	0.412	0.417		0.277	
Max. opportunity to encounter and shoot any deer		0.069	0.071	0.045	0.070	0.070	0.070		0.305	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.217	1.000	1.000	0.000	1.000	0.640	0.168	
	Min. complexity	1.000	1.000	0.234	0.000	1.000	1.000	0.360		
E(U)		**0.425**	**0.351**	**0.371**	**0.223**	**0.333**	**0.382**			
Southeastern										
Min. costs	Min. costs of compliance and enforcement	0.767	0.860	0.186	0.000	1.000	0.884	0.500		0.11
	Min. costs of outreach and education	1.000	0.650	0.650	0.150	0.900	0.000	0.500		
Min. probability of population exceeding objective levels	Min. impact on buck take index	1.000	0.700	0.000	0.300	0.700	0.700			0.06
Max. opportunity to encounter and shoot a big buck		0.075	0.180	1.000	0.050	0.120	0.172		0.277	0.83
Max. opportunity to encounter and shoot any buck		0.388	0.398	0.032	0.224	0.393	0.397		0.252	
Max. opportunity to encounter and shoot any deer		0.071	0.073	0.048	0.071	0.072	0.073		0.288	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.200	1.000	1.000	0.000	1.000	0.627	0.184	
	Min. complexity	1.000	1.000	0.233	0.000	1.000	1.000	0.373		
E(U)		**0.427**	**0.344**	**0.402**	**0.197**	**0.331**	**0.384**			

Lake Plains										
Min. costs	Min. costs of compliance and enforcement	0.767	0.860	0.186	0.000	1.000	0.884	0.500		0.10
	Min. costs of outreach and education	1.000	0.650	0.650	0.150	0.900	0.000	0.500		
Min. probability of population exceeding objective levels	Max. ability of DMPs to affect the population	1.000	1.000	0.000	0.000	1.000	1.000	0.625		0.15
	Min. impact on buck take index	1.000	0.700	0.000	0.300	0.700	0.700	0.375		
Max. opportunity to encounter and shoot a big buck		0.036	0.136	1.000	0.323	0.081	0.128		0.259	0.75
Max. opportunity to encounter and shoot any buck		0.375	0.382	0.012	0.230	0.379	0.381		0.262	
Max. opportunity to encounter and shoot any deer		0.034	0.035	0.013	0.035	0.034	0.035		0.294	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.231	1.000	1.000	0.000	1.000	0.610	0.186	
	Min. complexity	1.000	1.000	0.260	0.000	1.000	1.000	0.390		
E(U)		**0.466**	**0.392**	**0.340**	**0.225**	**0.380**	**0.424**			
Adirondacks										
Min. costs	Min. costs of compliance and enforcement	0.767	0.860	0.186	0.000	1.000	0.884	0.500		0.11
	Min. costs of outreach and education	1.000	0.650	0.650	0.150	0.900	0.000	0.500		
Min. probability of population exceeding objective levels	Min. impact on buck take index	1.000	0.700	0.000	0.300	0.700	0.700			0.06
Max. opportunity to encounter and shoot a big buck		0.322	0.425	1.000	0.000	0.581	0.391		0.271	0.83
Max. opportunity to encounter and shoot any buck		0.574	0.583	0.165	0.367	0.614	0.580		0.335	

Max. opportunity to encounter and shoot any deer		0.346	0.358	0.253	0.297	0.405	0.354		0.227	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.163	1.000	1.000	0.000	1.000	0.621	0.167	
	Min. complexity	1.000	1.000	0.242	0.000	1.000	1.000	0.379		
E(U)		**0.594**	**0.517**	**0.463**	**0.270**	**0.577**	**0.546**			
Northwestern										
Min. costs	Min. costs of compliance and enforcement	0.767	0.860	0.186	0.000	1.000	0.884	0.500		0.11
	Min. costs of outreach and education	1.000	0.650	0.650	0.150	0.900	0.000	0.500		
Min. probability of population exceeding objective levels	Min. impact on buck take index	1.000	0.700	0.000	0.300	0.700	0.700			0.06
Max. opportunity to encounter and shoot a big buck		0.048	0.153	1.000	0.238	0.337	0.145		0.261	0.83
Max. opportunity to encounter and shoot any buck		0.393	0.402	0.012	0.235	0.426	0.401		0.289	
Max. opportunity to encounter and shoot any deer		0.044	0.045	0.021	0.046	0.047	0.045		0.280	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.235	1.000	1.000	0.000	1.000	0.629	0.170	
	Min. complexity	1.000	1.000	0.224	0.000	1.000	1.000	0.371		
E(U)		**0.415**	**0.339**	**0.370**	**0.234**	**0.386**	**0.371**			
Westchester/Suffolk										
Min. costs	Min. costs of compliance and enforcement	0.833	0.967	0.000			1.000	0.500		0.10
	Min. costs of outreach and education	1.000	0.650	0.650			0.000	0.500		
Min. probability of population	Max. ability of DMPs to	1.000	1.000	0.000			1.000	0.625		0.15

exceeding objective levels	affect the population								
	Min. impact on buck take index	1.000	0.700	0.000		0.700	0.375		
Max. opportunity to encounter and shoot a big buck		0.025	0.143	1.000		0.127		0.277	0.75
Max. opportunity to encounter and shoot any buck		0.359	0.369	0.009		0.366		0.252	
Max. opportunity to encounter and shoot any deer		0.027	0.028	0.011		0.028		0.288	
Maximize other hunter-related satisfactions	Max. hunting opportunity	1.000	0.000	1.000		1.000	0.615	0.184	
	Min. complexity	1.000	1.000	0.000		1.000	0.385		
E(U)		**0.458**	**0.372**	**0.329**		**0.422**			


Mohawk
Status Quo
Voluntary Restraint
MARs
One-Buck
Shorter Season
Partial MARs
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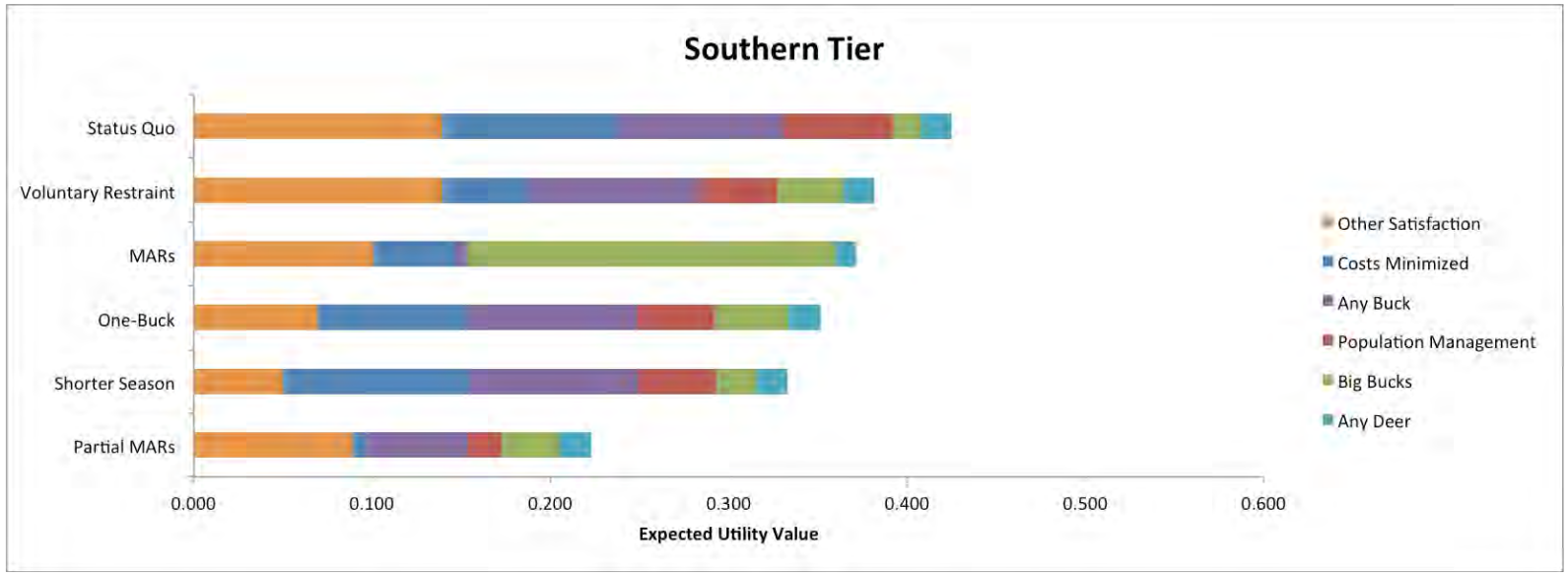
0.500
0.600
Expected Utility Value
Other Satisfaction
Costs Minimized
Any Buck
Population Management
Big Bucks
Any Deer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Status Quo
Voluntary Restraint
MARs
One-Buck
Shorter Season
Partial MARs
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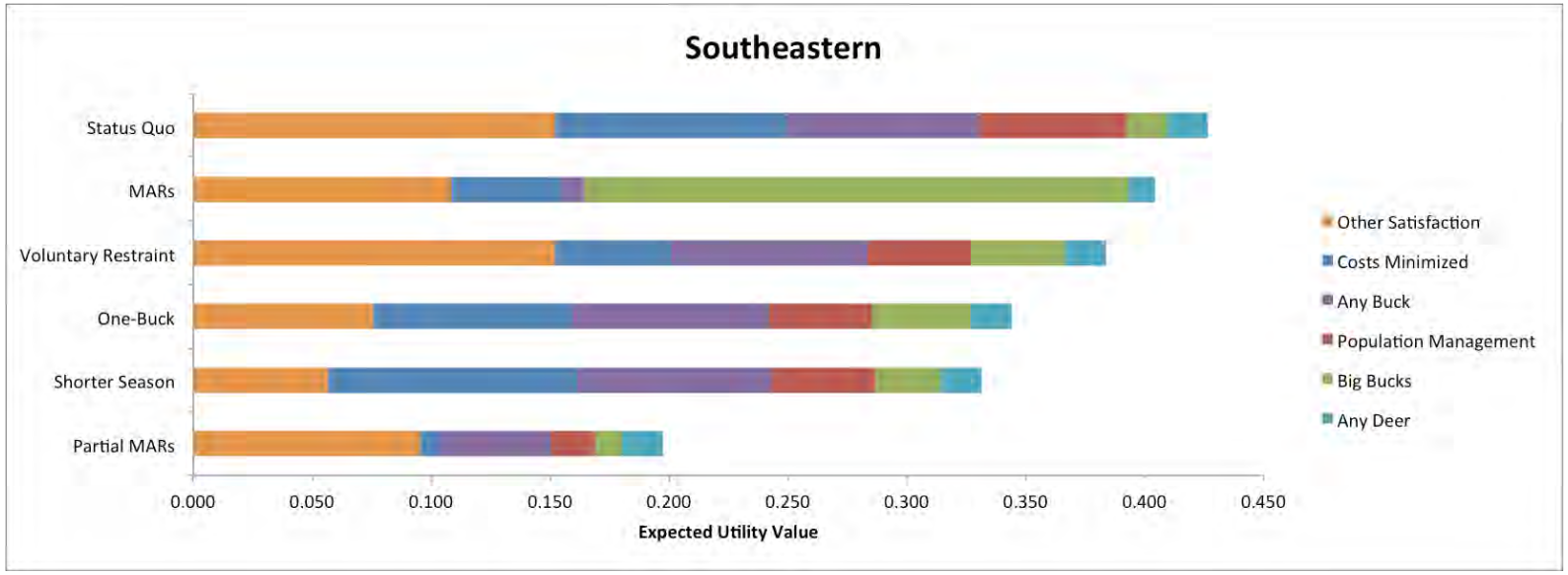
Expected Utility Value
Other Satisfaction
Costs Minimized
Any Buck
Population Management
Big Bucks
Any Deer


Southeastern
Status Quo
MARs
Voluntary Restraint
One-Buck
Shorter Season
Partial MARs
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0.100
0.150
0.200
0.250
0.300
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0.400
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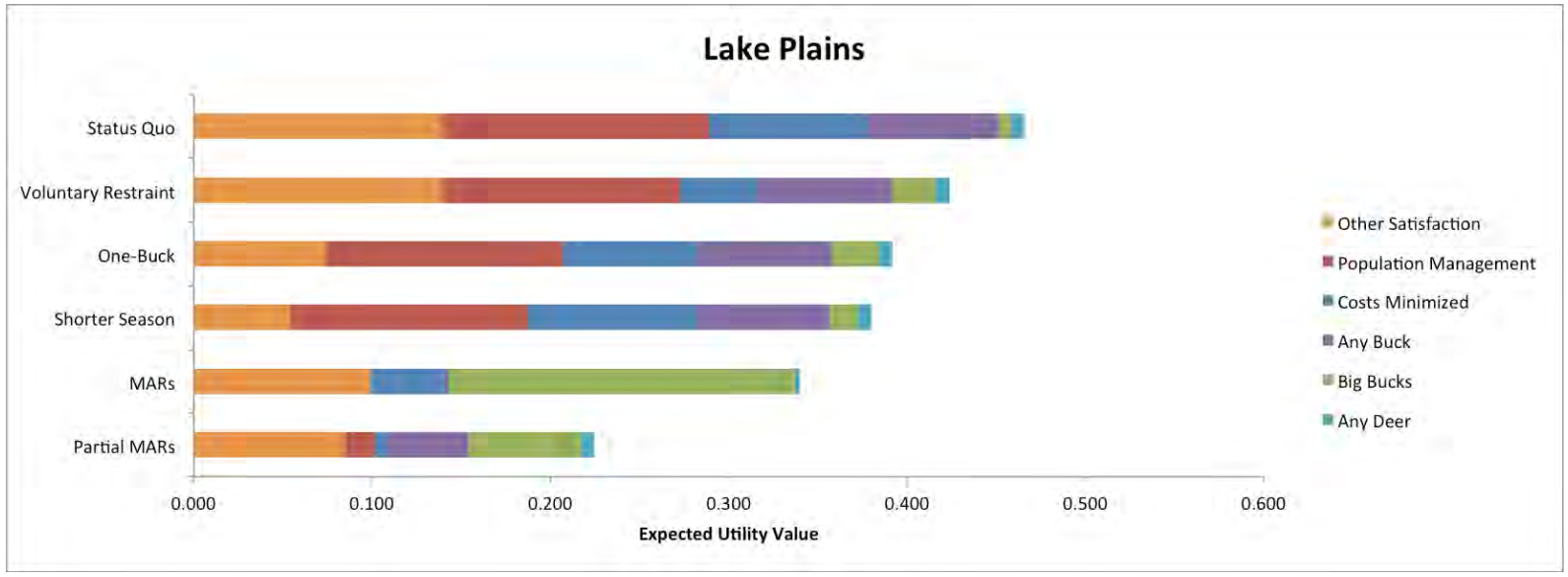
Expected Utility Value
Other Satisfaction
Costs Minimized
Any Buck
Population Management
Big Bucks
Any Deer


Lake Plains
Status Quo
Voluntary Restraint
One-Buck
Shorter Season
MARs
Partial MARs
0.000
0.100
0.200
0.300
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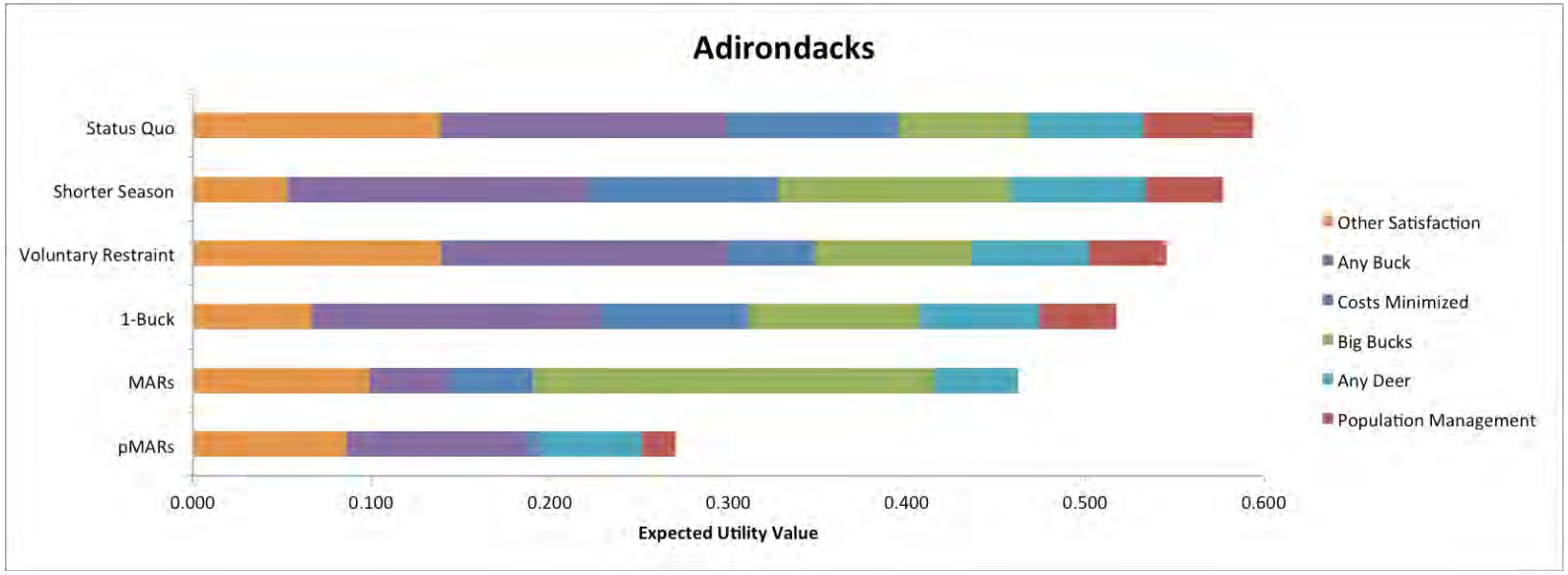
Expected Utility Value
Other Satisfaction
Population Management
Costs Minimized
Any Buck
Big Bucks
Any Deer


Adirondacks
Status Quo
Shorter Season
Voluntary Restraint
1-Buck
MARs
pMARs
0.000
0.100
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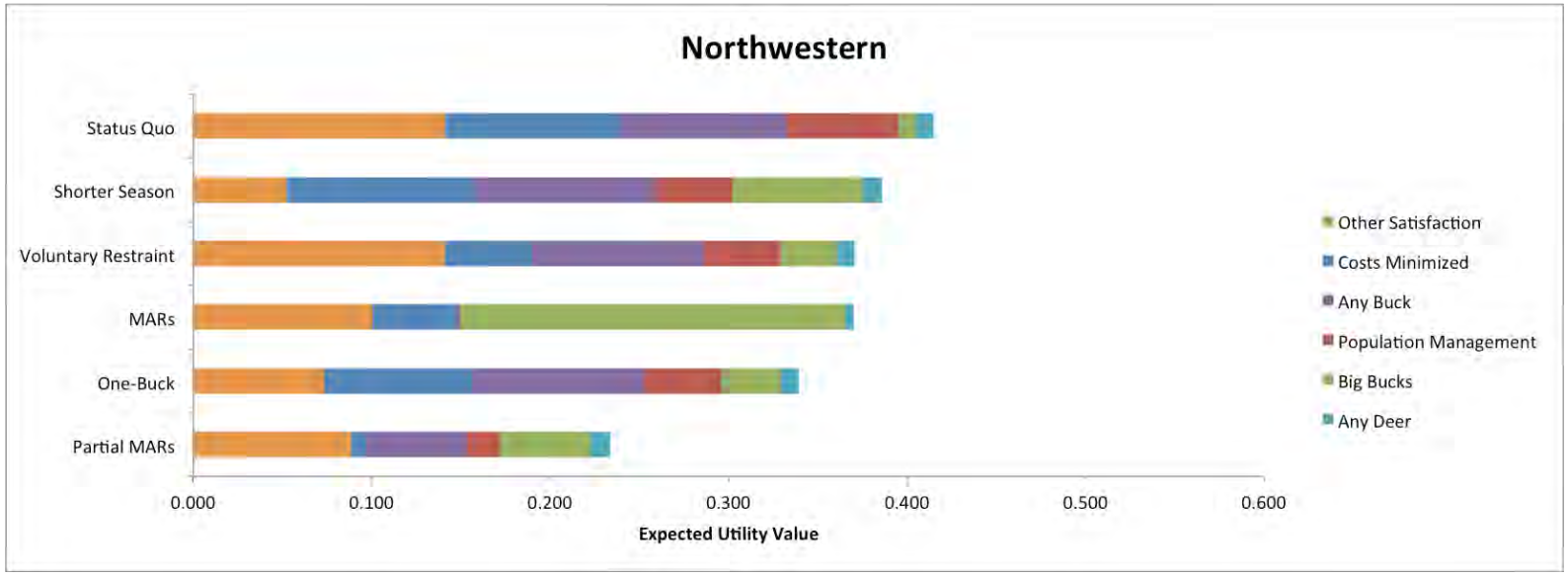
Other Satisfaction
Any Buck
Costs Minimized
Big Bucks
Any Deer
Population Management


Northwestern
Status Quo
Shorter Season
Voluntary Restraint
MARs
One-Buck
Partial MARs
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Expected Utility Value
Other Satisfaction
Costs Minimized
Any Buck
Population Management
Big Bucks
Any Deer

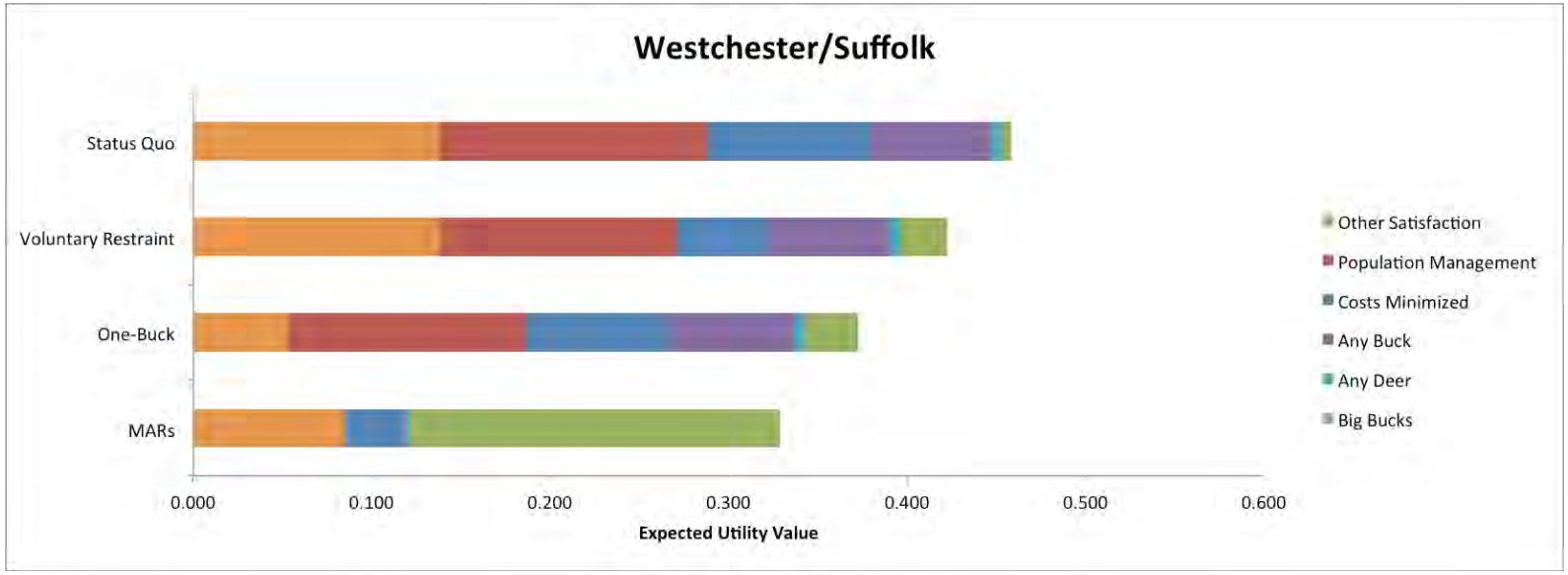

Figure 8: Expected utility value for each harvest alternative in each buck management zone for the white-tailed deer buck harvest management decision problem in New York State. Each color represents a fundamental objective. Note the difference in x-axis ranges. For each graph, the alternatives are ordered from greatest to lowest expected utility value on the y-axis.

In addition to the sources of epistemic uncertainty, the sensitivity of the decision to uncertainty in the model results and uncertainties in the hunter survey results were evaluated. To evaluate sensitivity to the model outputs, the optimal decision was determined with both the 25th and 75th percentile outputs for each measurable attribute (Tables 16 – 18). This evaluation is similar to the method of "downside reporting" discussed in Gregory et al. (2012). In all zones, the decision was robust when the expected utility values were calculated with the 25th and 75th percentile outputs (Table 19).

We also evaluated the sensitivity of the optimal decision to hunter survey responses. In each zone, the optimal decision was determined by calculating the expected utility values with fundamental and means objectives weights calculated for all respondents that answered the ranking portion of the survey (Tables 20 and 21), and with weights calculated from respondents that assigned each number of the ranking portion to only one answer (Tables 13 and 14). The decision was robust to these differences in all zones. The upper and lower bounds of the 95% confidence intervals of the weights calculated from respondents that correctly answered the ranking portion of the survey (Table 22) were used to calculate expected utility values (Table 19). Again, the decision was robust to these changes.

Table 16: 25th percentile estimates of the consequences of measurable attributes for the Big Bucks (number of ≥2.5 yr bucks available, number of ≥2.5 yr bucks harvested), Any Buck (number of ≥1.5 yr bucks available, number of ≥1.5 yr bucks harvested), and Any Deer (number of deer [≥0.5 yr males and females] available, number of deer harvested) tier 2 fundamental objectives. Each number represents the value of the 25th percentile, relative to status quo, after five years of harvest under each alternative, from 54,000 models runs. Partial MARs and Shorter Season were not considered for the Westchester/Suffolk zone.

	Alternative					
Measurable Attribute	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Mohawk						
Number of ≥2.5 yr bucks harvested	0.881	1.050	1.862	0.772	0.935	1.022
Number of ≥2.5 yr bucks available	0.887	1.057	2.247	1.313	0.964	1.029
Number of ≥1.5 yr bucks harvested	0.895	0.892	0.823	0.859	0.893	0.893
Number of ≥1.5 yr bucks available	0.897	0.948	0.927	1.023	0.918	0.940
Number of deer harvested	0.878	0.875	0.837	0.868	0.878	0.876
Number of deer available	0.907	0.916	0.909	0.932	0.911	0.915
Southern Tier						
Number of ≥2.5 yr bucks harvested	0.922	1.097	2.004	0.737	0.964	1.068
Number of ≥2.5 yr bucks available	0.932	1.108	2.425	1.317	1.000	1.079
Number of ≥1.5 yr bucks harvested	0.941	0.936	0.850	0.897	0.939	0.937
Number of ≥1.5 yr bucks available	0.947	1.000	0.971	1.060	0.965	0.991
Number of deer harvested	0.921	0.918	0.869	0.910	0.920	0.918
Number of deer available	0.955	0.965	0.946	0.978	0.959	0.963
Southeastern						
Number of ≥2.5 yr bucks harvested	0.860	1.006	1.879	0.667	0.912	0.993
Number of ≥2.5 yr bucks available	0.868	1.015	2.469	0.987	0.945	1.003
Number of ≥1.5 yr bucks harvested	0.873	0.869	0.746	0.851	0.870	0.870
Number of ≥1.5 yr bucks available	0.879	0.928	0.956	0.914	0.904	0.924
Number of deer harvested	0.872	0.869	0.797	0.867	0.871	0.870
Number of deer available	0.892	0.900	0.895	0.899	0.896	0.899
Lake Plains						
Number of ≥2.5 yr bucks harvested	0.879	1.094	2.658	0.988	0.967	1.079
Number of ≥2.5 yr bucks available	0.890	1.108	3.320	2.057	1.023	1.093
Number of ≥1.5 yr bucks harvested	0.938	0.935	0.825	0.859	0.935	0.935
Number of ≥1.5 yr bucks available	0.942	0.996	1.002	1.218	0.972	0.992
Number of deer harvested	0.910	0.906	0.836	0.891	0.909	0.907
Number of deer available	0.948	0.956	0.927	0.996	0.953	0.956
Adirondacks						
Number of ≥2.5 yr bucks harvested	0.826	0.928	1.246	0.541	0.892	0.894
Number of ≥2.5 yr bucks available	0.835	0.938	1.898	0.464	1.375	0.903

Number of ≥1.5 yr bucks harvested	0.888	0.878	0.662	0.906	0.787	0.882
Number of ≥1.5 yr bucks available	0.888	0.935	0.950	0.710	1.122	0.919
Number of deer harvested	0.888	0.878	0.662	0.906	0.787	0.882
Number of deer available	0.888	0.935	0.950	0.710	1.122	0.919
Northwestern						
Number of ≥2.5 yr bucks harvested	0.875	1.034	2.043	0.981	1.143	1.022
Number of ≥2.5 yr bucks available	0.885	1.045	2.628	1.389	1.523	1.033
Number of ≥1.5 yr bucks harvested	0.903	0.899	0.772	0.869	0.865	0.899
Number of ≥1.5 yr bucks available	0.907	0.959	0.968	1.059	1.102	0.954
Number of deer harvested	0.894	0.891	0.817	0.883	0.881	0.892
Number of deer available	0.920	0.929	0.923	0.948	0.955	0.928
Westchester/Suffolk						
Number of ≥2.5 yr bucks harvested	0.876	1.093	2.792			1.101
Number of ≥2.5 yr bucks available	0.883	1.195	3.340			1.109
Number of ≥1.5 yr bucks harvested	0.902	0.896	0.826			0.899
Number of ≥1.5 yr bucks available	0.904	0.975	0.949			0.956
Number of deer harvested	0.855	0.852	0.812			0.853
Number of deer available	0.922	0.931	0.903			0.929

Table 17: 75th percentile estimates of the consequences of measurable attributes for the Big Bucks (number of ≥2.5 yr bucks available, number of ≥2.5 yr bucks harvested), Any Buck (number of ≥1.5 yr bucks available, number of ≥1.5 yr bucks harvested), and Any Deer (number of deer [≥0.5 yr males and females] available, number of deer harvested) fundamental objectives. Each number represents the value of the 75th percentile, relative to status quo, after five years of harvest under each alternative, from 54,000 models runs. Partial MARs and Shorter Season were not considered for the Westchester/Suffolk zone.

	Alternative					
Measurable Attribute	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Mohawk						
Number of ≥2.5 yr bucks harvested	1.102	1.312	2.342	0.976	1.160	1.277
Number of ≥2.5 yr bucks available	1.095	1.304	2.748	1.626	1.183	1.269
Number of ≥1.5 yr bucks harvested	1.087	1.077	1.002	1.058	1.084	1.079
Number of ≥1.5 yr bucks available	1.086	1.144	1.096	1.237	1.112	1.135
Number of deer harvested	1.096	1.092	1.061	1.075	1.093	1.093
Number of deer available	1.074	1.083	1.058	1.098	1.078	1.082
Southern Tier						
Number of ≥2.5 yr bucks harvested	1.137	1.351	2.470	0.943	1.179	1.315
Number of ≥2.5 yr bucks available	1.127	1.339	2.894	1.645	1.204	1.304
Number of ≥1.5 yr bucks harvested	1.120	1.111	1.025	1.088	1.117	1.113
Number of ≥1.5 yr bucks available	1.114	1.174	1.116	1.265	1.138	1.164
Number of deer harvested	1.127	1.122	1.073	1.102	1.124	1.123
Number of deer available	1.108	1.116	1.067	1.128	1.111	1.115
Southeastern						
Number of ≥2.5 yr bucks harvested	1.137	1.330	2.492	0.895	1.202	1.313
Number of ≥2.5 yr bucks available	1.127	1.317	3.120	1.301	1.224	1.302
Number of ≥1.5 yr bucks harvested	1.123	1.114	0.974	1.115	1.118	1.114
Number of ≥1.5 yr bucks available	1.118	1.178	1.171	1.178	1.150	1.174
Number of deer harvested	1.124	1.119	1.077	1.115	1.121	1.119
Number of deer available	1.101	1.110	1.078	1.109	1.106	1.109
Lake Plains						
Number of ≥2.5 yr bucks harvested	1.168	1.441	3.449	1.301	1.253	1.416
Number of ≥2.5 yr bucks available	1.155	1.425	4.106	2.627	1.299	1.400
Number of ≥1.5 yr bucks harvested	1.102	1.094	0.987	1.040	1.098	1.095
Number of ≥1.5 yr bucks available	1.098	1.157	1.137	1.434	1.133	1.153
Number of deer harvested	1.132	1.128	1.063	1.082	1.128	1.128
Number of deer available	1.095	1.102	1.042	1.134	1.099	1.102
Adirondacks						
Number of ≥2.5 yr bucks harvested	1.084	1.218	1.673	0.708	1.183	1.174
Number of ≥2.5 yr bucks available	1.073	1.205	2.365	0.603	1.762	1.161

Number of ≥1.5 yr bucks harvested	1.097	1.079	0.848	1.169	1.016	1.085
Number of ≥1.5 yr bucks available	1.099	1.154	1.137	0.911	1.401	1.136
Number of deer harvested	1.097	1.079	0.848	1.169	1.016	1.085
Number of deer available	1.099	1.154	1.137	0.911	1.401	1.136
Northwestern						
Number of ≥2.5 yr bucks harvested	1.174	1.383	2.763	1.283	1.500	1.365
Number of ≥2.5 yr bucks available	1.163	1.370	3.351	1.795	1.974	1.352
Number of ≥1.5 yr bucks harvested	1.141	1.129	1.006	1.106	1.098	1.130
Number of ≥1.5 yr bucks available	1.138	1.198	1.169	1.331	1.384	1.193
Number of deer harvested	1.137	1.132	1.105	1.114	1.109	1.132
Number of deer available	1.124	1.132	1.091	1.150	1.156	1.132
Westchester/Suffolk						
Number of ≥2.5 yr bucks harvested	1.112	1.377	3.471			1.392
Number of ≥2.5 yr bucks available	1.104	1.481	4.073			1.382
Number of ≥1.5 yr bucks harvested	1.093	1.082	0.985			1.086
Number of ≥1.5 yr bucks available	1.089	1.170	1.117			1.148
Number of deer harvested	1.142	1.136	1.074			1.138
Number of deer available	1.076	1.084	1.030			1.081

Table 18: 25th and 75th percentile estimates of population growth for each BMZ. Each value represents the 25th or 75th percentile estimates of population growth, relative to status quo, after five years of harvest under each alternative, from 54,000 models runs. The Partial MARs and Shorter Season alternatives were not considered for the Westchester/Suffolk zone.

	Alternative					
Zone	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
25th percentile						
Mohawk	0.91	0.92	0.98	0.93	0.91	0.92
Southern Tier	0.96	0.96	1.04	0.98	0.96	0.96
Southeastern	0.89	0.90	1.00	0.90	0.90	0.90
Lake Plains	0.95	0.96	1.05	1.00	0.95	0.96
Adirondacks	0.94	0.94	1.00	0.92	0.97	0.94
Northwestern	0.92	0.93	1.03	0.95	0.96	0.93
Westchester/Suffolk	0.92	0.93	1.00			0.93
75th percentile						
Mohawk	1.07	1.08	1.14	1.10	1.08	1.08
Southern Tier	1.11	1.12	1.16	1.13	1.11	1.11
Southeastern	1.10	1.11	1.20	1.11	1.11	1.11
Lake Plains	1.09	1.10	1.17	1.13	1.10	1.10
Adirondacks	1.10	1.11	1.18	1.08	1.14	1.11
Northwestern	1.12	1.13	1.21	1.15	1.16	1.13
Westchester/Suffolk	1.08	1.08	1.14			1.14

Table 19: Expected utility values calculated for each sensitivity analysis of the yearling buck harvest management decision analysis. Expected utility values were calculated with a) the 25th percentile outputs from the deer population model, b) the 75th percentile outputs from the deer population model, c) weights on the hunter satisfaction fundamental and means objectives calculated for all respondents, d) the lower bound and e) the upper bound of the 95% confidence interval of the weights calculated for hunters that correctly answered the ranking section. Light red values are the lowest expected utility value in a zone, and light yellow values are the greatest expected utility value in a zone.

	Alternative					
Zone	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
a) 25th percentile model output						
Mohawk	0.416	0.341	0.367	0.223	0.323	0.375
Southern Tier	0.426	0.353	0.375	0.221	0.335	0.383
Southeastern	0.429	0.347	0.405	0.198	0.335	0.386
Lake Plains	0.462	0.389	0.341	0.222	0.378	0.421
Adirondacks	0.433	0.355	0.380	0.240	0.427	0.391
Northwestern	0.416	0.341	0.373	0.237	0.390	0.373
Westchester/Suffolk	0.454	0.369	0.328			0.418
b) 75th percentile model output						
Mohawk	0.414	0.338	0.363	0.221	0.320	0.373
Southern Tier	0.425	0.351	0.369	0.224	0.332	0.381
Southeastern	0.428	0.345	0.402	0.200	0.332	0.385
Lake Plains	0.470	0.395	0.340	0.228	0.383	0.427
Adirondacks	0.426	0.346	0.370	0.231	0.423	0.382
Northwestern	0.417	0.341	0.371	0.234	0.386	0.372
Westchester/Suffolk	0.463	0.377	0.330			0.427
c) Weights from all respondents						
Mohawk	0.421	0.344	0.365	0.222	0.325	0.379
Southern Tier	0.434	0.356	0.379	0.225	0.337	0.391
Southeastern	0.437	0.353	0.402	0.197	0.340	0.393
Lake Plains	0.473	0.396	0.348	0.228	0.384	0.432
Adirondacks	0.600	0.519	0.471	0.268	0.578	0.551
Northwestern	0.425	0.347	0.368	0.233	0.392	0.380
Westchester/Suffolk	0.468	0.379	0.329			0.432
d) Lower 95% CI						
Mohawk	0.414	0.316	0.382	0.248	0.293	0.373
Southern Tier	0.425	0.351	0.369	0.223	0.333	0.382
Southeastern	0.427	0.343	0.401	0.198	0.330	0.384
Lake Plains	0.467	0.391	0.339	0.225	0.379	0.425
Adirondacks	0.598	0.518	0.461	0.275	0.576	0.549
Northwestern	0.417	0.339	0.366	0.235	0.383	0.372
Westchester/Suffolk	0.459	0.372	0.328			0.423
e) Upper 95% CI						
Mohawk	0.413	0.350	0.355	0.206	0.335	0.372

Southern Tier	0.424	0.352	0.373	0.222	0.333	0.381
Southeastern	0.426	0.345	0.402	0.196	0.332	0.383
Lake Plains	0.465	0.392	0.341	0.224	0.381	0.423
Adirondacks	0.591	0.517	0.464	0.267	0.578	0.543
Northwestern	0.414	0.340	0.373	0.233	0.388	0.370
Westchester/Suffolk	0.458	0.373	0.329			0.422

Table 20: BMZ-specific weights for the four tier 2 fundamental objectives (Big Bucks, Any Buck, Any Deer, Other Hunter-Related Satisfactions), calculated for all respondents that answered the ranking portion of the hunter survey. Weights from the Southeastern zone were used for Westchester/Suffolk because there were an insufficient number of survey respondents for this zone.

Fundamental Objective	Buck Management Zone						
	Mohawk	Southern Tier	Southeastern	Lake Plains	Adirondacks	Northwestern	Westchester/ Suffolk
Big Bucks	0.243	0.252	0.273	0.263	0.277	0.254	0.273
Any Buck	0.276	0.267	0.246	0.253	0.314	0.283	0.246
Any Deer	0.296	0.298	0.282	0.285	0.223	0.278	0.282
Other Hunter-Related Satisfactions	0.185	0.183	0.199	0.199	0.185	0.185	0.199

Table 21: BMZ-specific weights for the two means objectives (maximize hunting opportunity and minimize complexity) of the other hunter-related satisfactions, calculated for all respondents that answered the ranking portion of the hunter survey. Weights from the Southeastern zone were used for Westchester/Suffolk because there were an insufficient number of survey respondents for this zone. The overall weights between these zones differ because some portions of the rankings did not apply to Westchester/Suffolk.

Means Objective	Buck Management Zone						
	Mohawk	Southern Tier	Southeastern	Lake Plains	Adirondacks	Northwestern	Westchester/ Suffolk
Maximize Hunting Opportunity	0.625	0.619	0.589	0.596	0.592	0.592	0.586
Minimize Complexity	0.375	0.381	0.411	0.404	0.408	0.408	0.414

Table 22: The lower and upper bounds of the 95% confidence intervals of the weights on the fundamental objectives of hunter satisfaction, calculated for all respondents that correctly assigned each number in the ranking portion of the survey to only one response. Weights were made to sum to 1, resulting in some values in the lower confidence interval (CI) being greater than values in the upper confidence interval. Other satisfactions = other hunter-related satisfactions.

	Buck Management Zone						
Fundamental Objective	Mohawk	Southern Tier	South-eastern	Lake Plains	Adirondacks	North-western	Westchester/ Suffolk
Lower 95% CI							
Big Bucks	0.237	0.246	0.275	0.255	0.265	0.253	0.275
Any Buck	0.282	0.277	0.251	0.259	0.342	0.288	0.251
Any Deer	0.309	0.307	0.290	0.298	0.222	0.286	0.290
Other Satisfactions	0.172	0.169	0.185	0.188	0.172	0.173	0.185
Upper 95% CI							
Big Bucks	0.247	0.254	0.278	0.262	0.276	0.267	0.278
Any Buck	0.281	0.277	0.253	0.264	0.329	0.290	0.253
Any Deer	0.302	0.302	0.286	0.290	0.230	0.275	0.286
Other Satisfactions	0.170	0.167	0.183	0.183	0.164	0.168	0.183

SUMMARY AND DISCUSSION

The purpose of this research was to use a structured decision making framework to aid the New York State Department of Environmental Conservation in making decisions about setting harvest regulations to reduce harvest of yearling white-tailed deer bucks within the state. A set of ecological and social objectives relevant to buck harvest regulations was identified, and a series of potential harvest management alternatives was evaluated for how well they achieved each of these objectives. Multi-criteria decision analysis was used to make tradeoffs amongst these different objectives, based on the potential outcome of each alternative. The objectives in this study were hierarchical (Figure 2), with three tier 1 overarching objectives that the DEC was tasked with weighting: minimize costs to the agency, minimize the probability of the population exceeding objective levels, and maximize hunter satisfaction. Four tier 2 fundamental objectives made up the hunter satisfaction overarching objective: maximize ability to encounter and shoot a big buck, maximize ability to encounter and shoot any buck, maximize ability to encounter and shoot any deer, and maximize hunter-related satisfactions. A statewide buck hunter survey was implemented in conjunction with this project to provide a better understanding of hunters' buck hunting preferences (Siemer et al. 2015). The results of this survey were implemented in the multi-criteria decision analysis through the weighting of the tier 2 fundamental and means objectives, as well as the weighting of the measurable attributes that made up the weighted index for each of these objectives. This decision analysis was performed for seven different BMZs

throughout the state because deer ecology, environmental factors, and hunter preferences varied regionally. To minimize complexity associated with the potential for multiple harvest alternatives throughout New York State, DEC decided *a priori* that no more than three alternatives would be implemented throughout the state.

The decision analysis identified only one optimal harvest alternative. In all zones, the optimal alternative was to continue with status quo regulations, in which any buck with an antler that is at least 3 inches long is legal for harvest. Voluntary restraint was the second highest ranked alternative in the Lake Plains, Mohawk Valley, Southern Tier and Westchester/Suffolk zones, followed by MARs in the Mohawk Valley and Southern Tier zones and One Buck per hunter in the Lake Plains and Westchester-Suffolk zones. This order of alternatives reflects the greater weight placed by hunters in the Mohawk Valley and Southern Tier zones on the Any Deer and Any Buck objectives than the Big Buck objective and the influence of population growth concerns in the Lake Plains and Westchester/Suffolk zones. Absent concerns of population growth, Status Quo would remain the optimal strategy for these zones followed by MARs then Voluntary Restraint in the Lake Plains whereas MARs and Voluntary Restraint would have equally been ranked second in the Westchester/Suffolk zone. In the Southeastern zone, where hunters valued Big Bucks slightly more than Any Buck but less than Any Deer, MARs was the second highest ranked alternative, followed by Voluntary Restraint. Finally, in the Adirondack and Northwestern zones, Shorter Season was the second highest ranked alternative, followed by Voluntary Restraint.

Although MARs would create greater availability of older bucks, the inherent loss of freedom of choice, combined with the weight placed on these attributes by hunters in each zone, resulted in MARs not being identified as the optimal strategy. Similarly, though Voluntary Restraint, Shorter Season and One Buck each achieved some greater availability and harvest of older bucks than Status Quo while only minimally affecting availability and harvest of other deer, these strategies were was less optimal because of associated costs or reductions in hunter opportunity. Partial MARs was least optimal in all zones due to the costs to implement and enforce, hunters' perception of rule complexity, and the relative poor performance of this strategy in increasing future harvest of older bucks and any bucks.

The decisions for each BMZ were robust to many forms of uncertainty, including population demographics and objective weighting. The expected value of perfect information was calculated for the optimal decision within each zone. The optimal harvest strategy for each BMZ did not differ under different models of uncertainty in population demographics. A suite of sensitivity analyses was performed to understand how the optimal decision in each zone might be affected by the results of the population model and the hunter survey results. The decision was found to be robust in each of these analyses.

Within the decision framework, we needed to make some assumptions to quantify the objectives hierarchy and to predict the consequences of some of the harvest alternatives on these objectives. These assumptions included accounting for uncertainties about hunter behaviors under particular harvest alternatives. For example, we assumed that the Voluntary Restraint alternative would not compound over time, but rather that the age-specific harvest rates would remain within the predicted range throughout the 5-year prediction timeframe. There is the possibility that

increased participation in voluntary restraint could promote positive feedback, encouraging more hunters to practice restraint. In addition, we assumed that hunter selectivity under the One-buck and Shorter Season alternatives would not differ from Status Quo. The One-buck alternative could potentially increase hunter selectivity, whereas the Shorter Season alternative could place more harvest pressure on all bucks. In addition, the SDM working group assumed that including the measureable attribute for inherent freedom of choice in the Any Buck objective would be the most conservative approach, instead of including it in both the Any Buck and Any Deer objectives. If this attribute were also included in the Any Deer objective, the expected utility value for the Status Quo alternative would have been greater in all zones, and the difference between this alternative and the next most optimal alternative would have been greater.

This study of white-tailed deer buck harvest management in New York State represents one of the first efforts of a state wildlife management agency to use SDM for harvest management. Through structured decision making, DEC included stakeholder values and science in a transparent and robust process to determine a set of region-specific optimal harvest regulations. These optimal alternatives provide flexibility for DEC to better manage buck harvest according to stakeholder values.

Hunters in New York State differed in their values for what constitutes a satisfying hunting experience. Some hunters preferred to have "freedom of choice" to choose the buck they would like to harvest, whereas other hunters wanted to restrict the harvest of yearling bucks to potentially increase the probability of harvesting a larger-bodied and larger-antlered buck. To incorporate hunter values in a systematic manner, a new type of survey was created that provided data that were incorporated into the SDM process. The survey provided information to calculate weights on the fundamental and means objectives of hunter satisfaction. Hunters were asked questions that led to a greater understanding of yearling buck harvest rates and the consequences of the alternatives on hunting opportunity and complexity. This survey helped determine the relative importance of the hunter satisfaction objectives in each buck management zone. Incorporating stakeholder values and scientific data into the decision-making framework is particularly important for contentious issues, as difficult tradeoffs must be made. In this study, stakeholder values, and the associated tradeoffs among these values, played an important role in determining the optimal decision.

Structured decision making provided a flexible framework to inform DEC decision makers about how various white-tailed deer buck harvest management strategies may achieve multiple objectives. Through this SDM process, we were able to incorporate the values of hunters across New York State and use the collected data to make important decisions for white-tailed deer buck harvest management. However, the process also revealed a diverse and often confounding set of hunter opinions and values related to buck hunting. The weights attributed by hunters for the different elements of hunter satisfaction varied only slightly, both among objectives and among BMZs. These weights resulted in a relatively narrow margin between the optimal and sub-optimal alternatives. Thus, while the SDM process provides DEC decision makers an optimal strategy for each buck management zone, these strategies are likely to remain contentious among New York hunters. The results of this process provide guidance for buck harvest management that take into account the values of New York hunters, as determined from

a statewide hunter survey, while being mindful of concerns about deer population growth and implementation costs.

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APPENDIX 1

Glossary of Terms

Consequences- Predicted outcomes of the potential alternatives. Describe how well an alternative does at achieving an objective.

Constraint- A limit on the decision or set of decisions that can be made, either because of legal, regulatory, or public acceptance reasons.

Decision-maker- The person or group of persons that ultimately will decide upon and implement the management action.

Expected utility- The weighted average of the scores for the consequences of a management alternative on each of the objectives.

Expected value of perfect information- Describes the improvement in the metric of interest from a state of complete uncertainty to a state in which all uncertainty has been resolved.

Fundamental objective- The objectives that must be achieved for a decision to be made. Fundamental objectives represent what the decision maker fundamentally cares about with respect to the decision.

Management alternative- Any of a set of potential management options or regulations that could be implemented to achieve the fundamental objectives.

Means objective- An objective that further clarifies a fundamental objective. Means objectives must be met for a fundamental objective to be achieved.

Measurable attribute- The performance measure used to measure the achievement of an objective by the management alternatives.

Problem statement- The description of the problem to be addressed in the decision analysis framework.

Tradeoffs- Finding a balance in the achievement of multiple objectives. Used for optimizing the decision.

Utility- A unit of measure (e.g., 0 – 1 scale) for describing the relative achievement of an objective by a management alternative.

Weight- The relative value placed on an objective. Used when making tradeoffs among multiple objectives.

APPENDIX 2

BMZ-specific model output for each combination of the four sources of epistemic uncertainty (juvenile survival rate, male and female fawn survival rate, effect of density independence on survival). Each number represents the mean value, relative to status quo, after five years of harvest under each alternative, from 1,000 models runs.

Mohawk

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.28	2.26	0.94	1.13	1.24
Big Bucks Available	1.07	1.27	2.67	1.57	1.16	1.24
Any Buck Harvested	1.07	1.06	0.97	1.03	1.06	1.06
Any Buck Available	1.07	1.12	1.07	1.21	1.09	1.12
Any Deer Harvested	1.07	1.07	1.03	1.06	1.07	1.07
Any Deer Available	1.07	1.08	1.05	1.09	1.07	1.08
Population Growth	1.07	1.08	1.13	1.09	1.07	1.08

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.14	2.03	0.85	1.01	1.11
Big Bucks Available	0.95	1.14	2.41	1.42	1.03	1.11
Any Buck Harvested	0.95	0.94	0.88	0.91	0.94	0.94
Any Buck Available	0.95	1.00	0.98	1.08	0.97	0.99
Any Deer Harvested	0.94	0.94	0.91	0.93	0.94	0.94
Any Deer Available	0.94	0.95	0.94	0.97	0.95	0.95
Population Growth	0.94	0.95	1.02	0.97	0.95	0.95

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.21	2.15	0.89	1.07	1.18
Big Bucks Available	1.01	1.21	2.54	1.49	1.10	1.18
Any Buck Harvested	1.01	1.00	0.92	0.97	1.00	1.00
Any Buck Available	1.00	1.06	1.02	1.14	1.03	1.05

Any Deer Harvested	1.01	1.01	0.97	0.99	1.01	1.01
Any Deer Available	1.01	1.02	1.00	1.03	1.01	1.02
Population Growth	1.01	1.02	1.08	1.03	1.01	1.02

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.27	2.25	0.94	1.13	1.24
Big Bucks Available	1.07	1.27	2.67	1.57	1.16	1.24
Any Buck Harvested	1.07	1.06	0.97	1.04	1.07	1.06
Any Buck Available	1.07	1.13	1.08	1.21	1.10	1.12
Any Deer Harvested	1.07	1.07	1.03	1.05	1.07	1.07
Any Deer Available	1.07	1.07	1.05	1.09	1.07	1.07
Population Growth	1.07	1.07	1.13	1.09	1.07	1.07

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.13	2.02	0.84	1.00	1.10
Big Bucks Available	0.95	1.13	2.40	1.42	1.03	1.10
Any Buck Harvested	0.94	0.94	0.88	0.91	0.94	0.94
Any Buck Available	0.95	1.00	0.97	1.08	0.97	0.99
Any Deer Harvested	0.95	0.95	0.92	0.93	0.95	0.95
Any Deer Available	0.94	0.95	0.94	0.97	0.95	0.95
Population Growth	0.94	0.95	1.02	0.97	0.95	0.95

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.20	2.13	0.89	1.06	1.17
Big Bucks Available	1.00	1.20	2.52	1.49	1.09	1.16
Any Buck Harvested	1.01	1.00	0.92	0.98	1.00	1.00
Any Buck Available	1.01	1.06	1.02	1.15	1.03	1.05
Any Deer Harvested	1.01	1.00	0.97	0.99	1.01	1.00
Any Deer Available	1.00	1.01	1.00	1.03	1.01	1.01

Population Growth	1.00	1.01	1.07	1.03	1.01	1.01

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.28	2.26	0.94	1.13	1.24
Big Bucks Available	1.07	1.27	2.67	1.58	1.16	1.24
Any Buck Harvested	1.07	1.06	0.97	1.03	1.07	1.06
Any Buck Available	1.07	1.13	1.07	1.21	1.10	1.12
Any Deer Harvested	1.07	1.07	1.03	1.06	1.07	1.07
Any Deer Available	1.07	1.08	1.04	1.09	1.07	1.07
Population Growth	1.07	1.08	1.13	1.09	1.07	1.07

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.94	1.13	2.01	0.84	1.00	1.10
Big Bucks Available	0.94	1.12	2.38	1.42	1.02	1.09
Any Buck Harvested	0.94	0.94	0.88	0.91	0.94	0.94
Any Buck Available	0.94	1.00	0.97	1.08	0.97	0.99
Any Deer Harvested	0.95	0.95	0.91	0.94	0.95	0.95
Any Deer Available	0.94	0.95	0.94	0.97	0.95	0.95
Population Growth	0.94	0.95	1.02	0.97	0.95	0.95

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.20	2.13	0.89	1.07	1.17
Big Bucks Available	1.01	1.20	2.53	1.50	1.09	1.17
Any Buck Harvested	1.01	1.00	0.93	0.98	1.01	1.01
Any Buck Available	1.01	1.07	1.03	1.15	1.04	1.06
Any Deer Harvested	1.01	1.01	0.97	1.00	1.01	1.01
Any Deer Available	1.01	1.02	1.00	1.03	1.01	1.01
Population Growth	1.01	1.02	1.08	1.03	1.01	1.01

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.21	2.15	0.89	1.07	1.18
Big Bucks Available	1.01	1.21	2.54	1.50	1.10	1.17
Any Buck Harvested	1.00	1.00	0.93	0.97	1.00	1.00
Any Buck Available	1.00	1.06	1.02	1.14	1.03	1.05
Any Deer Harvested	1.01	1.01	0.97	0.99	1.01	1.01
Any Deer Available	1.00	1.01	1.00	1.03	1.01	1.01
Population Growth	1.00	1.01	1.08	1.03	1.01	1.01

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.89	1.06	1.88	0.79	0.94	1.03
Big Bucks Available	0.89	1.05	2.25	1.34	0.96	1.03
Any Buck Harvested	0.89	0.88	0.83	0.86	0.88	0.88
Any Buck Available	0.89	0.94	0.92	1.02	0.91	0.93
Any Deer Harvested	0.89	0.88	0.86	0.87	0.88	0.88
Any Deer Available	0.88	0.89	0.89	0.91	0.89	0.89
Population Growth	0.88	0.89	0.96	0.91	0.89	0.89

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.13	2.02	0.84	1.00	1.10
Big Bucks Available	0.95	1.13	2.40	1.41	1.03	1.10
Any Buck Harvested	0.95	0.94	0.88	0.92	0.95	0.94
Any Buck Available	0.95	1.00	0.98	1.08	0.97	0.99
Any Deer Harvested	0.95	0.94	0.91	0.93	0.94	0.94
Any Deer Available	0.94	0.95	0.94	0.97	0.95	0.95
Population Growth	0.94	0.95	1.02	0.97	0.95	0.95

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	1.01	1.21	2.15	0.89	1.07	1.17
Big Bucks Available	1.01	1.20	2.54	1.50	1.10	1.17
Any Buck Harvested	1.00	0.99	0.92	0.97	1.00	1.00
Any Buck Available	1.00	1.06	1.02	1.14	1.03	1.05
Any Deer Harvested	1.01	1.00	0.97	0.99	1.00	1.00
Any Deer Available	1.00	1.01	1.00	1.03	1.01	1.01
Population Growth	1.00	1.01	1.07	1.03	1.01	1.01

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.89	1.06	1.89	0.79	0.94	1.03
Big Bucks Available	0.89	1.06	2.25	1.34	0.96	1.03
Any Buck Harvested	0.89	0.89	0.83	0.86	0.89	0.89
Any Buck Available	0.89	0.94	0.93	1.02	0.91	0.93
Any Deer Harvested	0.89	0.89	0.86	0.88	0.89	0.89
Any Deer Available	0.88	0.89	0.89	0.91	0.89	0.89
Population Growth	0.88	0.89	0.96	0.91	0.89	0.89

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.13	2.01	0.84	1.00	1.10
Big Bucks Available	0.95	1.13	2.39	1.41	1.03	1.10
Any Buck Harvested	0.94	0.94	0.87	0.91	0.94	0.94
Any Buck Available	0.94	0.99	0.97	1.08	0.97	0.99
Any Deer Harvested	0.94	0.94	0.91	0.93	0.94	0.94
Any Deer Available	0.94	0.95	0.94	0.96	0.94	0.95
Population Growth	0.94	0.95	1.01	0.96	0.94	0.95

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.20	2.13	0.89	1.06	1.17
Big Bucks Available	1.00	1.20	2.52	1.49	1.09	1.17

Any Buck Harvested	1.01	1.00	0.92	0.97	1.00	1.00
Any Buck Available	1.00	1.06	1.02	1.14	1.03	1.05
Any Deer Harvested	1.01	1.01	0.97	0.99	1.01	1.01
Any Deer Available	1.00	1.01	0.99	1.02	1.01	1.01
Population Growth	1.00	1.01	1.07	1.02	1.01	1.01

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.88	1.05	1.87	0.79	0.93	1.02
Big Bucks Available	0.88	1.05	2.23	1.33	0.96	1.02
Any Buck Harvested	0.88	0.88	0.82	0.86	0.88	0.88
Any Buck Available	0.88	0.93	0.92	1.01	0.90	0.92
Any Deer Harvested	0.88	0.88	0.86	0.87	0.88	0.88
Any Deer Available	0.88	0.89	0.88	0.90	0.88	0.89
Population Growth	0.88	0.89	0.95	0.90	0.88	0.89

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.14	2.02	0.85	1.01	1.11
Big Bucks Available	0.95	1.13	2.40	1.43	1.03	1.10
Any Buck Harvested	0.95	0.94	0.88	0.91	0.94	0.94
Any Buck Available	0.95	1.00	0.98	1.08	0.97	0.99
Any Deer Harvested	0.95	0.95	0.92	0.93	0.95	0.95
Any Deer Available	0.94	0.95	0.94	0.97	0.95	0.95
Population Growth	0.94	0.95	1.02	0.97	0.95	0.95

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.25	2.21	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.62	1.54	1.13	1.21
Any Buck Harvested	1.04	1.03	0.95	1.00	1.03	1.03

Any Buck Available	1.04	1.09	1.05	1.18	1.06	1.09
Any Deer Harvested	1.04	1.04	1.00	1.03	1.04	1.04
Any Deer Available	1.04	1.05	1.03	1.06	1.04	1.05
Population Growth	1.04	1.05	1.11	1.06	1.04	1.05

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.92	1.10	1.96	0.82	0.98	1.07
Big Bucks Available	0.92	1.10	2.33	1.38	1.00	1.07
Any Buck Harvested	0.92	0.91	0.85	0.89	0.92	0.91
Any Buck Available	0.92	0.97	0.95	1.05	0.94	0.96
Any Deer Harvested	0.92	0.92	0.89	0.91	0.92	0.92
Any Deer Available	0.92	0.92	0.92	0.94	0.92	0.92
Population Growth	0.92	0.92	1.00	0.94	0.92	0.92

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.17	2.09	0.87	1.04	1.14
Big Bucks Available	0.98	1.17	2.48	1.46	1.07	1.14
Any Buck Harvested	0.98	0.98	0.91	0.95	0.98	0.98
Any Buck Available	0.98	1.04	1.00	1.12	1.01	1.03
Any Deer Harvested	0.98	0.98	0.94	0.97	0.98	0.98
Any Deer Available	0.98	0.99	0.97	1.00	0.98	0.99
Population Growth	0.98	0.99	1.06	1.00	0.98	0.99

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.20	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.61	1.54	1.13	1.21
Any Buck Harvested	1.04	1.03	0.95	1.01	1.04	1.03
Any Buck Available	1.04	1.10	1.05	1.18	1.07	1.09
Any Deer	1.04	1.04	1.00	1.03	1.04	1.04

Harvested						
Any Deer Available	1.04	1.05	1.02	1.06	1.04	1.04
Population Growth	1.04	1.05	1.10	1.06	1.04	1.04

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.09	1.94	0.82	0.97	1.06
Big Bucks Available	0.92	1.09	2.32	1.38	0.99	1.06
Any Buck Harvested	0.92	0.91	0.85	0.89	0.92	0.91
Any Buck Available	0.92	0.97	0.95	1.06	0.94	0.96
Any Deer Harvested	0.91	0.91	0.88	0.90	0.91	0.91
Any Deer Available	0.91	0.92	0.91	0.93	0.91	0.92
Population Growth	0.91	0.92	0.98	0.93	0.91	0.92

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.15	2.05	0.86	1.02	1.12
Big Bucks Available	0.97	1.15	2.44	1.44	1.05	1.12
Any Buck Harvested	0.98	0.97	0.90	0.95	0.98	0.97
Any Buck Available	0.98	1.03	1.00	1.12	1.00	1.02
Any Deer Harvested	0.98	0.98	0.95	0.97	0.98	0.98
Any Deer Available	0.98	0.98	0.97	1.00	0.98	0.98
Population Growth	0.98	0.98	1.05	1.00	0.98	0.98

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.20	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.61	1.54	1.13	1.21
Any Buck Harvested	1.04	1.03	0.95	1.00	1.04	1.03
Any Buck Available	1.04	1.10	1.05	1.18	1.07	1.09
Any Deer Harvested	1.04	1.04	1.00	1.02	1.04	1.04

Any Deer Available	1.03	1.04	1.02	1.06	1.04	1.04
Population Growth	1.03	1.04	1.10	1.06	1.04	1.04

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.09	1.94	0.82	0.97	1.06
Big Bucks Available	0.91	1.09	2.31	1.37	0.99	1.06
Any Buck Harvested	0.92	0.91	0.85	0.89	0.91	0.91
Any Buck Available	0.92	0.97	0.95	1.05	0.94	0.96
Any Deer Harvested	0.92	0.92	0.89	0.90	0.92	0.92
Any Deer Available	0.91	0.92	0.91	0.94	0.92	0.92
Population Growth	0.91	0.92	0.99	0.94	0.92	0.92

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.17	2.09	0.87	1.04	1.14
Big Bucks Available	0.98	1.17	2.47	1.46	1.06	1.14
Any Buck Harvested	0.98	0.97	0.90	0.95	0.98	0.98
Any Buck Available	0.98	1.03	1.00	1.12	1.00	1.02
Any Deer Harvested	0.99	0.98	0.95	0.97	0.99	0.98
Any Deer Available	0.98	0.99	0.97	1.00	0.98	0.99
Population Growth	0.98	0.99	1.05	1.00	0.98	0.99

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.31	2.31	0.96	1.16	1.27
Big Bucks Available	1.10	1.31	2.74	1.60	1.19	1.27
Any Buck Harvested	1.09	1.08	0.99	1.05	1.09	1.08
Any Buck Available	1.09	1.15	1.09	1.23	1.12	1.14
Any Deer Harvested	1.09	1.08	1.04	1.07	1.09	1.08
Any Deer Available	1.09	1.10	1.06	1.11	1.09	1.10

Population Growth	1.09	1.10	1.15	1.11	1.09	1.10

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.18	2.10	0.87	1.04	1.14
Big Bucks Available	0.99	1.17	2.49	1.46	1.07	1.14
Any Buck Harvested	0.98	0.97	0.91	0.94	0.97	0.97
Any Buck Available	0.98	1.03	1.00	1.11	1.00	1.02
Any Deer Harvested	0.99	0.98	0.95	0.97	0.98	0.98
Any Deer Available	0.98	0.99	0.97	1.01	0.99	0.99
Population Growth	0.98	0.99	1.06	1.01	0.99	0.99

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.20	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.61	1.54	1.13	1.21
Any Buck Harvested	1.03	1.03	0.94	1.00	1.03	1.03
Any Buck Available	1.03	1.09	1.04	1.18	1.06	1.08
Any Deer Harvested	1.03	1.03	0.99	1.02	1.03	1.03
Any Deer Available	1.03	1.04	1.01	1.06	1.04	1.04
Population Growth	1.03	1.04	1.10	1.06	1.04	1.04

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.31	2.33	0.96	1.16	1.28
Big Bucks Available	1.10	1.31	2.75	1.61	1.19	1.28
Any Buck Harvested	1.10	1.09	0.99	1.06	1.09	1.09
Any Buck Available	1.10	1.15	1.10	1.24	1.12	1.14
Any Deer Harvested	1.10	1.10	1.05	1.09	1.10	1.10
Any Deer Available	1.09	1.10	1.07	1.11	1.10	1.10
Population Growth	1.09	1.10	1.15	1.11	1.10	1.10

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.17	2.09	0.87	1.04	1.14
Big Bucks Available	0.98	1.17	2.48	1.45	1.06	1.14
Any Buck Harvested	0.98	0.98	0.91	0.95	0.98	0.98
Any Buck Available	0.98	1.04	1.01	1.12	1.01	1.03
Any Deer Harvested	0.98	0.98	0.95	0.97	0.98	0.98
Any Deer Available	0.98	0.99	0.97	1.00	0.98	0.99
Population Growth	0.98	0.99	1.05	1.00	0.98	0.99

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.21	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.62	1.55	1.13	1.21
Any Buck Harvested	1.04	1.03	0.95	1.01	1.04	1.04
Any Buck Available	1.04	1.10	1.05	1.19	1.07	1.09
Any Deer Harvested	1.04	1.04	1.00	1.03	1.04	1.04
Any Deer Available	1.04	1.04	1.02	1.06	1.04	1.04
Population Growth	1.04	1.04	1.10	1.06	1.04	1.04

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.32	2.33	0.96	1.16	1.28
Big Bucks Available	1.10	1.31	2.75	1.61	1.19	1.28
Any Buck Harvested	1.10	1.09	1.00	1.06	1.09	1.09
Any Buck Available	1.10	1.15	1.10	1.24	1.12	1.14
Any Deer Harvested	1.11	1.10	1.06	1.09	1.11	1.10
Any Deer Available	1.09	1.10	1.06	1.11	1.10	1.10
Population Growth	1.09	1.10	1.15	1.11	1.10	1.10

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn

Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.18	2.09	0.88	1.04	1.14
Big Bucks Available	0.98	1.17	2.48	1.47	1.07	1.14
Any Buck Harvested	0.99	0.98	0.91	0.95	0.98	0.98
Any Buck Available	0.99	1.04	1.01	1.13	1.01	1.03
Any Deer Harvested	0.99	0.99	0.96	0.97	0.99	0.99
Any Deer Available	0.98	0.99	0.97	1.00	0.98	0.99
Population Growth	0.98	0.99	1.05	1.00	0.98	0.99

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.20	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.61	1.54	1.13	1.20
Any Buck Harvested	1.04	1.03	0.95	1.00	1.03	1.03
Any Buck Available	1.04	1.09	1.05	1.18	1.06	1.08
Any Deer Harvested	1.03	1.03	0.99	1.02	1.03	1.03
Any Deer Available	1.03	1.04	1.01	1.05	1.04	1.04
Population Growth	1.03	1.04	1.10	1.05	1.04	1.04

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.25	2.22	0.92	1.10	1.21
Big Bucks Available	1.04	1.24	2.63	1.54	1.13	1.21
Any Buck Harvested	1.04	1.03	0.95	1.00	1.03	1.03
Any Buck Available	1.04	1.09	1.05	1.18	1.06	1.08
Any Deer Harvested	1.05	1.04	1.01	1.03	1.05	1.04
Any Deer Available	1.04	1.05	1.02	1.06	1.04	1.04
Population Growth	1.04	1.05	1.11	1.06	1.04	1.04

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status	One-	MARs	Partial	Shorter	Voluntary

	Quo	Buck		MARs	Season	Restraint
Big Bucks Harvested	0.93	1.11	1.97	0.83	0.98	1.08
Big Bucks Available	0.93	1.10	2.35	1.39	1.00	1.07
Any Buck Harvested	0.92	0.92	0.86	0.89	0.92	0.92
Any Buck Available	0.92	0.97	0.96	1.06	0.95	0.97
Any Deer Harvested	0.92	0.92	0.89	0.91	0.92	0.92
Any Deer Available	0.92	0.93	0.92	0.95	0.93	0.93
Population Growth	0.92	0.93	1.00	0.95	0.93	0.93

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.18	2.11	0.88	1.05	1.15
Big Bucks Available	0.99	1.18	2.51	1.48	1.08	1.15
Any Buck Harvested	0.98	0.98	0.91	0.95	0.98	0.98
Any Buck Available	0.98	1.04	1.01	1.12	1.01	1.03
Any Deer Harvested	0.98	0.98	0.95	0.97	0.98	0.98
Any Deer Available	0.98	0.99	0.97	1.01	0.99	0.99
Population Growth	0.98	0.99	1.06	1.01	0.99	0.99

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.25	2.22	0.92	1.11	1.22
Big Bucks Available	1.05	1.25	2.63	1.55	1.14	1.21
Any Buck Harvested	1.04	1.04	0.95	1.01	1.04	1.04
Any Buck Available	1.04	1.10	1.05	1.19	1.07	1.09
Any Deer Harvested	1.05	1.05	1.01	1.04	1.05	1.05
Any Deer Available	1.04	1.05	1.02	1.06	1.04	1.05
Population Growth	1.04	1.05	1.10	1.06	1.04	1.05

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	0.93	1.10	1.97	0.83	0.98	1.07

Harvested						
Big Bucks Available	0.92	1.10	2.35	1.39	1.00	1.07
Any Buck Harvested	0.93	0.92	0.86	0.90	0.92	0.92
Any Buck Available	0.93	0.98	0.96	1.06	0.95	0.97
Any Deer Harvested	0.92	0.92	0.89	0.91	0.92	0.92
Any Deer Available	0.92	0.93	0.92	0.94	0.92	0.93
Population Growth	0.92	0.93	0.99	0.94	0.92	0.93

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.17	2.08	0.87	1.04	1.14
Big Bucks Available	0.98	1.17	2.47	1.46	1.06	1.14
Any Buck Harvested	0.98	0.97	0.90	0.94	0.97	0.97
Any Buck Available	0.98	1.03	1.00	1.11	1.00	1.02
Any Deer Harvested	0.98	0.97	0.94	0.96	0.97	0.97
Any Deer Available	0.97	0.98	0.97	1.00	0.98	0.98
Population Growth	0.97	0.98	1.04	1.00	0.98	0.98

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.25	2.21	0.92	1.11	1.22
Big Bucks Available	1.04	1.25	2.62	1.54	1.13	1.21
Any Buck Harvested	1.05	1.04	0.95	1.01	1.04	1.04
Any Buck Available	1.04	1.10	1.05	1.19	1.07	1.09
Any Deer Harvested	1.05	1.05	1.01	1.03	1.05	1.05
Any Deer Available	1.04	1.05	1.02	1.06	1.04	1.04
Population Growth	1.04	1.05	1.10	1.06	1.04	1.04

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	0.93	1.11	1.97	0.83	0.98	1.08

Harvested						
Big Bucks Available	0.93	1.11	2.35	1.40	1.01	1.08
Any Buck Harvested	0.93	0.92	0.86	0.90	0.92	0.92
Any Buck Available	0.93	0.98	0.96	1.06	0.95	0.97
Any Deer Harvested	0.92	0.92	0.89	0.91	0.92	0.92
Any Deer Available	0.92	0.93	0.92	0.95	0.93	0.93
Population Growth	0.92	0.93	1.00	0.95	0.93	0.93

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.18	2.10	0.88	1.05	1.15
Big Bucks Available	0.99	1.18	2.49	1.47	1.07	1.14
Any Buck Harvested	0.99	0.99	0.92	0.96	0.99	0.99
Any Buck Available	0.99	1.04	1.01	1.13	1.01	1.03
Any Deer Harvested	1.00	0.99	0.96	0.98	1.00	0.99
Any Deer Available	0.98	0.99	0.97	1.01	0.99	0.99
Population Growth	0.98	0.99	1.05	1.01	0.99	0.99

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.27	2.26	0.94	1.13	1.24
Big Bucks Available	1.07	1.27	2.67	1.57	1.16	1.24
Any Buck Harvested	1.06	1.06	0.97	1.03	1.06	1.06
Any Buck Available	1.06	1.12	1.07	1.21	1.09	1.11
Any Deer Harvested	1.07	1.07	1.03	1.06	1.07	1.07
Any Deer Available	1.07	1.07	1.04	1.09	1.07	1.07
Population Growth	1.07	1.07	1.13	1.09	1.07	1.07

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	0.96	1.14	2.03	0.85	1.01	1.11

Harvested						
Big Bucks Available	0.96	1.14	2.42	1.43	1.04	1.11
Any Buck Harvested	0.95	0.94	0.88	0.92	0.95	0.95
Any Buck Available	0.95	1.00	0.98	1.09	0.97	0.99
Any Deer Harvested	0.95	0.95	0.92	0.94	0.95	0.95
Any Deer Available	0.95	0.96	0.95	0.98	0.96	0.96
Population Growth	0.95	0.96	1.03	0.98	0.96	0.96

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.22	2.16	0.90	1.08	1.18
Big Bucks Available	1.02	1.21	2.56	1.51	1.10	1.18
Any Buck Harvested	1.01	1.00	0.93	0.97	1.01	1.01
Any Buck Available	1.01	1.07	1.03	1.15	1.03	1.06
Any Deer Harvested	1.02	1.02	0.98	1.00	1.02	1.02
Any Deer Available	1.01	1.02	1.00	1.04	1.02	1.02
Population Growth	1.01	1.02	1.09	1.04	1.02	1.02

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.28	2.27	0.94	1.13	1.24
Big Bucks Available	1.07	1.28	2.68	1.57	1.16	1.24
Any Buck Harvested	1.07	1.06	0.97	1.03	1.07	1.06
Any Buck Available	1.07	1.13	1.08	1.21	1.10	1.12
Any Deer Harvested	1.07	1.07	1.03	1.06	1.07	1.07
Any Deer Available	1.07	1.07	1.04	1.09	1.07	1.07
Population Growth	1.07	1.07	1.12	1.09	1.07	1.07

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	0.96	1.15	2.05	0.86	1.02	1.12

Harvested						
Big Bucks Available	0.96	1.14	2.43	1.44	1.04	1.11
Any Buck Harvested	0.96	0.95	0.89	0.93	0.95	0.95
Any Buck Available	0.96	1.01	0.99	1.10	0.98	1.00
Any Deer Harvested	0.96	0.96	0.93	0.95	0.96	0.96
Any Deer Available	0.96	0.96	0.95	0.98	0.96	0.96
Population Growth	0.96	0.96	1.03	0.98	0.96	0.96

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.21	2.15	0.90	1.07	1.18
Big Bucks Available	1.01	1.21	2.55	1.51	1.10	1.17
Any Buck Harvested	1.01	1.01	0.93	0.98	1.01	1.01
Any Buck Available	1.01	1.07	1.03	1.15	1.04	1.06
Any Deer Harvested	1.01	1.01	0.98	1.00	1.01	1.01
Any Deer Available	1.01	1.02	1.00	1.03	1.01	1.02
Population Growth	1.01	1.02	1.07	1.03	1.01	1.02

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.28	2.26	0.94	1.13	1.24
Big Bucks Available	1.07	1.28	2.68	1.58	1.16	1.24
Any Buck Harvested	1.08	1.07	0.98	1.04	1.07	1.07
Any Buck Available	1.08	1.13	1.08	1.22	1.10	1.12
Any Deer Harvested	1.08	1.08	1.03	1.06	1.08	1.08
Any Deer Available	1.07	1.08	1.04	1.09	1.07	1.07
Population Growth	1.07	1.08	1.13	1.09	1.07	1.07

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	0.96	1.15	2.05	0.86	1.02	1.12

Harvested						
Big Bucks Available	0.96	1.14	2.43	1.44	1.04	1.11
Any Buck Harvested	0.96	0.95	0.89	0.93	0.96	0.96
Any Buck Available	0.96	1.01	0.99	1.10	0.98	1.00
Any Deer Harvested	0.97	0.96	0.93	0.95	0.96	0.96
Any Deer Available	0.96	0.97	0.95	0.98	0.96	0.97
Population Growth	0.96	0.97	1.03	0.98	0.96	0.97

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.20	2.13	0.90	1.07	1.17
Big Bucks Available	1.00	1.20	2.53	1.50	1.09	1.16
Any Buck Harvested	1.01	1.01	0.93	0.98	1.01	1.01
Any Buck Available	1.01	1.07	1.03	1.16	1.04	1.06
Any Deer Harvested	1.02	1.01	0.97	1.00	1.01	1.01
Any Deer Available	1.01	1.02	0.99	1.03	1.01	1.01
Population Growth	1.01	1.02	1.07	1.03	1.01	1.01

Southern Tier

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.08	1.28	2.32	0.87	1.12	1.25
Big Bucks Available	1.08	1.28	2.75	1.53	1.15	1.24
Any Buck Harvested	1.08	1.07	0.97	1.03	1.07	1.07
Any Buck Available	1.08	1.13	1.07	1.21	1.10	1.13
Any Deer Harvested	1.08	1.08	1.03	1.06	1.08	1.08
Any Deer Available	1.08	1.09	1.03	1.10	1.08	1.09
Population Growth	1.08	1.09	1.13	1.10	1.08	1.09

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.17	2.13	0.80	1.02	1.14
Big Bucks Available	0.98	1.16	2.54	1.42	1.05	1.13
Any Buck Harvested	0.97	0.97	0.89	0.94	0.97	0.97
Any Buck Available	0.97	1.03	1.00	1.10	0.99	1.02
Any Deer Harvested	0.97	0.97	0.93	0.95	0.97	0.97
Any Deer Available	0.97	0.98	0.96	0.99	0.97	0.98
Population Growth	0.97	0.98	1.06	0.99	0.97	0.98

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.23	2.25	0.84	1.08	1.20
Big Bucks Available	1.04	1.23	2.67	1.48	1.11	1.20
Any Buck Harvested	1.03	1.03	0.94	0.99	1.03	1.03
Any Buck Available	1.03	1.09	1.04	1.16	1.05	1.08
Any Deer Harvested	1.04	1.03	0.99	1.02	1.04	1.04
Any Deer Available	1.04	1.04	1.01	1.06	1.04	1.04
Population Growth	1.04	1.04	1.11	1.06	1.04	1.04

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.08	1.28	2.34	0.87	1.12	1.25
Big Bucks Available	1.08	1.28	2.77	1.54	1.16	1.25
Any Buck Harvested	1.08	1.07	0.97	1.04	1.08	1.07
Any Buck Available	1.08	1.14	1.08	1.21	1.10	1.13
Any Deer	1.08	1.08	1.03	1.07	1.08	1.08

Harvested						
Any Deer Available	1.08	1.09	1.04	1.10	1.08	1.09
Population Growth	1.08	1.09	1.13	1.10	1.08	1.09

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.16	2.13	0.80	1.02	1.13
Big Bucks Available	0.98	1.16	2.53	1.41	1.04	1.13
Any Buck Harvested	0.97	0.97	0.90	0.94	0.97	0.97
Any Buck Available	0.97	1.03	1.00	1.10	0.99	1.02
Any Deer Harvested	0.97	0.97	0.94	0.96	0.97	0.97
Any Deer Available	0.97	0.98	0.97	0.99	0.97	0.98
Population Growth	0.97	0.98	1.05	0.99	0.97	0.98

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.22	2.23	0.84	1.07	1.19
Big Bucks Available	1.03	1.22	2.64	1.48	1.10	1.19
Any Buck Harvested	1.03	1.02	0.93	0.99	1.03	1.02
Any Buck Available	1.03	1.08	1.04	1.16	1.05	1.08
Any Deer Harvested	1.03	1.03	0.99	1.02	1.03	1.03
Any Deer Available	1.03	1.04	1.01	1.05	1.03	1.04
Population Growth	1.03	1.04	1.09	1.05	1.03	1.04

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	1.08	1.28	2.33	0.88	1.12	1.25

Harvested						
Big Bucks Available	1.08	1.28	2.76	1.54	1.15	1.25
Any Buck Harvested	1.08	1.07	0.97	1.04	1.08	1.07
Any Buck Available	1.08	1.14	1.07	1.21	1.10	1.13
Any Deer Harvested	1.09	1.08	1.03	1.07	1.08	1.08
Any Deer Available	1.08	1.09	1.03	1.10	1.08	1.09
Population Growth	1.08	1.09	1.13	1.10	1.08	1.09

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.16	2.12	0.81	1.02	1.13
Big Bucks Available	0.97	1.16	2.52	1.42	1.04	1.13
Any Buck Harvested	0.97	0.97	0.90	0.94	0.97	0.97
Any Buck Available	0.97	1.03	0.99	1.10	0.99	1.02
Any Deer Harvested	0.98	0.97	0.93	0.96	0.98	0.97
Any Deer Available	0.97	0.98	0.96	1.00	0.98	0.98
Population Growth	0.97	0.98	1.05	1.00	0.98	0.98

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.22	2.22	0.84	1.07	1.19
Big Bucks Available	1.02	1.22	2.63	1.48	1.10	1.18
Any Buck Harvested	1.03	1.03	0.94	1.00	1.03	1.03
Any Buck Available	1.03	1.09	1.04	1.16	1.05	1.08
Any Deer Harvested	1.03	1.03	0.98	1.02	1.03	1.03
Any Deer	1.03	1.04	1.00	1.05	1.03	1.04

Available Population Growth	1.03	1.04	1.09	1.05	1.03	1.04

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.22	2.23	0.84	1.07	1.19
Big Bucks Available	1.03	1.22	2.64	1.47	1.10	1.19
Any Buck Harvested	1.02	1.01	0.93	0.98	1.01	1.01
Any Buck Available	1.02	1.07	1.03	1.14	1.04	1.06
Any Deer Harvested	1.02	1.02	0.98	1.00	1.02	1.02
Any Deer Available	1.02	1.03	1.00	1.04	1.02	1.03
Population Growth	1.02	1.03	1.09	1.04	1.02	1.03

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.09	1.99	0.76	0.95	1.06
Big Bucks Available	0.91	1.08	2.37	1.34	0.98	1.05
Any Buck Harvested	0.91	0.91	0.85	0.88	0.91	0.91
Any Buck Available	0.91	0.96	0.94	1.04	0.93	0.95
Any Deer Harvested	0.91	0.91	0.88	0.90	0.91	0.91
Any Deer Available	0.91	0.92	0.91	0.93	0.91	0.92
Population Growth	0.91	0.92	0.99	0.93	0.91	0.92

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.15	2.10	0.79	1.00	1.12
Big Bucks	0.97	1.15	2.50	1.39	1.03	1.12

Available						
Any Buck Harvested	0.96	0.96	0.89	0.93	0.96	0.96
Any Buck Available	0.96	1.02	0.99	1.09	0.98	1.01
Any Deer Harvested	0.96	0.96	0.92	0.94	0.96	0.96
Any Deer Available	0.96	0.97	0.95	0.98	0.96	0.97
Population Growth	0.96	0.97	1.04	0.98	0.96	0.97

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.22	2.22	0.84	1.07	1.19
Big Bucks Available	1.02	1.22	2.64	1.48	1.09	1.18
Any Buck Harvested	1.02	1.01	0.93	0.98	1.02	1.01
Any Buck Available	1.02	1.07	1.03	1.15	1.04	1.07
Any Deer Harvested	1.02	1.02	0.98	1.01	1.02	1.02
Any Deer Available	1.02	1.03	1.00	1.04	1.02	1.03
Population Growth	1.02	1.03	1.09	1.04	1.02	1.03

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.08	1.98	0.75	0.95	1.05
Big Bucks Available	0.91	1.08	2.37	1.33	0.97	1.05
Any Buck Harvested	0.91	0.91	0.84	0.88	0.91	0.91
Any Buck Available	0.91	0.96	0.94	1.04	0.93	0.95
Any Deer Harvested	0.91	0.91	0.87	0.89	0.91	0.91
Any Deer Available	0.90	0.91	0.90	0.93	0.91	0.91
Population Growth	0.90	0.91	0.98	0.93	0.91	0.91

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.15	2.11	0.80	1.01	1.12
Big Bucks Available	0.97	1.15	2.51	1.40	1.04	1.12
Any Buck Harvested	0.97	0.96	0.89	0.93	0.97	0.96
Any Buck Available	0.97	1.02	0.99	1.09	0.99	1.01
Any Deer Harvested	0.97	0.96	0.93	0.95	0.97	0.96
Any Deer Available	0.96	0.97	0.96	0.98	0.97	0.97
Population Growth	0.96	0.97	1.04	0.98	0.97	0.97

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.22	2.23	0.84	1.07	1.19
Big Bucks Available	1.03	1.22	2.65	1.49	1.10	1.19
Any Buck Harvested	1.03	1.02	0.93	0.99	1.03	1.02
Any Buck Available	1.03	1.08	1.03	1.16	1.05	1.07
Any Deer Harvested	1.03	1.02	0.98	1.01	1.03	1.02
Any Deer Available	1.02	1.03	1.00	1.05	1.03	1.03
Population Growth	1.02	1.03	1.09	1.05	1.03	1.03

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.08	1.98	0.76	0.95	1.05
Big Bucks Available	0.91	1.08	2.37	1.34	0.97	1.05
Any Buck Harvested	0.91	0.91	0.85	0.88	0.91	0.91

Any Buck Available	0.91	0.96	0.94	1.04	0.93	0.96
Any Deer Harvested	0.91	0.91	0.88	0.90	0.91	0.91
Any Deer Available	0.91	0.92	0.91	0.93	0.91	0.91
Population Growth	0.91	0.92	0.99	0.93	0.91	0.91

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.16	2.11	0.80	1.01	1.13
Big Bucks Available	0.97	1.15	2.51	1.41	1.04	1.12
Any Buck Harvested	0.97	0.96	0.89	0.93	0.96	0.96
Any Buck Available	0.97	1.02	0.99	1.10	0.99	1.01
Any Deer Harvested	0.97	0.97	0.93	0.95	0.97	0.97
Any Deer Available	0.97	0.97	0.96	0.99	0.97	0.97
Population Growth	0.97	0.97	1.04	0.99	0.97	0.97

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.25	2.28	0.86	1.10	1.22
Big Bucks Available	1.05	1.25	2.70	1.51	1.13	1.22
Any Buck Harvested	1.05	1.04	0.94	1.01	1.04	1.04
Any Buck Available	1.05	1.10	1.05	1.18	1.07	1.09
Any Deer Harvested	1.05	1.05	1.00	1.03	1.05	1.05
Any Deer Available	1.05	1.06	1.01	1.07	1.05	1.06
Population Growth	1.05	1.06	1.11	1.07	1.05	1.06

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.12	2.05	0.78	0.98	1.09
Big Bucks Available	0.94	1.12	2.45	1.37	1.01	1.09
Any Buck Harvested	0.94	0.94	0.87	0.91	0.94	0.94
Any Buck Available	0.94	0.99	0.97	1.07	0.96	0.98
Any Deer Harvested	0.94	0.94	0.90	0.92	0.94	0.94
Any Deer Available	0.94	0.95	0.93	0.96	0.94	0.95
Population Growth	0.94	0.95	1.02	0.96	0.94	0.95

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.19	2.17	0.82	1.04	1.16
Big Bucks Available	1.00	1.19	2.58	1.44	1.07	1.16
Any Buck Harvested	1.00	0.99	0.91	0.96	0.99	0.99
Any Buck Available	1.00	1.05	1.01	1.13	1.02	1.04
Any Deer Harvested	1.00	0.99	0.95	0.98	0.99	0.99
Any Deer Available	1.00	1.01	0.98	1.02	1.00	1.00
Population Growth	1.00	1.01	1.07	1.02	1.00	1.00

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.24	2.27	0.86	1.09	1.21
Big Bucks Available	1.05	1.24	2.69	1.50	1.12	1.21
Any Buck Harvested	1.05	1.04	0.95	1.01	1.05	1.04
Any Buck Available	1.05	1.11	1.05	1.18	1.07	1.10

Any Deer Harvested	1.05	1.05	1.00	1.04	1.05	1.05
Any Deer Available	1.05	1.06	1.02	1.06	1.05	1.05
Population Growth	1.05	1.06	1.10	1.06	1.05	1.05

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.94	1.12	2.05	0.78	0.98	1.09
Big Bucks Available	0.94	1.12	2.44	1.37	1.01	1.09
Any Buck Harvested	0.94	0.94	0.87	0.91	0.94	0.94
Any Buck Available	0.95	1.00	0.97	1.07	0.96	0.99
Any Deer Harvested	0.94	0.93	0.90	0.92	0.94	0.93
Any Deer Available	0.94	0.94	0.93	0.96	0.94	0.94
Population Growth	0.94	0.94	1.01	0.96	0.94	0.94

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.18	2.16	0.82	1.04	1.15
Big Bucks Available	0.99	1.18	2.56	1.44	1.06	1.15
Any Buck Harvested	1.00	0.99	0.91	0.97	1.00	1.00
Any Buck Available	1.00	1.05	1.01	1.13	1.02	1.05
Any Deer Harvested	1.00	1.00	0.96	0.99	1.00	1.00
Any Deer Available	1.00	1.01	0.98	1.02	1.00	1.01
Population Growth	1.00	1.01	1.07	1.02	1.00	1.01

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status	One-	MARs	Partial	Shorter	Voluntary

	Quo	Buck		MARs	Season	Restraint
Big Bucks Harvested	1.05	1.25	2.27	0.86	1.09	1.21
Big Bucks Available	1.05	1.24	2.69	1.51	1.12	1.21
Any Buck Harvested	1.05	1.04	0.95	1.01	1.04	1.04
Any Buck Available	1.05	1.10	1.05	1.18	1.07	1.09
Any Deer Harvested	1.05	1.04	0.99	1.03	1.05	1.05
Any Deer Available	1.05	1.05	1.01	1.06	1.05	1.05
Population Growth	1.05	1.05	1.10	1.06	1.05	1.05

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.94	1.12	2.05	0.78	0.98	1.09
Big Bucks Available	0.94	1.12	2.44	1.37	1.01	1.09
Any Buck Harvested	0.95	0.94	0.87	0.91	0.94	0.94
Any Buck Available	0.94	1.00	0.97	1.07	0.96	0.99
Any Deer Harvested	0.94	0.94	0.90	0.93	0.94	0.94
Any Deer Available	0.94	0.95	0.93	0.96	0.94	0.95
Population Growth	0.94	0.95	1.02	0.96	0.94	0.95

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.19	2.16	0.82	1.04	1.16
Big Bucks Available	1.00	1.18	2.57	1.44	1.07	1.15
Any Buck Harvested	1.00	0.99	0.91	0.96	1.00	0.99
Any Buck Available	1.00	1.05	1.01	1.13	1.02	1.04

Any Deer Harvested	1.00	1.00	0.96	0.99	1.00	1.00
Any Deer Available	1.00	1.01	0.98	1.02	1.00	1.01
Population Growth	1.00	1.01	1.07	1.02	1.00	1.01

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.13	1.34	2.44	0.91	1.18	1.31
Big Bucks Available	1.13	1.34	2.89	1.60	1.21	1.31
Any Buck Harvested	1.13	1.11	1.00	1.08	1.12	1.12
Any Buck Available	1.13	1.18	1.11	1.26	1.15	1.17
Any Deer Harvested	1.13	1.12	1.06	1.10	1.13	1.12
Any Deer Available	1.13	1.13	1.07	1.14	1.13	1.13
Population Growth	1.13	1.13	1.17	1.14	1.13	1.13

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.25	2.29	0.86	1.09	1.22
Big Bucks Available	1.05	1.25	2.71	1.50	1.12	1.21
Any Buck Harvested	1.04	1.04	0.95	1.00	1.04	1.04
Any Buck Available	1.04	1.10	1.06	1.17	1.06	1.09
Any Deer Harvested	1.05	1.05	1.01	1.03	1.05	1.05
Any Deer Available	1.05	1.06	1.02	1.07	1.05	1.05
Population Growth	1.05	1.06	1.12	1.07	1.05	1.05

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	1.09	1.30	2.36	0.89	1.14	1.26
Big Bucks Available	1.09	1.29	2.80	1.56	1.17	1.26
Any Buck Harvested	1.09	1.08	0.98	1.05	1.08	1.08
Any Buck Available	1.09	1.14	1.08	1.22	1.11	1.13
Any Deer Harvested	1.09	1.08	1.02	1.07	1.09	1.09
Any Deer Available	1.08	1.09	1.04	1.10	1.09	1.09
Population Growth	1.08	1.09	1.14	1.10	1.09	1.09

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.14	1.35	2.45	0.91	1.18	1.31
Big Bucks Available	1.13	1.35	2.90	1.60	1.21	1.31
Any Buck Harvested	1.13	1.12	1.01	1.08	1.12	1.12
Any Buck Available	1.13	1.19	1.12	1.26	1.15	1.18
Any Deer Harvested	1.14	1.13	1.08	1.12	1.14	1.13
Any Deer Available	1.13	1.13	1.08	1.14	1.13	1.13
Population Growth	1.13	1.13	1.17	1.14	1.13	1.13

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.27	0.85	1.09	1.21
Big Bucks Available	1.04	1.24	2.70	1.50	1.11	1.20
Any Buck Harvested	1.04	1.03	0.95	1.00	1.04	1.03
Any Buck Available	1.04	1.10	1.06	1.17	1.06	1.09
Any Deer Harvested	1.04	1.04	1.00	1.03	1.04	1.04
Any Deer	1.04	1.05	1.02	1.06	1.04	1.05

Available Population Growth	1.04	1.05	1.11	1.06	1.04	1.05

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.30	2.37	0.89	1.14	1.27
Big Bucks Available	1.09	1.30	2.81	1.57	1.17	1.27
Any Buck Harvested	1.09	1.08	0.98	1.06	1.09	1.09
Any Buck Available	1.09	1.15	1.09	1.23	1.12	1.14
Any Deer Harvested	1.10	1.09	1.03	1.08	1.10	1.09
Any Deer Available	1.09	1.09	1.04	1.10	1.09	1.09
Population Growth	1.09	1.09	1.13	1.10	1.09	1.09

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.13	1.35	2.44	0.92	1.18	1.31
Big Bucks Available	1.13	1.34	2.89	1.61	1.21	1.31
Any Buck Harvested	1.13	1.12	1.01	1.08	1.12	1.12
Any Buck Available	1.13	1.19	1.11	1.26	1.15	1.18
Any Deer Harvested	1.15	1.14	1.07	1.13	1.14	1.14
Any Deer Available	1.13	1.14	1.07	1.14	1.13	1.13
Population Growth	1.13	1.14	1.17	1.14	1.13	1.13

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	1.05	1.25	2.30	0.87	1.10	1.22

Harvested						
Big Bucks Available	1.05	1.25	2.72	1.52	1.12	1.22
Any Buck Harvested	1.06	1.05	0.97	1.02	1.05	1.05
Any Buck Available	1.05	1.11	1.07	1.19	1.08	1.10
Any Deer Harvested	1.06	1.05	1.01	1.04	1.06	1.05
Any Deer Available	1.05	1.06	1.02	1.07	1.05	1.06
Population Growth	1.05	1.06	1.12	1.07	1.05	1.06

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.30	2.36	0.89	1.13	1.26
Big Bucks Available	1.09	1.29	2.80	1.57	1.16	1.26
Any Buck Harvested	1.08	1.08	0.97	1.05	1.08	1.08
Any Buck Available	1.08	1.14	1.08	1.22	1.10	1.13
Any Deer Harvested	1.08	1.08	1.02	1.07	1.08	1.08
Any Deer Available	1.08	1.09	1.04	1.10	1.08	1.09
Population Growth	1.08	1.09	1.13	1.10	1.08	1.09

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.31	2.39	0.89	1.14	1.27
Big Bucks Available	1.10	1.30	2.82	1.56	1.17	1.27
Any Buck Harvested	1.09	1.08	0.99	1.05	1.09	1.08
Any Buck Available	1.09	1.15	1.09	1.22	1.11	1.14
Any Deer Harvested	1.10	1.09	1.04	1.08	1.10	1.10
Any Deer	1.09	1.10	1.05	1.11	1.09	1.10

Available Population Growth	1.09	1.10	1.15	1.11	1.09	1.10

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.18	2.17	0.82	1.03	1.15
Big Bucks Available	0.99	1.18	2.58	1.44	1.06	1.15
Any Buck Harvested	0.99	0.98	0.91	0.95	0.98	0.98
Any Buck Available	0.99	1.04	1.02	1.12	1.01	1.03
Any Deer Harvested	0.99	0.98	0.95	0.97	0.99	0.98
Any Deer Available	0.99	1.00	0.98	1.01	0.99	0.99
Population Growth	0.99	1.00	1.07	1.01	0.99	0.99

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.24	2.27	0.85	1.08	1.20
Big Bucks Available	1.04	1.24	2.70	1.50	1.11	1.20
Any Buck Harvested	1.03	1.03	0.94	1.00	1.03	1.03
Any Buck Available	1.04	1.09	1.05	1.17	1.06	1.08
Any Deer Harvested	1.04	1.03	0.99	1.02	1.03	1.03
Any Deer Available	1.04	1.05	1.01	1.06	1.04	1.04
Population Growth	1.04	1.05	1.11	1.06	1.04	1.04

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.31	2.39	0.90	1.15	1.27

Big Bucks Available	1.10	1.31	2.83	1.58	1.18	1.27
Any Buck Harvested	1.10	1.09	0.99	1.06	1.09	1.09
Any Buck Available	1.09	1.15	1.10	1.23	1.12	1.14
Any Deer Harvested	1.10	1.10	1.05	1.09	1.10	1.10
Any Deer Available	1.09	1.10	1.05	1.11	1.09	1.10
Population Growth	1.09	1.10	1.14	1.11	1.09	1.10

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.17	2.16	0.81	1.03	1.14
Big Bucks Available	0.98	1.17	2.57	1.44	1.05	1.14
Any Buck Harvested	0.98	0.98	0.91	0.95	0.98	0.98
Any Buck Available	0.98	1.04	1.01	1.12	1.00	1.03
Any Deer Harvested	0.98	0.98	0.95	0.96	0.98	0.98
Any Deer Available	0.98	0.99	0.97	1.00	0.98	0.99
Population Growth	0.98	0.99	1.06	1.00	0.98	0.99

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.23	2.26	0.85	1.08	1.20
Big Bucks Available	1.04	1.23	2.68	1.49	1.11	1.20
Any Buck Harvested	1.03	1.03	0.94	1.00	1.03	1.03
Any Buck Available	1.03	1.09	1.05	1.17	1.05	1.08
Any Deer Harvested	1.03	1.03	0.99	1.02	1.03	1.03
Any Deer Available	1.03	1.04	1.01	1.05	1.03	1.04

Population Growth	1.03	1.04	1.10	1.05	1.03	1.04

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.30	2.37	0.89	1.14	1.27
Big Bucks Available	1.09	1.30	2.81	1.56	1.17	1.26
Any Buck Harvested	1.09	1.08	0.98	1.05	1.09	1.08
Any Buck Available	1.09	1.15	1.09	1.22	1.11	1.14
Any Deer Harvested	1.10	1.09	1.03	1.07	1.09	1.09
Any Deer Available	1.09	1.09	1.04	1.10	1.09	1.09
Population Growth	1.09	1.09	1.14	1.10	1.09	1.09

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.18	2.17	0.83	1.04	1.15
Big Bucks Available	0.99	1.18	2.59	1.46	1.06	1.15
Any Buck Harvested	0.99	0.99	0.92	0.96	0.99	0.99
Any Buck Available	0.99	1.05	1.02	1.13	1.01	1.04
Any Deer Harvested	0.99	0.99	0.96	0.98	0.99	0.99
Any Deer Available	0.99	1.00	0.98	1.01	0.99	1.00
Population Growth	0.99	1.00	1.07	1.01	0.99	1.00

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.25	2.29	0.86	1.09	1.21

Big Bucks Available	1.05	1.24	2.70	1.51	1.12	1.21
Any Buck Harvested	1.05	1.04	0.96	1.01	1.05	1.04
Any Buck Available	1.05	1.10	1.06	1.18	1.07	1.09
Any Deer Harvested	1.06	1.05	1.01	1.04	1.05	1.05
Any Deer Available	1.04	1.05	1.01	1.06	1.05	1.05
Population Growth	1.04	1.05	1.11	1.06	1.05	1.05

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.32	2.40	0.90	1.15	1.28
Big Bucks Available	1.11	1.32	2.84	1.58	1.18	1.28
Any Buck Harvested	1.11	1.10	1.00	1.07	1.11	1.10
Any Buck Available	1.11	1.17	1.10	1.25	1.13	1.16
Any Deer Harvested	1.12	1.12	1.05	1.10	1.12	1.12
Any Deer Available	1.11	1.12	1.06	1.13	1.12	1.12
Population Growth	1.11	1.12	1.16	1.13	1.12	1.12

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.22	2.23	0.84	1.06	1.18
Big Bucks Available	1.02	1.21	2.65	1.47	1.09	1.18
Any Buck Harvested	1.02	1.01	0.93	0.98	1.01	1.01
Any Buck Available	1.01	1.07	1.04	1.15	1.04	1.06
Any Deer Harvested	1.02	1.02	0.98	1.01	1.02	1.02
Any Deer	1.02	1.03	1.00	1.04	1.02	1.03

Available Population Growth	1.02	1.03	1.10	1.04	1.02	1.03

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.28	2.33	0.87	1.12	1.24
Big Bucks Available	1.07	1.27	2.76	1.53	1.15	1.24
Any Buck Harvested	1.06	1.05	0.96	1.02	1.06	1.06
Any Buck Available	1.06	1.12	1.07	1.19	1.08	1.11
Any Deer Harvested	1.07	1.07	1.02	1.05	1.07	1.07
Any Deer Available	1.06	1.07	1.03	1.08	1.07	1.07
Population Growth	1.06	1.07	1.12	1.08	1.07	1.07

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.12	1.33	2.42	0.91	1.16	1.30
Big Bucks Available	1.12	1.33	2.87	1.59	1.20	1.29
Any Buck Harvested	1.11	1.10	1.00	1.07	1.11	1.10
Any Buck Available	1.11	1.17	1.11	1.25	1.14	1.16
Any Deer Harvested	1.12	1.12	1.06	1.10	1.12	1.12
Any Deer Available	1.11	1.12	1.06	1.13	1.11	1.12
Population Growth	1.11	1.12	1.15	1.13	1.11	1.12

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	1.03	1.22	2.24	0.84	1.07	1.19

Harvested						
Big Bucks Available	1.02	1.22	2.66	1.48	1.09	1.18
Any Buck Harvested	1.02	1.01	0.94	0.98	1.02	1.01
Any Buck Available	1.02	1.07	1.04	1.15	1.04	1.06
Any Deer Harvested	1.02	1.02	0.99	1.01	1.02	1.02
Any Deer Available	1.02	1.03	1.00	1.04	1.02	1.03
Population Growth	1.02	1.03	1.09	1.04	1.02	1.03

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.08	1.28	2.34	0.88	1.12	1.25
Big Bucks Available	1.08	1.28	2.77	1.55	1.15	1.25
Any Buck Harvested	1.07	1.06	0.97	1.03	1.07	1.07
Any Buck Available	1.07	1.13	1.08	1.21	1.09	1.12
Any Deer Harvested	1.08	1.07	1.02	1.06	1.07	1.07
Any Deer Available	1.07	1.07	1.03	1.08	1.07	1.07
Population Growth	1.07	1.07	1.12	1.08	1.07	1.07

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.32	2.40	0.90	1.15	1.28
Big Bucks Available	1.11	1.32	2.84	1.59	1.18	1.28
Any Buck Harvested	1.12	1.11	1.00	1.07	1.11	1.11
Any Buck Available	1.11	1.17	1.11	1.25	1.14	1.16
Any Deer Harvested	1.11	1.11	1.05	1.09	1.11	1.11

Any Deer Available	1.10	1.11	1.05	1.12	1.11	1.11
Population Growth	1.10	1.11	1.15	1.12	1.11	1.11

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.22	2.23	0.84	1.06	1.18
Big Bucks Available	1.02	1.21	2.65	1.48	1.09	1.18
Any Buck Harvested	1.02	1.01	0.94	0.98	1.02	1.01
Any Buck Available	1.02	1.07	1.04	1.15	1.04	1.06
Any Deer Harvested	1.02	1.02	0.98	1.01	1.02	1.02
Any Deer Available	1.02	1.03	1.00	1.04	1.02	1.03
Population Growth	1.02	1.03	1.09	1.04	1.02	1.03

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.26	2.31	0.88	1.11	1.23
Big Bucks Available	1.06	1.26	2.74	1.54	1.14	1.23
Any Buck Harvested	1.07	1.06	0.97	1.03	1.06	1.06
Any Buck Available	1.07	1.12	1.07	1.21	1.09	1.11
Any Deer Harvested	1.07	1.07	1.02	1.06	1.07	1.07
Any Deer Available	1.06	1.07	1.03	1.08	1.06	1.07
Population Growth	1.06	1.07	1.12	1.08	1.06	1.07

Southeastern

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.12	1.31	2.42	0.87	1.18	1.29
Big Bucks Available	1.12	1.30	3.06	1.26	1.21	1.29
Any Buck Harvested	1.11	1.10	0.93	1.09	1.11	1.10
Any Buck Available	1.11	1.17	1.15	1.16	1.14	1.17
Any Deer Harvested	1.12	1.11	1.03	1.11	1.12	1.12
Any Deer Available	1.11	1.12	1.08	1.12	1.12	1.12
Population Growth	1.11	1.12	1.20	1.12	1.12	1.12

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.19	2.21	0.79	1.08	1.17
Big Bucks Available	1.02	1.19	2.82	1.16	1.10	1.17
Any Buck Harvested	1.01	1.00	0.86	0.99	1.00	1.00
Any Buck Available	1.01	1.06	1.07	1.05	1.03	1.06
Any Deer Harvested	1.01	1.00	0.93	1.00	1.00	1.00
Any Deer Available	1.00	1.01	0.99	1.01	1.01	1.01
Population Growth	1.00	1.01	1.11	1.01	1.01	1.01

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.25	2.32	0.83	1.13	1.24
Big Bucks Available	1.07	1.25	2.95	1.21	1.16	1.23
Any Buck Harvested	1.06	1.05	0.90	1.04	1.06	1.05

Any Buck Available	1.06	1.12	1.11	1.10	1.09	1.11
Any Deer Harvested	1.07	1.06	0.99	1.06	1.07	1.06
Any Deer Available	1.06	1.07	1.04	1.07	1.07	1.07
Population Growth	1.06	1.07	1.16	1.07	1.07	1.07

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.30	2.40	0.86	1.18	1.28
Big Bucks Available	1.11	1.30	3.05	1.26	1.21	1.28
Any Buck Harvested	1.11	1.10	0.93	1.09	1.10	1.10
Any Buck Available	1.11	1.17	1.14	1.16	1.14	1.17
Any Deer Harvested	1.12	1.11	1.03	1.11	1.11	1.11
Any Deer Available	1.10	1.11	1.07	1.11	1.11	1.11
Population Growth	1.10	1.11	1.19	1.11	1.11	1.11

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.18	2.21	0.79	1.07	1.17
Big Bucks Available	1.01	1.18	2.81	1.15	1.10	1.16
Any Buck Harvested	1.01	1.00	0.87	0.99	1.00	1.00
Any Buck Available	1.01	1.06	1.07	1.05	1.03	1.06
Any Deer Harvested	1.01	1.01	0.94	1.00	1.01	1.01
Any Deer Available	1.00	1.01	0.99	1.01	1.01	1.01
Population Growth	1.00	1.01	1.10	1.01	1.01	1.01

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.24	2.31	0.83	1.13	1.23
Big Bucks Available	1.06	1.24	2.94	1.21	1.15	1.23
Any Buck Harvested	1.07	1.06	0.90	1.05	1.06	1.06
Any Buck Available	1.07	1.12	1.10	1.11	1.09	1.12
Any Deer Harvested	1.07	1.06	0.99	1.06	1.06	1.06
Any Deer Available	1.06	1.07	1.04	1.07	1.06	1.07
Population Growth	1.06	1.07	1.15	1.07	1.06	1.07

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.30	2.41	0.86	1.18	1.29
Big Bucks Available	1.11	1.30	3.06	1.26	1.21	1.28
Any Buck Harvested	1.11	1.10	0.93	1.09	1.10	1.10
Any Buck Available	1.11	1.17	1.14	1.15	1.14	1.16
Any Deer Harvested	1.11	1.11	1.02	1.11	1.11	1.11
Any Deer Available	1.11	1.11	1.07	1.11	1.11	1.11
Population Growth	1.11	1.11	1.19	1.11	1.11	1.11

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.18	2.20	0.79	1.07	1.17
Big Bucks Available	1.01	1.18	2.81	1.16	1.10	1.16
Any Buck Harvested	1.01	1.00	0.86	0.99	1.01	1.00
Any Buck Available	1.01	1.06	1.06	1.06	1.04	1.06
Any Deer	1.01	1.01	0.94	1.01	1.01	1.01

Harvested						
Any Deer Available	1.01	1.02	0.99	1.01	1.01	1.02
Population Growth	1.01	1.02	1.11	1.01	1.01	1.02

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.24	2.30	0.83	1.12	1.22
Big Bucks Available	1.06	1.24	2.93	1.21	1.15	1.22
Any Buck Harvested	1.06	1.05	0.90	1.05	1.06	1.06
Any Buck Available	1.06	1.12	1.10	1.11	1.09	1.11
Any Deer Harvested	1.07	1.06	0.99	1.06	1.06	1.06
Any Deer Available	1.06	1.07	1.03	1.06	1.06	1.06
Population Growth	1.06	1.07	1.15	1.06	1.06	1.06

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.09	2.04	0.73	0.98	1.07
Big Bucks Available	0.93	1.08	2.60	1.07	1.01	1.07
Any Buck Harvested	0.92	0.91	0.81	0.90	0.92	0.92
Any Buck Available	0.92	0.97	1.00	0.97	0.94	0.96
Any Deer Harvested	0.93	0.93	0.87	0.92	0.93	0.93
Any Deer Available	0.92	0.93	0.92	0.93	0.92	0.93
Population Growth	0.92	0.93	1.02	0.93	0.92	0.93

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	0.84	0.98	1.85	0.67	0.89	0.97
Big Bucks Available	0.84	0.98	2.38	0.99	0.91	0.97
Any Buck Harvested	0.84	0.84	0.75	0.83	0.84	0.84
Any Buck Available	0.84	0.89	0.93	0.89	0.87	0.89
Any Deer Harvested	0.84	0.84	0.80	0.84	0.84	0.84
Any Deer Available	0.84	0.84	0.84	0.85	0.84	0.84
Population Growth	0.84	0.84	0.94	0.85	0.84	0.84

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.88	1.03	1.94	0.70	0.93	1.02
Big Bucks Available	0.88	1.03	2.49	1.02	0.96	1.02
Any Buck Harvested	0.88	0.87	0.78	0.87	0.88	0.87
Any Buck Available	0.88	0.93	0.97	0.93	0.90	0.92
Any Deer Harvested	0.88	0.88	0.83	0.87	0.88	0.88
Any Deer Available	0.87	0.88	0.87	0.88	0.88	0.88
Population Growth	0.87	0.88	0.97	0.88	0.88	0.88

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.08	2.03	0.73	0.98	1.07
Big Bucks Available	0.92	1.08	2.60	1.07	1.01	1.07
Any Buck Harvested	0.92	0.92	0.80	0.91	0.92	0.92
Any Buck Available	0.92	0.97	1.00	0.97	0.95	0.97
Any Deer Harvested	0.93	0.93	0.87	0.92	0.93	0.93
Any Deer	0.92	0.92	0.92	0.92	0.92	0.92

Available Population Growth	0.92	0.92	1.01	0.92	0.92	0.92

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.84	0.98	1.84	0.67	0.89	0.97
Big Bucks Available	0.84	0.98	2.37	0.98	0.91	0.96
Any Buck Harvested	0.84	0.84	0.75	0.83	0.84	0.84
Any Buck Available	0.84	0.89	0.93	0.89	0.87	0.88
Any Deer Harvested	0.84	0.84	0.81	0.84	0.84	0.84
Any Deer Available	0.83	0.84	0.84	0.84	0.84	0.84
Population Growth	0.83	0.84	0.92	0.84	0.84	0.84

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.88	1.03	1.93	0.70	0.93	1.02
Big Bucks Available	0.88	1.03	2.49	1.02	0.96	1.02
Any Buck Harvested	0.88	0.87	0.78	0.87	0.88	0.88
Any Buck Available	0.88	0.93	0.96	0.93	0.90	0.92
Any Deer Harvested	0.88	0.88	0.84	0.88	0.88	0.88
Any Deer Available	0.87	0.88	0.88	0.88	0.88	0.88
Population Growth	0.87	0.88	0.97	0.88	0.88	0.88

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.09	2.04	0.73	0.98	1.07
Big Bucks	0.93	1.08	2.61	1.08	1.01	1.07

Available						
Any Buck Harvested	0.93	0.92	0.81	0.92	0.93	0.92
Any Buck Available	0.93	0.98	1.00	0.98	0.95	0.97
Any Deer Harvested	0.94	0.93	0.88	0.93	0.93	0.93
Any Deer Available	0.92	0.93	0.92	0.93	0.93	0.93
Population Growth	0.92	0.93	1.02	0.93	0.93	0.93

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.84	0.99	1.86	0.67	0.89	0.97
Big Bucks Available	0.84	0.98	2.39	0.99	0.92	0.97
Any Buck Harvested	0.85	0.85	0.75	0.84	0.85	0.85
Any Buck Available	0.85	0.90	0.94	0.90	0.87	0.89
Any Deer Harvested	0.85	0.85	0.81	0.85	0.85	0.85
Any Deer Available	0.84	0.85	0.84	0.85	0.84	0.85
Population Growth	0.84	0.85	0.93	0.85	0.84	0.85

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.89	1.05	1.96	0.71	0.95	1.03
Big Bucks Available	0.89	1.04	2.52	1.04	0.97	1.03
Any Buck Harvested	0.89	0.89	0.79	0.87	0.89	0.89
Any Buck Available	0.89	0.94	0.97	0.94	0.91	0.93
Any Deer Harvested	0.90	0.90	0.85	0.89	0.90	0.90
Any Deer Available	0.88	0.89	0.88	0.89	0.89	0.89
Population	0.88	0.89	0.98	0.89	0.89	0.89

Growth

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.21	2.24	0.81	1.09	1.19
Big Bucks Available	1.03	1.20	2.86	1.18	1.12	1.19
Any Buck Harvested	1.02	1.01	0.87	1.00	1.02	1.01
Any Buck Available	1.02	1.07	1.08	1.07	1.05	1.07
Any Deer Harvested	1.03	1.02	0.95	1.02	1.02	1.02
Any Deer Available	1.02	1.03	1.00	1.03	1.02	1.03
Population Growth	1.02	1.03	1.11	1.03	1.02	1.03

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.09	2.04	0.74	0.99	1.08
Big Bucks Available	0.93	1.09	2.62	1.08	1.01	1.08
Any Buck Harvested	0.93	0.92	0.81	0.92	0.93	0.92
Any Buck Available	0.93	0.98	1.00	0.97	0.95	0.97
Any Deer Harvested	0.93	0.93	0.87	0.92	0.93	0.93
Any Deer Available	0.92	0.93	0.91	0.93	0.92	0.93
Population Growth	0.92	0.93	1.02	0.93	0.92	0.93

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.15	2.14	0.77	1.04	1.13
Big Bucks Available	0.98	1.15	2.74	1.13	1.07	1.13

Any Buck Harvested	0.98	0.97	0.84	0.96	0.97	0.97
Any Buck Available	0.98	1.03	1.04	1.03	1.01	1.03
Any Deer Harvested	0.98	0.97	0.91	0.97	0.98	0.98
Any Deer Available	0.97	0.98	0.96	0.98	0.97	0.98
Population Growth	0.97	0.98	1.07	0.98	0.97	0.98

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.19	2.22	0.80	1.08	1.18
Big Bucks Available	1.02	1.19	2.83	1.16	1.11	1.17
Any Buck Harvested	1.02	1.01	0.87	1.01	1.02	1.01
Any Buck Available	1.02	1.08	1.07	1.07	1.05	1.07
Any Deer Harvested	1.02	1.01	0.95	1.01	1.02	1.02
Any Deer Available	1.01	1.02	0.99	1.02	1.01	1.02
Population Growth	1.01	1.02	1.10	1.02	1.01	1.02

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.09	2.03	0.74	0.99	1.08
Big Bucks Available	0.93	1.09	2.61	1.08	1.01	1.08
Any Buck Harvested	0.94	0.93	0.81	0.92	0.93	0.93
Any Buck Available	0.94	0.99	1.01	0.99	0.97	0.99
Any Deer Harvested	0.93	0.92	0.87	0.92	0.93	0.92
Any Deer Available	0.92	0.92	0.91	0.92	0.92	0.92
Population Growth	0.92	0.92	1.01	0.92	0.92	0.92

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.14	2.12	0.76	1.03	1.12
Big Bucks Available	0.97	1.13	2.71	1.11	1.05	1.12
Any Buck Harvested	0.99	0.98	0.85	0.98	0.98	0.98
Any Buck Available	0.99	1.04	1.05	1.04	1.02	1.04
Any Deer Harvested	0.99	0.99	0.92	0.99	0.99	0.99
Any Deer Available	0.98	0.98	0.96	0.98	0.98	0.98
Population Growth	0.98	0.98	1.06	0.98	0.98	0.98

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.20	2.24	0.81	1.09	1.19
Big Bucks Available	1.03	1.20	2.85	1.18	1.12	1.19
Any Buck Harvested	1.02	1.02	0.88	1.01	1.02	1.02
Any Buck Available	1.02	1.08	1.08	1.07	1.05	1.07
Any Deer Harvested	1.02	1.02	0.95	1.01	1.02	1.02
Any Deer Available	1.01	1.02	0.99	1.02	1.02	1.02
Population Growth	1.01	1.02	1.10	1.02	1.02	1.02

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.09	2.03	0.73	0.98	1.07
Big Bucks Available	0.93	1.08	2.61	1.07	1.01	1.07
Any Buck	0.94	0.93	0.82	0.93	0.94	0.93

Harvested						
Any Buck Available	0.94	0.99	1.01	0.99	0.96	0.99
Any Deer Harvested	0.94	0.93	0.87	0.93	0.93	0.93
Any Deer Available	0.93	0.93	0.92	0.93	0.93	0.93
Population Growth	0.93	0.93	1.02	0.93	0.93	0.93

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.15	2.15	0.77	1.04	1.14
Big Bucks Available	0.98	1.15	2.75	1.13	1.07	1.13
Any Buck Harvested	0.99	0.98	0.85	0.97	0.98	0.98
Any Buck Available	0.98	1.03	1.05	1.03	1.01	1.03
Any Deer Harvested	0.99	0.99	0.92	0.98	0.99	0.99
Any Deer Available	0.98	0.98	0.96	0.98	0.98	0.98
Population Growth	0.98	0.98	1.07	0.98	0.98	0.98

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.19	1.40	2.59	0.92	1.26	1.38
Big Bucks Available	1.19	1.39	3.28	1.34	1.29	1.38
Any Buck Harvested	1.19	1.17	0.99	1.17	1.18	1.17
Any Buck Available	1.19	1.25	1.21	1.23	1.22	1.24
Any Deer Harvested	1.19	1.18	1.10	1.18	1.19	1.18
Any Deer Available	1.18	1.19	1.14	1.18	1.18	1.18
Population Growth	1.18	1.19	1.28	1.18	1.18	1.18

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.27	2.38	0.84	1.15	1.25
Big Bucks Available	1.08	1.26	3.01	1.23	1.17	1.25
Any Buck Harvested	1.07	1.06	0.92	1.05	1.07	1.06
Any Buck Available	1.07	1.13	1.13	1.12	1.10	1.12
Any Deer Harvested	1.08	1.08	1.01	1.07	1.08	1.08
Any Deer Available	1.07	1.08	1.06	1.08	1.08	1.08
Population Growth	1.07	1.08	1.19	1.08	1.08	1.08

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.13	1.33	2.47	0.88	1.20	1.31
Big Bucks Available	1.13	1.32	3.13	1.29	1.23	1.31
Any Buck Harvested	1.13	1.12	0.95	1.11	1.12	1.12
Any Buck Available	1.13	1.19	1.16	1.17	1.16	1.18
Any Deer Harvested	1.13	1.12	1.04	1.12	1.13	1.12
Any Deer Available	1.12	1.13	1.09	1.13	1.13	1.13
Population Growth	1.12	1.13	1.23	1.13	1.13	1.13

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.19	1.39	2.59	0.92	1.26	1.38
Big Bucks Available	1.19	1.39	3.28	1.34	1.29	1.37
Any Buck Harvested	1.18	1.17	0.99	1.16	1.18	1.17
Any Buck	1.18	1.25	1.21	1.23	1.22	1.24

Available						
Any Deer Harvested	1.19	1.19	1.10	1.18	1.19	1.19
Any Deer Available	1.18	1.19	1.14	1.18	1.18	1.19
Population Growth	1.18	1.19	1.27	1.18	1.18	1.19

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.26	2.35	0.84	1.14	1.24
Big Bucks Available	1.07	1.25	2.99	1.22	1.16	1.24
Any Buck Harvested	1.07	1.06	0.92	1.06	1.07	1.06
Any Buck Available	1.07	1.13	1.13	1.12	1.10	1.12
Any Deer Harvested	1.07	1.07	1.01	1.07	1.07	1.07
Any Deer Available	1.07	1.08	1.05	1.08	1.07	1.08
Population Growth	1.07	1.08	1.17	1.08	1.07	1.08

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.14	1.33	2.49	0.89	1.21	1.32
Big Bucks Available	1.14	1.33	3.16	1.29	1.24	1.32
Any Buck Harvested	1.14	1.13	0.96	1.12	1.13	1.13
Any Buck Available	1.14	1.20	1.17	1.18	1.17	1.19
Any Deer Harvested	1.14	1.13	1.06	1.13	1.14	1.13
Any Deer Available	1.13	1.13	1.10	1.13	1.13	1.13
Population Growth	1.13	1.13	1.22	1.13	1.13	1.13

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.19	1.39	2.59	0.92	1.26	1.38
Big Bucks Available	1.19	1.39	3.27	1.34	1.29	1.37
Any Buck Harvested	1.18	1.17	0.99	1.17	1.18	1.17
Any Buck Available	1.18	1.24	1.21	1.23	1.21	1.24
Any Deer Harvested	1.20	1.19	1.10	1.19	1.19	1.19
Any Deer Available	1.18	1.19	1.14	1.19	1.18	1.19
Population Growth	1.18	1.19	1.28	1.19	1.18	1.19

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.28	2.39	0.85	1.15	1.26
Big Bucks Available	1.08	1.27	3.02	1.24	1.18	1.25
Any Buck Harvested	1.09	1.08	0.93	1.07	1.09	1.08
Any Buck Available	1.09	1.14	1.14	1.14	1.12	1.14
Any Deer Harvested	1.09	1.09	1.02	1.08	1.09	1.09
Any Deer Available	1.08	1.09	1.06	1.09	1.08	1.09
Population Growth	1.08	1.09	1.19	1.09	1.08	1.09

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.14	1.33	2.48	0.89	1.21	1.32
Big Bucks Available	1.14	1.33	3.15	1.29	1.24	1.31
Any Buck Harvested	1.13	1.12	0.96	1.12	1.13	1.13
Any Buck	1.13	1.19	1.18	1.18	1.16	1.19

Available						
Any Deer Harvested	1.13	1.13	1.05	1.13	1.13	1.13
Any Deer Available	1.12	1.13	1.09	1.13	1.13	1.13
Population Growth	1.12	1.13	1.22	1.13	1.13	1.13

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.16	2.18	0.78	1.05	1.14
Big Bucks Available	0.99	1.15	2.78	1.14	1.07	1.14
Any Buck Harvested	0.98	0.98	0.86	0.97	0.98	0.98
Any Buck Available	0.98	1.03	1.06	1.03	1.01	1.03
Any Deer Harvested	0.99	0.98	0.93	0.98	0.99	0.98
Any Deer Available	0.98	0.99	0.98	0.99	0.99	0.99
Population Growth	0.98	0.99	1.10	0.99	0.99	0.99

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.89	1.04	1.97	0.71	0.94	1.03
Big Bucks Available	0.89	1.04	2.53	1.04	0.96	1.02
Any Buck Harvested	0.88	0.88	0.79	0.87	0.88	0.88
Any Buck Available	0.88	0.93	0.98	0.93	0.91	0.93
Any Deer Harvested	0.88	0.88	0.84	0.88	0.88	0.88
Any Deer Available	0.88	0.89	0.89	0.89	0.89	0.89
Population Growth	0.88	0.89	1.00	0.89	0.89	0.89

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.94	1.09	2.06	0.74	0.99	1.08
Big Bucks Available	0.94	1.09	2.65	1.08	1.02	1.08
Any Buck Harvested	0.93	0.92	0.81	0.91	0.92	0.92
Any Buck Available	0.93	0.98	1.01	0.98	0.95	0.97
Any Deer Harvested	0.92	0.92	0.87	0.92	0.92	0.92
Any Deer Available	0.92	0.93	0.93	0.93	0.93	0.93
Population Growth	0.92	0.93	1.04	0.93	0.93	0.93

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.15	2.18	0.78	1.04	1.14
Big Bucks Available	0.98	1.15	2.77	1.14	1.07	1.14
Any Buck Harvested	0.98	0.98	0.85	0.97	0.98	0.98
Any Buck Available	0.98	1.03	1.05	1.03	1.01	1.03
Any Deer Harvested	0.99	0.98	0.93	0.98	0.99	0.98
Any Deer Available	0.98	0.99	0.98	0.99	0.98	0.99
Population Growth	0.98	0.99	1.08	0.99	0.98	0.99

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.88	1.03	1.95	0.70	0.93	1.02
Big Bucks Available	0.88	1.03	2.50	1.02	0.96	1.01
Any Buck Harvested	0.88	0.88	0.79	0.87	0.88	0.88
Any Buck Available	0.88	0.93	0.98	0.93	0.91	0.93
Any Deer	0.88	0.88	0.84	0.87	0.88	0.88

Harvested						
Any Deer Available	0.87	0.88	0.88	0.88	0.88	0.88
Population Growth	0.87	0.88	0.98	0.88	0.88	0.88

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.09	2.05	0.73	0.98	1.07
Big Bucks Available	0.93	1.08	2.63	1.07	1.01	1.07
Any Buck Harvested	0.92	0.92	0.82	0.91	0.92	0.92
Any Buck Available	0.92	0.98	1.01	0.97	0.95	0.97
Any Deer Harvested	0.93	0.92	0.88	0.92	0.92	0.92
Any Deer Available	0.92	0.93	0.93	0.93	0.93	0.93
Population Growth	0.92	0.93	1.03	0.93	0.93	0.93

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.15	2.17	0.78	1.04	1.14
Big Bucks Available	0.98	1.15	2.78	1.13	1.07	1.14
Any Buck Harvested	0.99	0.98	0.86	0.98	0.98	0.98
Any Buck Available	0.98	1.04	1.06	1.03	1.01	1.03
Any Deer Harvested	0.99	0.99	0.93	0.98	0.99	0.99
Any Deer Available	0.98	0.99	0.98	0.99	0.98	0.99
Population Growth	0.98	0.99	1.09	0.99	0.98	0.99

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status	One-	MARs	Partial	Shorter	Voluntary

	Quo	Buck		MARs	Season	Restraint
Big Bucks Harvested	0.89	1.04	1.97	0.71	0.94	1.03
Big Bucks Available	0.89	1.04	2.53	1.04	0.97	1.02
Any Buck Harvested	0.89	0.88	0.79	0.88	0.89	0.88
Any Buck Available	0.89	0.94	0.98	0.94	0.91	0.93
Any Deer Harvested	0.89	0.89	0.85	0.88	0.89	0.89
Any Deer Available	0.88	0.89	0.89	0.89	0.89	0.89
Population Growth	0.88	0.89	0.99	0.89	0.89	0.89

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.94	1.10	2.08	0.74	1.00	1.09
Big Bucks Available	0.94	1.09	2.65	1.09	1.02	1.08
Any Buck Harvested	0.94	0.94	0.84	0.93	0.94	0.94
Any Buck Available	0.94	0.99	1.03	0.99	0.97	0.99
Any Deer Harvested	0.95	0.95	0.90	0.94	0.95	0.95
Any Deer Available	0.94	0.94	0.94	0.94	0.94	0.94
Population Growth	0.94	0.94	1.05	0.94	0.94	0.94

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.28	2.40	0.85	1.16	1.27
Big Bucks Available	1.09	1.28	3.04	1.25	1.19	1.26
Any Buck Harvested	1.09	1.08	0.93	1.08	1.09	1.09
Any Buck Available	1.09	1.15	1.14	1.14	1.12	1.15

Any Deer Harvested	1.10	1.09	1.02	1.09	1.09	1.09
Any Deer Available	1.09	1.10	1.07	1.09	1.09	1.09
Population Growth	1.09	1.10	1.19	1.09	1.09	1.09

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.16	2.18	0.78	1.05	1.15
Big Bucks Available	0.99	1.16	2.79	1.14	1.08	1.14
Any Buck Harvested	0.98	0.98	0.86	0.97	0.98	0.98
Any Buck Available	0.98	1.04	1.06	1.03	1.01	1.03
Any Deer Harvested	0.99	0.98	0.93	0.98	0.98	0.98
Any Deer Available	0.98	0.99	0.98	0.99	0.99	0.99
Population Growth	0.98	0.99	1.10	0.99	0.99	0.99

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.23	2.30	0.82	1.11	1.21
Big Bucks Available	1.05	1.22	2.93	1.20	1.14	1.21
Any Buck Harvested	1.04	1.03	0.90	1.02	1.03	1.03
Any Buck Available	1.04	1.09	1.10	1.08	1.06	1.09
Any Deer Harvested	1.04	1.04	0.98	1.03	1.04	1.04
Any Deer Available	1.04	1.04	1.02	1.04	1.04	1.04
Population Growth	1.04	1.04	1.15	1.04	1.04	1.04

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.28	2.40	0.85	1.16	1.27
Big Bucks Available	1.10	1.28	3.05	1.24	1.19	1.27
Any Buck Harvested	1.09	1.08	0.93	1.08	1.09	1.08
Any Buck Available	1.09	1.15	1.15	1.14	1.12	1.15
Any Deer Harvested	1.09	1.09	1.02	1.08	1.09	1.09
Any Deer Available	1.08	1.09	1.06	1.09	1.09	1.09
Population Growth	1.08	1.09	1.18	1.09	1.09	1.09

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.16	2.19	0.78	1.05	1.15
Big Bucks Available	0.99	1.16	2.79	1.14	1.08	1.14
Any Buck Harvested	0.98	0.98	0.86	0.97	0.98	0.98
Any Buck Available	0.98	1.04	1.06	1.03	1.01	1.03
Any Deer Harvested	0.99	0.98	0.93	0.98	0.99	0.98
Any Deer Available	0.98	0.99	0.98	0.99	0.98	0.99
Population Growth	0.98	0.99	1.09	0.99	0.98	0.99

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.22	2.30	0.82	1.11	1.21
Big Bucks Available	1.04	1.22	2.92	1.20	1.13	1.21
Any Buck Harvested	1.04	1.04	0.90	1.03	1.04	1.04
Any Buck	1.04	1.10	1.11	1.09	1.07	1.10

Available						
Any Deer Harvested	1.04	1.04	0.98	1.04	1.04	1.04
Any Deer Available	1.03	1.04	1.02	1.04	1.04	1.04
Population Growth	1.03	1.04	1.13	1.04	1.04	1.04

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.27	2.38	0.85	1.15	1.26
Big Bucks Available	1.08	1.27	3.02	1.24	1.18	1.25
Any Buck Harvested	1.10	1.09	0.93	1.08	1.09	1.09
Any Buck Available	1.10	1.16	1.15	1.15	1.13	1.15
Any Deer Harvested	1.09	1.09	1.02	1.09	1.09	1.09
Any Deer Available	1.08	1.09	1.06	1.09	1.08	1.09
Population Growth	1.08	1.09	1.18	1.09	1.08	1.09

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.16	2.19	0.78	1.05	1.15
Big Bucks Available	0.99	1.16	2.79	1.14	1.08	1.14
Any Buck Harvested	0.99	0.98	0.86	0.97	0.98	0.98
Any Buck Available	0.98	1.04	1.06	1.03	1.01	1.03
Any Deer Harvested	0.99	0.99	0.93	0.98	0.99	0.99
Any Deer Available	0.98	0.99	0.98	0.99	0.99	0.99
Population Growth	0.98	0.99	1.09	0.99	0.99	0.99

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female

Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.20	2.26	0.81	1.09	1.19
Big Bucks Available	1.03	1.20	2.88	1.19	1.12	1.19
Any Buck Harvested	1.04	1.03	0.89	1.03	1.03	1.03
Any Buck Available	1.04	1.09	1.10	1.09	1.06	1.09
Any Deer Harvested	1.03	1.03	0.97	1.03	1.03	1.03
Any Deer Available	1.02	1.03	1.01	1.03	1.03	1.03
Population Growth	1.02	1.03	1.13	1.03	1.03	1.03

Lake Plains

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.36	3.23	1.21	1.19	1.34
Big Bucks Available	1.10	1.36	3.90	2.46	1.24	1.33
Any Buck Harvested	1.09	1.08	0.94	1.00	1.08	1.08
Any Buck Available	1.09	1.15	1.11	1.40	1.12	1.14
Any Deer Harvested	1.11	1.10	1.01	1.07	1.11	1.10
Any Deer Available	1.09	1.10	1.02	1.12	1.10	1.10
Population Growth	1.09	1.10	1.15	1.12	1.10	1.10

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.12	1.17	1.14	1.28
Big Bucks Available	1.05	1.30	3.79	2.39	1.19	1.28
Any Buck Harvested	1.03	1.03	0.91	0.96	1.03	1.03
Any Buck	1.04	1.09	1.08	1.34	1.07	1.09

Available						
Any Deer Harvested	1.04	1.04	0.97	1.01	1.04	1.04
Any Deer Available	1.04	1.05	1.00	1.08	1.04	1.05
Population Growth	1.04	1.05	1.12	1.08	1.04	1.05

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.34	3.20	1.19	1.17	1.32
Big Bucks Available	1.08	1.34	3.87	2.44	1.22	1.32
Any Buck Harvested	1.07	1.06	0.93	0.99	1.06	1.06
Any Buck Available	1.06	1.12	1.09	1.37	1.10	1.12
Any Deer Harvested	1.08	1.08	1.00	1.05	1.08	1.08
Any Deer Available	1.07	1.08	1.01	1.11	1.08	1.08
Population Growth	1.07	1.08	1.13	1.11	1.08	1.08

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.36	3.22	1.21	1.19	1.33
Big Bucks Available	1.09	1.35	3.91	2.47	1.24	1.33
Any Buck Harvested	1.09	1.08	0.94	1.01	1.09	1.08
Any Buck Available	1.10	1.15	1.11	1.40	1.13	1.15
Any Deer Harvested	1.10	1.10	1.01	1.06	1.10	1.10
Any Deer Available	1.09	1.10	1.02	1.12	1.09	1.10
Population Growth	1.09	1.10	1.14	1.12	1.09	1.10

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status	One-	MARs	Partial	Shorter	Voluntary

	Quo	Buck		MARs	Season	Restraint
Big Bucks Harvested	1.06	1.31	3.13	1.17	1.14	1.28
Big Bucks Available	1.05	1.30	3.79	2.38	1.19	1.28
Any Buck Harvested	1.04	1.03	0.92	0.97	1.04	1.03
Any Buck Available	1.04	1.10	1.08	1.35	1.07	1.09
Any Deer Harvested	1.05	1.04	0.99	1.02	1.05	1.05
Any Deer Available	1.04	1.05	1.00	1.09	1.05	1.05
Population Growth	1.04	1.05	1.12	1.09	1.05	1.05

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.33	3.17	1.19	1.16	1.31
Big Bucks Available	1.07	1.32	3.84	2.44	1.21	1.30
Any Buck Harvested	1.07	1.06	0.93	0.99	1.06	1.06
Any Buck Available	1.07	1.13	1.10	1.38	1.10	1.12
Any Deer Harvested	1.08	1.07	1.00	1.05	1.08	1.07
Any Deer Available	1.07	1.08	1.01	1.10	1.07	1.08
Population Growth	1.07	1.08	1.13	1.10	1.07	1.08

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.36	3.22	1.21	1.19	1.34
Big Bucks Available	1.10	1.36	3.91	2.48	1.24	1.33
Any Buck Harvested	1.09	1.08	0.94	1.00	1.08	1.08
Any Buck Available	1.09	1.15	1.11	1.39	1.12	1.14
Any Deer Harvested	1.10	1.10	1.01	1.06	1.10	1.10

Any Deer Available	1.09	1.09	1.01	1.12	1.09	1.09
Population Growth	1.09	1.09	1.14	1.12	1.09	1.09

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.13	1.17	1.14	1.28
Big Bucks Available	1.05	1.30	3.78	2.40	1.19	1.28
Any Buck Harvested	1.04	1.04	0.92	0.97	1.04	1.04
Any Buck Available	1.04	1.10	1.08	1.35	1.07	1.09
Any Deer Harvested	1.05	1.05	0.99	1.02	1.05	1.05
Any Deer Available	1.04	1.05	1.00	1.09	1.05	1.05
Population Growth	1.04	1.05	1.12	1.09	1.05	1.05

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.32	3.16	1.19	1.16	1.30
Big Bucks Available	1.07	1.32	3.83	2.42	1.21	1.30
Any Buck Harvested	1.07	1.06	0.93	0.99	1.06	1.06
Any Buck Available	1.07	1.12	1.09	1.37	1.10	1.12
Any Deer Harvested	1.08	1.08	1.00	1.04	1.08	1.08
Any Deer Available	1.07	1.08	1.01	1.10	1.07	1.08
Population Growth	1.07	1.08	1.13	1.10	1.07	1.08

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.22	2.95	1.10	1.07	1.20

Big Bucks Available	0.98	1.21	3.58	2.25	1.11	1.19
Any Buck Harvested	0.96	0.96	0.87	0.90	0.96	0.96
Any Buck Available	0.96	1.01	1.03	1.26	0.99	1.01
Any Deer Harvested	0.97	0.97	0.93	0.94	0.97	0.97
Any Deer Available	0.96	0.97	0.96	1.01	0.97	0.97
Population Growth	0.96	0.97	1.07	1.01	0.97	0.97

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.92	1.14	2.77	1.05	1.00	1.12
Big Bucks Available	0.92	1.13	3.37	2.14	1.04	1.11
Any Buck Harvested	0.91	0.91	0.83	0.86	0.91	0.91
Any Buck Available	0.91	0.96	0.99	1.20	0.94	0.96
Any Deer Harvested	0.92	0.92	0.88	0.89	0.92	0.92
Any Deer Available	0.91	0.92	0.91	0.96	0.91	0.92
Population Growth	0.91	0.92	1.02	0.96	0.91	0.92

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.17	2.84	1.07	1.03	1.15
Big Bucks Available	0.95	1.17	3.45	2.18	1.07	1.15
Any Buck Harvested	0.93	0.93	0.85	0.88	0.93	0.93
Any Buck Available	0.94	0.99	1.01	1.23	0.97	0.98
Any Deer Harvested	0.94	0.93	0.89	0.91	0.94	0.93
Any Deer Available	0.93	0.94	0.93	0.98	0.94	0.94
Population	0.93	0.94	1.05	0.98	0.94	0.94

Growth

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.21	2.94	1.10	1.06	1.19
Big Bucks Available	0.98	1.21	3.57	2.26	1.11	1.19
Any Buck Harvested	0.96	0.96	0.87	0.90	0.96	0.96
Any Buck Available	0.96	1.02	1.03	1.26	0.99	1.01
Any Deer Harvested	0.97	0.97	0.92	0.94	0.97	0.97
Any Deer Available	0.96	0.97	0.96	1.01	0.97	0.97
Population Growth	0.96	0.97	1.07	1.01	0.97	0.97

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.92	1.13	2.75	1.04	0.99	1.11
Big Bucks Available	0.91	1.13	3.35	2.12	1.04	1.11
Any Buck Harvested	0.91	0.91	0.83	0.86	0.91	0.91
Any Buck Available	0.91	0.96	0.99	1.20	0.94	0.96
Any Deer Harvested	0.91	0.91	0.88	0.89	0.91	0.91
Any Deer Available	0.91	0.91	0.91	0.95	0.91	0.91
Population Growth	0.91	0.91	1.02	0.95	0.91	0.91

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.18	2.85	1.07	1.03	1.16
Big Bucks Available	0.95	1.17	3.47	2.19	1.08	1.16
Any Buck	0.93	0.93	0.85	0.88	0.93	0.93

Harvested						
Any Buck Available	0.94	0.99	1.01	1.23	0.97	0.98
Any Deer Harvested	0.94	0.94	0.90	0.91	0.94	0.94
Any Deer Available	0.93	0.94	0.93	0.98	0.94	0.94
Population Growth	0.93	0.94	1.04	0.98	0.94	0.94

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.21	2.93	1.10	1.06	1.19
Big Bucks Available	0.97	1.20	3.56	2.25	1.10	1.18
Any Buck Harvested	0.97	0.96	0.87	0.90	0.96	0.96
Any Buck Available	0.96	1.02	1.03	1.26	0.99	1.01
Any Deer Harvested	0.97	0.97	0.93	0.94	0.97	0.97
Any Deer Available	0.96	0.97	0.96	1.01	0.97	0.97
Population Growth	0.96	0.97	1.07	1.01	0.97	0.97

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.92	1.14	2.76	1.05	0.99	1.12
Big Bucks Available	0.91	1.13	3.36	2.14	1.04	1.11
Any Buck Harvested	0.91	0.91	0.83	0.86	0.91	0.91
Any Buck Available	0.91	0.96	0.99	1.20	0.94	0.96
Any Deer Harvested	0.92	0.92	0.88	0.89	0.92	0.92
Any Deer Available	0.91	0.92	0.91	0.96	0.91	0.92
Population Growth	0.91	0.92	1.02	0.96	0.91	0.92

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn

Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.18	2.86	1.08	1.03	1.16
Big Bucks Available	0.95	1.18	3.48	2.21	1.08	1.16
Any Buck Harvested	0.94	0.93	0.86	0.88	0.93	0.93
Any Buck Available	0.94	0.99	1.01	1.23	0.97	0.99
Any Deer Harvested	0.95	0.94	0.90	0.92	0.94	0.94
Any Deer Available	0.94	0.95	0.94	0.99	0.94	0.94
Population Growth	0.94	0.95	1.05	0.99	0.94	0.94

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.29	3.09	1.16	1.13	1.27
Big Bucks Available	1.04	1.29	3.74	2.37	1.18	1.27
Any Buck Harvested	1.03	1.02	0.91	0.95	1.02	1.02
Any Buck Available	1.03	1.08	1.07	1.33	1.06	1.08
Any Deer Harvested	1.04	1.03	0.97	1.00	1.03	1.03
Any Deer Available	1.03	1.04	0.98	1.07	1.03	1.04
Population Growth	1.03	1.04	1.11	1.07	1.03	1.04

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.22	2.94	1.11	1.07	1.20
Big Bucks Available	0.99	1.22	3.58	2.26	1.12	1.20
Any Buck Harvested	0.98	0.97	0.87	0.91	0.97	0.97
Any Buck Available	0.98	1.03	1.03	1.27	1.01	1.03

Any Deer Harvested	0.98	0.98	0.92	0.95	0.98	0.98
Any Deer Available	0.97	0.98	0.95	1.02	0.98	0.98
Population Growth	0.97	0.98	1.07	1.02	0.98	0.98

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.25	3.01	1.13	1.10	1.23
Big Bucks Available	1.01	1.25	3.66	2.31	1.15	1.23
Any Buck Harvested	1.00	1.00	0.89	0.93	1.00	1.00
Any Buck Available	1.00	1.06	1.05	1.30	1.03	1.05
Any Deer Harvested	1.01	1.00	0.94	0.97	1.00	1.00
Any Deer Available	1.00	1.01	0.97	1.04	1.01	1.01
Population Growth	1.00	1.01	1.09	1.04	1.01	1.01

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.28	3.06	1.15	1.12	1.26
Big Bucks Available	1.03	1.28	3.72	2.35	1.17	1.26
Any Buck Harvested	1.03	1.02	0.91	0.96	1.03	1.02
Any Buck Available	1.03	1.09	1.07	1.33	1.06	1.08
Any Deer Harvested	1.03	1.03	0.97	1.00	1.03	1.03
Any Deer Available	1.03	1.03	0.98	1.06	1.03	1.03
Population Growth	1.03	1.03	1.10	1.06	1.03	1.03

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	0.98	1.22	2.93	1.11	1.07	1.20
Big Bucks Available	0.98	1.22	3.57	2.27	1.12	1.20
Any Buck Harvested	0.98	0.97	0.87	0.92	0.98	0.98
Any Buck Available	0.98	1.04	1.04	1.28	1.01	1.03
Any Deer Harvested	0.98	0.97	0.92	0.94	0.97	0.97
Any Deer Available	0.97	0.98	0.95	1.01	0.98	0.98
Population Growth	0.97	0.98	1.06	1.01	0.98	0.98

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	2.99	1.12	1.09	1.22
Big Bucks Available	1.00	1.24	3.62	2.29	1.13	1.22
Any Buck Harvested	1.01	1.00	0.90	0.94	1.01	1.01
Any Buck Available	1.01	1.07	1.06	1.31	1.04	1.06
Any Deer Harvested	1.02	1.01	0.95	0.99	1.01	1.01
Any Deer Available	1.01	1.01	0.97	1.05	1.01	1.01
Population Growth	1.01	1.01	1.09	1.05	1.01	1.01

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.28	3.07	1.16	1.12	1.26
Big Bucks Available	1.04	1.28	3.73	2.36	1.17	1.26
Any Buck Harvested	1.03	1.02	0.91	0.95	1.02	1.02
Any Buck Available	1.03	1.08	1.07	1.33	1.06	1.08
Any Deer	1.03	1.03	0.96	0.99	1.03	1.03

Harvested						
Any Deer Available	1.02	1.03	0.98	1.06	1.03	1.03
Population Growth	1.02	1.03	1.10	1.06	1.03	1.03

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.21	2.92	1.10	1.06	1.19
Big Bucks Available	0.98	1.21	3.55	2.25	1.11	1.19
Any Buck Harvested	0.98	0.97	0.87	0.91	0.97	0.97
Any Buck Available	0.98	1.03	1.03	1.28	1.01	1.03
Any Deer Harvested	0.98	0.98	0.92	0.95	0.98	0.98
Any Deer Available	0.98	0.98	0.95	1.02	0.98	0.98
Population Growth	0.98	0.98	1.07	1.02	0.98	0.98

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.26	3.02	1.13	1.10	1.24
Big Bucks Available	1.01	1.25	3.66	2.32	1.14	1.23
Any Buck Harvested	1.00	1.00	0.89	0.93	1.00	1.00
Any Buck Available	1.00	1.05	1.05	1.30	1.03	1.05
Any Deer Harvested	1.01	1.01	0.95	0.98	1.01	1.01
Any Deer Available	1.01	1.01	0.97	1.05	1.01	1.01
Population Growth	1.01	1.01	1.09	1.05	1.01	1.01

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	1.13	1.40	3.32	1.24	1.22	1.38
Big Bucks Available	1.13	1.40	4.02	2.54	1.28	1.37
Any Buck Harvested	1.12	1.11	0.96	1.03	1.11	1.11
Any Buck Available	1.12	1.18	1.14	1.43	1.15	1.17
Any Deer Harvested	1.13	1.12	1.03	1.08	1.13	1.12
Any Deer Available	1.12	1.12	1.04	1.14	1.12	1.12
Population Growth	1.12	1.12	1.17	1.14	1.12	1.12

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.37	3.26	1.21	1.19	1.34
Big Bucks Available	1.10	1.36	3.93	2.47	1.24	1.33
Any Buck Harvested	1.08	1.07	0.95	0.99	1.07	1.07
Any Buck Available	1.07	1.13	1.11	1.38	1.11	1.13
Any Deer Harvested	1.10	1.10	1.02	1.06	1.10	1.10
Any Deer Available	1.08	1.09	1.02	1.12	1.08	1.09
Population Growth	1.08	1.09	1.15	1.12	1.08	1.09

No Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.37	3.28	1.23	1.20	1.35
Big Bucks Available	1.11	1.37	3.97	2.52	1.26	1.35
Any Buck Harvested	1.10	1.09	0.95	1.02	1.09	1.09
Any Buck Available	1.10	1.15	1.12	1.41	1.13	1.15
Any Deer Harvested	1.11	1.10	1.01	1.07	1.10	1.10

Any Deer Available	1.09	1.10	1.02	1.13	1.10	1.10
Population Growth	1.09	1.10	1.15	1.13	1.10	1.10

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.13	1.40	3.32	1.24	1.22	1.38
Big Bucks Available	1.13	1.40	4.03	2.53	1.28	1.37
Any Buck Harvested	1.11	1.10	0.96	1.03	1.11	1.11
Any Buck Available	1.11	1.17	1.14	1.43	1.15	1.17
Any Deer Harvested	1.13	1.12	1.04	1.09	1.13	1.12
Any Deer Available	1.12	1.12	1.04	1.15	1.12	1.12
Population Growth	1.12	1.12	1.17	1.15	1.12	1.12

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.34	3.22	1.20	1.17	1.32
Big Bucks Available	1.08	1.34	3.90	2.44	1.23	1.32
Any Buck Harvested	1.08	1.07	0.94	1.00	1.07	1.07
Any Buck Available	1.07	1.13	1.11	1.39	1.11	1.13
Any Deer Harvested	1.09	1.08	1.01	1.06	1.08	1.08
Any Deer Available	1.08	1.08	1.02	1.12	1.08	1.08
Population Growth	1.08	1.08	1.14	1.12	1.08	1.08

No Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.37	3.28	1.23	1.20	1.35

Big Bucks Available	1.11	1.37	3.97	2.52	1.26	1.35
Any Buck Harvested	1.10	1.09	0.95	1.02	1.10	1.09
Any Buck Available	1.10	1.16	1.12	1.42	1.14	1.16
Any Deer Harvested	1.11	1.11	1.02	1.08	1.11	1.11
Any Deer Available	1.09	1.10	1.03	1.13	1.10	1.10
Population Growth	1.09	1.10	1.15	1.13	1.10	1.10

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.13	1.40	3.33	1.25	1.23	1.38
Big Bucks Available	1.13	1.40	4.02	2.54	1.28	1.37
Any Buck Harvested	1.12	1.11	0.96	1.03	1.11	1.11
Any Buck Available	1.11	1.17	1.13	1.43	1.15	1.17
Any Deer Harvested	1.14	1.14	1.04	1.10	1.14	1.13
Any Deer Available	1.12	1.12	1.04	1.15	1.12	1.12
Population Growth	1.12	1.12	1.17	1.15	1.12	1.12

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.36	3.25	1.22	1.18	1.33
Big Bucks Available	1.09	1.35	3.92	2.48	1.23	1.33
Any Buck Harvested	1.09	1.08	0.95	1.01	1.08	1.08
Any Buck Available	1.08	1.14	1.12	1.40	1.12	1.14
Any Deer Harvested	1.10	1.09	1.01	1.06	1.10	1.09
Any Deer	1.08	1.09	1.02	1.12	1.08	1.08

Available Population Growth	1.08	1.09	1.14	1.12	1.08	1.08

No Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.37	3.26	1.23	1.20	1.35
Big Bucks Available	1.10	1.37	3.96	2.51	1.25	1.34
Any Buck Harvested	1.09	1.09	0.95	1.02	1.09	1.09
Any Buck Available	1.10	1.15	1.12	1.41	1.13	1.15
Any Deer Harvested	1.10	1.09	1.01	1.06	1.10	1.09
Any Deer Available	1.09	1.10	1.02	1.13	1.10	1.10
Population Growth	1.09	1.10	1.15	1.13	1.10	1.10

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.28	3.10	1.15	1.12	1.26
Big Bucks Available	1.03	1.27	3.74	2.35	1.16	1.25
Any Buck Harvested	1.02	1.01	0.91	0.95	1.01	1.01
Any Buck Available	1.01	1.07	1.07	1.32	1.04	1.06
Any Deer Harvested	1.03	1.03	0.97	1.00	1.02	1.02
Any Deer Available	1.02	1.03	0.99	1.07	1.02	1.03
Population Growth	1.02	1.03	1.11	1.07	1.02	1.03

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.21	2.94	1.10	1.06	1.19

Big Bucks Available	0.97	1.21	3.58	2.26	1.11	1.19
Any Buck Harvested	0.96	0.96	0.88	0.90	0.96	0.96
Any Buck Available	0.96	1.02	1.04	1.27	0.99	1.01
Any Deer Harvested	0.97	0.97	0.92	0.94	0.97	0.97
Any Deer Available	0.96	0.97	0.95	1.02	0.97	0.97
Population Growth	0.96	0.97	1.07	1.02	0.97	0.97

No Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.00	1.13	1.08	1.22
Big Bucks Available	1.00	1.24	3.66	2.30	1.13	1.22
Any Buck Harvested	0.98	0.98	0.89	0.92	0.98	0.98
Any Buck Available	0.99	1.04	1.05	1.29	1.02	1.04
Any Deer Harvested	0.98	0.98	0.94	0.96	0.98	0.98
Any Deer Available	0.98	0.99	0.97	1.04	0.99	0.99
Population Growth	0.98	0.99	1.09	1.04	0.99	0.99

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.28	3.10	1.16	1.12	1.26
Big Bucks Available	1.03	1.27	3.76	2.37	1.17	1.25
Any Buck Harvested	1.02	1.01	0.91	0.95	1.02	1.01
Any Buck Available	1.02	1.07	1.07	1.33	1.05	1.07
Any Deer Harvested	1.03	1.03	0.98	1.01	1.03	1.03
Any Deer Available	1.02	1.03	0.99	1.07	1.02	1.03

Population Growth	1.02	1.03	1.11	1.07	1.02	1.03

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.20	2.92	1.10	1.05	1.18
Big Bucks Available	0.96	1.20	3.55	2.24	1.10	1.18
Any Buck Harvested	0.96	0.96	0.88	0.91	0.96	0.96
Any Buck Available	0.96	1.02	1.04	1.27	0.99	1.01
Any Deer Harvested	0.96	0.96	0.92	0.94	0.96	0.96
Any Deer Available	0.96	0.97	0.95	1.01	0.96	0.96
Population Growth	0.96	0.97	1.07	1.01	0.96	0.96

No Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.00	1.12	1.08	1.22
Big Bucks Available	1.00	1.23	3.64	2.29	1.13	1.21
Any Buck Harvested	0.99	0.98	0.89	0.93	0.98	0.98
Any Buck Available	0.99	1.04	1.05	1.29	1.02	1.04
Any Deer Harvested	0.99	0.99	0.95	0.97	0.99	0.99
Any Deer Available	0.99	0.99	0.97	1.03	0.99	0.99
Population Growth	0.99	0.99	1.09	1.03	0.99	0.99

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.03	1.28	3.09	1.16	1.12	1.26
Big Bucks	1.03	1.27	3.75	2.36	1.17	1.25

Available						
Any Buck Harvested	1.02	1.02	0.91	0.96	1.02	1.02
Any Buck Available	1.02	1.08	1.08	1.33	1.05	1.07
Any Deer Harvested	1.02	1.02	0.97	1.00	1.02	1.02
Any Deer Available	1.01	1.02	0.99	1.06	1.02	1.02
Population Growth	1.01	1.02	1.11	1.06	1.02	1.02

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.20	2.93	1.11	1.05	1.18
Big Bucks Available	0.97	1.20	3.57	2.27	1.10	1.18
Any Buck Harvested	0.96	0.96	0.88	0.91	0.96	0.96
Any Buck Available	0.96	1.02	1.03	1.27	1.00	1.01
Any Deer Harvested	0.97	0.97	0.93	0.94	0.97	0.97
Any Deer Available	0.96	0.97	0.95	1.01	0.97	0.97
Population Growth	0.96	0.97	1.07	1.01	0.97	0.97

No Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.03	1.13	1.09	1.22
Big Bucks Available	1.00	1.24	3.66	2.31	1.13	1.22
Any Buck Harvested	1.00	0.99	0.90	0.93	0.99	0.99
Any Buck Available	0.99	1.05	1.06	1.30	1.02	1.04
Any Deer Harvested	1.01	1.01	0.97	0.98	1.01	1.01
Any Deer Available	0.99	1.00	0.98	1.04	1.00	1.00

Population Growth	0.99	1.00	1.09	1.04	1.00	1.00

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.08	1.34	3.21	1.20	1.17	1.32
Big Bucks Available	1.08	1.33	3.89	2.46	1.22	1.31
Any Buck Harvested	1.07	1.07	0.94	1.00	1.07	1.07
Any Buck Available	1.07	1.13	1.11	1.39	1.11	1.13
Any Deer Harvested	1.09	1.08	1.01	1.05	1.08	1.08
Any Deer Available	1.07	1.08	1.02	1.12	1.08	1.08
Population Growth	1.07	1.08	1.14	1.12	1.08	1.08

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.29	3.11	1.16	1.13	1.27
Big Bucks Available	1.04	1.28	3.77	2.37	1.18	1.26
Any Buck Harvested	1.02	1.02	0.91	0.95	1.02	1.02
Any Buck Available	1.02	1.08	1.08	1.33	1.05	1.07
Any Deer Harvested	1.03	1.03	0.97	1.00	1.03	1.03
Any Deer Available	1.02	1.03	0.99	1.07	1.03	1.03
Population Growth	1.02	1.03	1.12	1.07	1.03	1.03

No Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.32	3.17	1.18	1.15	1.30

Big Bucks Available	1.06	1.32	3.83	2.42	1.20	1.29
Any Buck Harvested	1.05	1.04	0.93	0.97	1.04	1.04
Any Buck Available	1.05	1.11	1.10	1.36	1.08	1.10
Any Deer Harvested	1.06	1.06	1.00	1.03	1.06	1.06
Any Deer Available	1.05	1.06	1.00	1.09	1.05	1.06
Population Growth	1.05	1.06	1.13	1.09	1.05	1.06

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.34	3.22	1.20	1.18	1.32
Big Bucks Available	1.08	1.34	3.91	2.46	1.23	1.32
Any Buck Harvested	1.07	1.06	0.94	0.99	1.07	1.07
Any Buck Available	1.07	1.13	1.11	1.39	1.11	1.13
Any Deer Harvested	1.08	1.08	1.01	1.05	1.08	1.08
Any Deer Available	1.07	1.08	1.02	1.11	1.07	1.08
Population Growth	1.07	1.08	1.14	1.11	1.07	1.08

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.29	3.11	1.17	1.13	1.27
Big Bucks Available	1.04	1.28	3.77	2.38	1.18	1.26
Any Buck Harvested	1.02	1.02	0.91	0.95	1.02	1.02
Any Buck Available	1.02	1.08	1.08	1.33	1.05	1.07
Any Deer Harvested	1.03	1.03	0.98	1.00	1.03	1.03
Any Deer	1.02	1.03	0.99	1.07	1.03	1.03

Available Population Growth	1.02	1.03	1.11	1.07	1.03	1.03

No Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.31	3.16	1.19	1.15	1.29
Big Bucks Available	1.05	1.31	3.83	2.42	1.20	1.29
Any Buck Harvested	1.05	1.05	0.93	0.98	1.05	1.05
Any Buck Available	1.05	1.11	1.10	1.37	1.08	1.10
Any Deer Harvested	1.06	1.06	0.98	1.03	1.05	1.06
Any Deer Available	1.05	1.05	1.00	1.09	1.05	1.05
Population Growth	1.05	1.05	1.12	1.09	1.05	1.05

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.33	3.20	1.20	1.16	1.31
Big Bucks Available	1.07	1.33	3.88	2.44	1.22	1.31
Any Buck Harvested	1.08	1.07	0.95	1.00	1.07	1.07
Any Buck Available	1.08	1.14	1.11	1.39	1.11	1.13
Any Deer Harvested	1.08	1.08	1.01	1.05	1.08	1.08
Any Deer Available	1.07	1.08	1.01	1.11	1.07	1.08
Population Growth	1.07	1.08	1.14	1.11	1.07	1.08

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	1.04	1.29	3.11	1.16	1.13	1.27

Harvested						
Big Bucks Available	1.04	1.28	3.77	2.38	1.17	1.26
Any Buck Harvested	1.03	1.02	0.92	0.95	1.02	1.02
Any Buck Available	1.02	1.08	1.08	1.33	1.05	1.08
Any Deer Harvested	1.04	1.04	0.98	1.01	1.04	1.04
Any Deer Available	1.03	1.04	0.99	1.07	1.03	1.03
Population Growth	1.03	1.04	1.12	1.07	1.03	1.03

No Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.13	1.18	1.13	1.27
Big Bucks Available	1.04	1.29	3.80	2.41	1.18	1.27
Any Buck Harvested	1.05	1.04	0.92	0.98	1.04	1.04
Any Buck Available	1.05	1.10	1.09	1.36	1.08	1.10
Any Deer Harvested	1.05	1.05	0.98	1.02	1.05	1.05
Any Deer Available	1.04	1.05	1.00	1.08	1.05	1.05
Population Growth	1.04	1.05	1.12	1.08	1.05	1.05

Adirondack

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.20	1.63	0.70	1.15	1.16
Big Bucks Available	1.07	1.20	2.35	0.60	1.73	1.15
Any Buck Harvested	1.09	1.08	0.82	1.15	0.98	1.08
Any Buck Available	1.09	1.15	1.12	0.90	1.38	1.13
Any Deer Harvested	1.09	1.08	0.82	1.15	0.98	1.08

Any Deer Available	1.09	1.15	1.12	0.90	1.38	1.13
Population Growth	1.11	1.12	1.20	1.09	1.15	1.12

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.12	1.52	0.65	1.08	1.08
Big Bucks Available	0.99	1.12	2.21	0.56	1.63	1.08
Any Buck Harvested	1.02	1.00	0.77	1.06	0.92	1.01
Any Buck Available	1.02	1.07	1.07	0.83	1.29	1.05
Any Deer Harvested	1.02	1.00	0.77	1.06	0.92	1.01
Any Deer Available	1.02	1.07	1.07	0.83	1.29	1.05
Population Growth	1.03	1.04	1.12	1.01	1.07	1.04

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.16	1.58	0.68	1.12	1.12
Big Bucks Available	1.03	1.16	2.28	0.58	1.68	1.12
Any Buck Harvested	1.05	1.03	0.79	1.10	0.95	1.04
Any Buck Available	1.05	1.10	1.09	0.86	1.33	1.09
Any Deer Harvested	1.05	1.03	0.79	1.10	0.95	1.04
Any Deer Available	1.05	1.10	1.09	0.86	1.33	1.09
Population Growth	1.07	1.08	1.16	1.05	1.11	1.08

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.17	1.59	0.69	1.14	1.13

Big Bucks Available	1.04	1.17	2.30	0.59	1.70	1.13
Any Buck Harvested	1.08	1.07	0.81	1.14	0.98	1.07
Any Buck Available	1.09	1.14	1.11	0.89	1.37	1.13
Any Deer Harvested	1.08	1.07	0.81	1.14	0.98	1.07
Any Deer Available	1.09	1.14	1.11	0.89	1.37	1.13
Population Growth	1.11	1.12	1.18	1.09	1.14	1.11

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.09	1.48	0.63	1.05	1.05
Big Bucks Available	0.97	1.09	2.16	0.54	1.59	1.05
Any Buck Harvested	1.00	0.99	0.76	1.05	0.91	0.99
Any Buck Available	1.00	1.06	1.05	0.82	1.27	1.04
Any Deer Harvested	1.00	0.99	0.76	1.05	0.91	0.99
Any Deer Available	1.00	1.06	1.05	0.82	1.27	1.04
Population Growth	1.03	1.04	1.10	1.01	1.06	1.03

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.13	1.54	0.66	1.10	1.09
Big Bucks Available	1.01	1.13	2.23	0.57	1.65	1.09
Any Buck Harvested	1.05	1.03	0.79	1.10	0.95	1.04
Any Buck Available	1.05	1.10	1.08	0.86	1.32	1.08
Any Deer Harvested	1.05	1.03	0.79	1.10	0.95	1.04
Any Deer Available	1.05	1.10	1.08	0.86	1.32	1.08
Population	1.07	1.08	1.14	1.05	1.10	1.07

Growth

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.19	1.62	0.70	1.15	1.15
Big Bucks Available	1.06	1.19	2.34	0.60	1.73	1.15
Any Buck Harvested	1.09	1.07	0.82	1.15	0.99	1.08
Any Buck Available	1.09	1.15	1.12	0.90	1.38	1.13
Any Deer Harvested	1.09	1.07	0.82	1.15	0.99	1.08
Any Deer Available	1.09	1.15	1.12	0.90	1.38	1.13
Population Growth	1.11	1.12	1.19	1.09	1.15	1.12

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.98	1.10	1.50	0.64	1.06	1.06
Big Bucks Available	0.98	1.10	2.18	0.55	1.61	1.06
Any Buck Harvested	1.01	1.00	0.77	1.06	0.91	1.00
Any Buck Available	1.01	1.06	1.06	0.83	1.28	1.04
Any Deer Harvested	1.01	1.00	0.77	1.06	0.91	1.00
Any Deer Available	1.01	1.06	1.06	0.83	1.28	1.04
Population Growth	1.03	1.04	1.11	1.01	1.07	1.04

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.14	1.55	0.67	1.11	1.10
Big Bucks Available	1.02	1.14	2.25	0.57	1.67	1.10

Any Buck Harvested	1.06	1.04	0.80	1.11	0.95	1.04
Any Buck Available	1.06	1.11	1.09	0.87	1.33	1.09
Any Deer Harvested	1.06	1.04	0.80	1.11	0.95	1.04
Any Deer Available	1.06	1.11	1.09	0.87	1.33	1.09
Population Growth	1.07	1.08	1.15	1.05	1.11	1.08

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.04	1.43	0.60	1.00	1.01
Big Bucks Available	0.92	1.04	2.07	0.52	1.52	1.00
Any Buck Harvested	0.96	0.94	0.74	0.99	0.87	0.95
Any Buck Available	0.96	1.01	1.02	0.78	1.22	0.99
Any Deer Harvested	0.96	0.94	0.74	0.99	0.87	0.95
Any Deer Available	0.96	1.01	1.02	0.78	1.22	0.99
Population Growth	0.99	0.99	1.06	0.96	1.02	0.99

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.86	0.97	1.32	0.56	0.94	0.93
Big Bucks Available	0.86	0.97	1.94	0.48	1.43	0.93
Any Buck Harvested	0.90	0.89	0.70	0.93	0.82	0.89
Any Buck Available	0.90	0.95	0.97	0.73	1.15	0.93
Any Deer Harvested	0.90	0.89	0.70	0.93	0.82	0.89
Any Deer Available	0.90	0.95	0.97	0.73	1.15	0.93
Population Growth	0.93	0.93	1.00	0.90	0.96	0.93

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.89	1.00	1.36	0.58	0.97	0.96
Big Bucks Available	0.89	1.00	2.00	0.50	1.47	0.96
Any Buck Harvested	0.93	0.92	0.71	0.96	0.85	0.92
Any Buck Available	0.93	0.98	0.99	0.75	1.19	0.96
Any Deer Harvested	0.93	0.92	0.71	0.96	0.85	0.92
Any Deer Available	0.93	0.98	0.99	0.75	1.19	0.96
Population Growth	0.95	0.96	1.02	0.93	0.98	0.96

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.02	1.39	0.59	0.99	0.98
Big Bucks Available	0.90	1.02	2.03	0.51	1.49	0.98
Any Buck Harvested	0.95	0.94	0.73	0.99	0.86	0.94
Any Buck Available	0.95	1.00	1.01	0.77	1.21	0.98
Any Deer Harvested	0.95	0.94	0.73	0.99	0.86	0.94
Any Deer Available	0.95	1.00	1.01	0.77	1.21	0.98
Population Growth	0.99	0.99	1.05	0.97	1.01	0.99

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.84	0.94	1.29	0.55	0.92	0.91
Big Bucks Available	0.84	0.94	1.89	0.47	1.39	0.91
Any Buck Harvested	0.89	0.88	0.69	0.92	0.81	0.88
Any Buck Available	0.89	0.94	0.96	0.72	1.14	0.92

Any Deer Harvested	0.89	0.88	0.69	0.92	0.81	0.88
Any Deer Available	0.89	0.94	0.96	0.72	1.14	0.92
Population Growth	0.92	0.93	0.98	0.90	0.95	0.93

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.87	0.98	1.33	0.57	0.95	0.94
Big Bucks Available	0.87	0.98	1.96	0.48	1.44	0.94
Any Buck Harvested	0.91	0.90	0.70	0.95	0.83	0.90
Any Buck Available	0.91	0.96	0.98	0.74	1.17	0.95
Any Deer Harvested	0.91	0.90	0.70	0.95	0.83	0.90
Any Deer Available	0.91	0.96	0.98	0.74	1.17	0.95
Population Growth	0.95	0.95	1.01	0.93	0.98	0.95

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.03	1.40	0.60	1.00	0.99
Big Bucks Available	0.91	1.02	2.05	0.51	1.51	0.99
Any Buck Harvested	0.96	0.94	0.73	1.00	0.87	0.95
Any Buck Available	0.96	1.01	1.01	0.78	1.22	0.99
Any Deer Harvested	0.96	0.94	0.73	1.00	0.87	0.95
Any Deer Available	0.96	1.01	1.01	0.78	1.22	0.99
Population Growth	0.99	0.99	1.05	0.97	1.02	0.99

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	0.85	0.95	1.30	0.55	0.93	0.92
Big Bucks Available	0.84	0.95	1.91	0.47	1.41	0.91
Any Buck Harvested	0.89	0.88	0.69	0.93	0.82	0.89
Any Buck Available	0.89	0.94	0.96	0.72	1.14	0.92
Any Deer Harvested	0.89	0.88	0.69	0.93	0.82	0.89
Any Deer Available	0.89	0.94	0.96	0.72	1.14	0.92
Population Growth	0.92	0.93	0.99	0.90	0.95	0.93

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.88	0.99	1.36	0.58	0.97	0.96
Big Bucks Available	0.88	0.99	1.99	0.49	1.47	0.96
Any Buck Harvested	0.93	0.91	0.72	0.96	0.84	0.92
Any Buck Available	0.93	0.97	0.99	0.75	1.19	0.96
Any Deer Harvested	0.93	0.91	0.72	0.96	0.84	0.92
Any Deer Available	0.93	0.97	0.99	0.75	1.19	0.96
Population Growth	0.96	0.96	1.02	0.94	0.99	0.96

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.13	1.54	0.66	1.09	1.09
Big Bucks Available	1.00	1.13	2.23	0.56	1.65	1.09
Any Buck Harvested	1.03	1.02	0.78	1.08	0.93	1.02
Any Buck Available	1.03	1.08	1.08	0.84	1.31	1.07
Any Deer Harvested	1.03	1.02	0.78	1.08	0.93	1.02

Any Deer Available	1.03	1.08	1.08	0.84	1.31	1.07
Population Growth	1.06	1.06	1.13	1.03	1.09	1.06

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.04	1.42	0.61	1.02	1.00
Big Bucks Available	0.93	1.04	2.08	0.52	1.53	1.00
Any Buck Harvested	0.96	0.94	0.73	1.00	0.87	0.95
Any Buck Available	0.96	1.01	1.02	0.78	1.22	0.99
Any Deer Harvested	0.96	0.94	0.73	1.00	0.87	0.95
Any Deer Available	0.96	1.01	1.02	0.78	1.22	0.99
Population Growth	0.98	0.98	1.05	0.95	1.01	0.98

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.08	1.47	0.63	1.05	1.04
Big Bucks Available	0.96	1.08	2.15	0.54	1.58	1.04
Any Buck Harvested	1.00	0.98	0.76	1.04	0.90	0.99
Any Buck Available	1.00	1.05	1.05	0.81	1.27	1.03
Any Deer Harvested	1.00	0.98	0.76	1.04	0.90	0.99
Any Deer Available	1.00	1.05	1.05	0.81	1.27	1.03
Population Growth	1.01	1.02	1.09	0.99	1.05	1.02

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.09	1.49	0.64	1.06	1.05

Big Bucks Available	0.97	1.09	2.17	0.55	1.60	1.05
Any Buck Harvested	1.02	1.00	0.77	1.07	0.92	1.01
Any Buck Available	1.02	1.07	1.06	0.84	1.29	1.06
Any Deer Harvested	1.02	1.00	0.77	1.07	0.92	1.01
Any Deer Available	1.02	1.07	1.06	0.84	1.29	1.06
Population Growth	1.05	1.05	1.11	1.03	1.08	1.05

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.02	1.39	0.60	1.00	0.99
Big Bucks Available	0.91	1.02	2.04	0.51	1.51	0.99
Any Buck Harvested	0.96	0.95	0.73	1.00	0.88	0.95
Any Buck Available	0.96	1.01	1.02	0.79	1.23	1.00
Any Deer Harvested	0.96	0.95	0.73	1.00	0.88	0.95
Any Deer Available	0.96	1.01	1.02	0.79	1.23	1.00
Population Growth	0.98	0.98	1.04	0.96	1.00	0.98

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.05	1.43	0.61	1.02	1.01
Big Bucks Available	0.93	1.05	2.09	0.52	1.54	1.01
Any Buck Harvested	0.99	0.98	0.75	1.04	0.90	0.98
Any Buck Available	0.99	1.04	1.04	0.81	1.26	1.02
Any Deer Harvested	0.99	0.98	0.75	1.04	0.90	0.98
Any Deer Available	0.99	1.04	1.04	0.81	1.26	1.02

Population Growth	1.02	1.02	1.08	1.00	1.05	1.02

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.12	1.52	0.65	1.08	1.08
Big Bucks Available	0.99	1.11	2.20	0.56	1.63	1.07
Any Buck Harvested	1.03	1.02	0.78	1.08	0.94	1.02
Any Buck Available	1.03	1.09	1.08	0.85	1.31	1.07
Any Deer Harvested	1.03	1.02	0.78	1.08	0.94	1.02
Any Deer Available	1.03	1.09	1.08	0.85	1.31	1.07
Population Growth	1.05	1.06	1.12	1.03	1.08	1.05

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.92	1.03	1.41	0.60	1.01	1.00
Big Bucks Available	0.92	1.03	2.06	0.52	1.52	0.99
Any Buck Harvested	0.96	0.95	0.73	1.00	0.88	0.95
Any Buck Available	0.96	1.01	1.02	0.78	1.23	0.99
Any Deer Harvested	0.96	0.95	0.73	1.00	0.88	0.95
Any Deer Available	0.96	1.01	1.02	0.78	1.23	0.99
Population Growth	0.98	0.99	1.05	0.96	1.01	0.98

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.96	1.08	1.47	0.63	1.04	1.04

Big Bucks Available	0.96	1.08	2.14	0.54	1.58	1.04
Any Buck Harvested	1.00	0.98	0.76	1.04	0.90	0.99
Any Buck Available	0.99	1.04	1.04	0.81	1.26	1.03
Any Deer Harvested	1.00	0.98	0.76	1.04	0.90	0.99
Any Deer Available	0.99	1.04	1.04	0.81	1.26	1.03
Population Growth	1.02	1.03	1.09	1.00	1.05	1.02

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.23	1.67	0.72	1.19	1.19
Big Bucks Available	1.10	1.23	2.41	0.62	1.79	1.19
Any Buck Harvested	1.12	1.11	0.84	1.18	1.02	1.11
Any Buck Available	1.13	1.18	1.15	0.92	1.42	1.16
Any Deer Harvested	1.12	1.11	0.84	1.18	1.02	1.11
Any Deer Available	1.13	1.18	1.15	0.92	1.42	1.16
Population Growth	1.14	1.15	1.23	1.11	1.18	1.15

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.14	1.56	0.66	1.09	1.10
Big Bucks Available	1.01	1.14	2.25	0.56	1.65	1.09
Any Buck Harvested	1.03	1.02	0.79	1.08	0.93	1.02
Any Buck Available	1.03	1.08	1.08	0.84	1.30	1.07
Any Deer Harvested	1.03	1.02	0.79	1.08	0.93	1.02
Any Deer Available	1.03	1.08	1.08	0.84	1.30	1.07
Population	1.05	1.06	1.14	1.03	1.09	1.06

Growth

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.19	1.62	0.70	1.15	1.15
Big Bucks Available	1.06	1.19	2.35	0.60	1.74	1.15
Any Buck Harvested	1.08	1.07	0.81	1.14	0.98	1.07
Any Buck Available	1.08	1.14	1.11	0.89	1.37	1.12
Any Deer Harvested	1.08	1.07	0.81	1.14	0.98	1.07
Any Deer Available	1.08	1.14	1.11	0.89	1.37	1.12
Population Growth	1.10	1.10	1.19	1.07	1.14	1.10

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.09	1.22	1.65	0.71	1.17	1.18
Big Bucks Available	1.08	1.22	2.39	0.61	1.76	1.17
Any Buck Harvested	1.12	1.10	0.84	1.18	1.01	1.11
Any Buck Available	1.12	1.18	1.15	0.92	1.41	1.16
Any Deer Harvested	1.12	1.10	0.84	1.18	1.01	1.11
Any Deer Available	1.12	1.18	1.15	0.92	1.41	1.16
Population Growth	1.14	1.15	1.22	1.12	1.18	1.15

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.12	1.52	0.65	1.08	1.08
Big Bucks Available	0.99	1.11	2.21	0.55	1.62	1.07
Any Buck	1.03	1.01	0.78	1.07	0.93	1.02

Harvested						
Any Buck Available	1.03	1.08	1.07	0.84	1.30	1.06
Any Deer Harvested	1.03	1.01	0.78	1.07	0.93	1.02
Any Deer Available	1.03	1.08	1.07	0.84	1.30	1.06
Population Growth	1.05	1.06	1.13	1.03	1.08	1.05

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.04	1.17	1.59	0.68	1.14	1.13
Big Bucks Available	1.04	1.17	2.30	0.58	1.71	1.12
Any Buck Harvested	1.08	1.06	0.81	1.14	0.98	1.07
Any Buck Available	1.08	1.13	1.11	0.89	1.36	1.12
Any Deer Harvested	1.08	1.06	0.81	1.14	0.98	1.07
Any Deer Available	1.08	1.13	1.11	0.89	1.36	1.12
Population Growth	1.10	1.11	1.18	1.08	1.13	1.10

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.23	1.68	0.72	1.18	1.19
Big Bucks Available	1.09	1.23	2.41	0.62	1.78	1.18
Any Buck Harvested	1.13	1.11	0.84	1.18	1.01	1.11
Any Buck Available	1.12	1.18	1.14	0.92	1.41	1.16
Any Deer Harvested	1.13	1.11	0.84	1.18	1.01	1.11
Any Deer Available	1.12	1.18	1.14	0.92	1.41	1.16
Population Growth	1.15	1.15	1.23	1.12	1.18	1.15

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.14	1.55	0.66	1.10	1.10
Big Bucks Available	1.01	1.13	2.24	0.57	1.66	1.09
Any Buck Harvested	1.04	1.03	0.79	1.09	0.94	1.03
Any Buck Available	1.04	1.09	1.08	0.85	1.32	1.08
Any Deer Harvested	1.04	1.03	0.79	1.09	0.94	1.03
Any Deer Available	1.04	1.09	1.08	0.85	1.32	1.08
Population Growth	1.06	1.06	1.14	1.03	1.09	1.06

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.18	1.60	0.69	1.14	1.13
Big Bucks Available	1.05	1.17	2.32	0.59	1.72	1.13
Any Buck Harvested	1.08	1.06	0.81	1.14	0.98	1.07
Any Buck Available	1.08	1.14	1.11	0.89	1.37	1.12
Any Deer Harvested	1.08	1.06	0.81	1.14	0.98	1.07
Any Deer Available	1.08	1.14	1.11	0.89	1.37	1.12
Population Growth	1.10	1.10	1.18	1.07	1.13	1.10

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.07	1.46	0.62	1.03	1.03
Big Bucks Available	0.95	1.06	2.12	0.53	1.56	1.02
Any Buck Harvested	0.98	0.96	0.75	1.01	0.89	0.97
Any Buck Available	0.97	1.02	1.03	0.79	1.24	1.01

Any Deer Harvested	0.98	0.96	0.75	1.01	0.89	0.97
Any Deer Available	0.97	1.02	1.03	0.79	1.24	1.01
Population Growth	1.00	1.01	1.08	0.98	1.04	1.01

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.88	0.99	1.35	0.57	0.96	0.95
Big Bucks Available	0.88	0.98	1.98	0.49	1.45	0.95
Any Buck Harvested	0.91	0.90	0.71	0.95	0.83	0.90
Any Buck Available	0.91	0.96	0.99	0.74	1.17	0.94
Any Deer Harvested	0.91	0.90	0.71	0.95	0.83	0.90
Any Deer Available	0.91	0.96	0.99	0.74	1.17	0.94
Population Growth	0.94	0.95	1.02	0.92	0.97	0.95

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.02	1.40	0.59	1.00	0.99
Big Bucks Available	0.91	1.02	2.05	0.51	1.51	0.99
Any Buck Harvested	0.94	0.93	0.72	0.98	0.86	0.93
Any Buck Available	0.94	0.99	1.01	0.77	1.21	0.98
Any Deer Harvested	0.94	0.93	0.72	0.98	0.86	0.93
Any Deer Available	0.94	0.99	1.01	0.77	1.21	0.98
Population Growth	0.97	0.98	1.05	0.95	1.00	0.98

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	0.92	1.04	1.42	0.60	1.01	1.00
Big Bucks Available	0.92	1.03	2.07	0.51	1.52	1.00
Any Buck Harvested	0.97	0.96	0.74	1.01	0.88	0.96
Any Buck Available	0.97	1.02	1.02	0.79	1.24	1.00
Any Deer Harvested	0.97	0.96	0.74	1.01	0.88	0.96
Any Deer Available	0.97	1.02	1.02	0.79	1.24	1.00
Population Growth	1.01	1.01	1.07	0.99	1.04	1.01

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.86	0.96	1.32	0.56	0.94	0.93
Big Bucks Available	0.85	0.96	1.93	0.48	1.42	0.92
Any Buck Harvested	0.91	0.89	0.70	0.94	0.83	0.90
Any Buck Available	0.91	0.95	0.98	0.73	1.16	0.94
Any Deer Harvested	0.91	0.89	0.70	0.94	0.83	0.90
Any Deer Available	0.91	0.95	0.98	0.73	1.16	0.94
Population Growth	0.93	0.94	1.00	0.91	0.96	0.94

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.89	1.00	1.36	0.58	0.97	0.96
Big Bucks Available	0.89	0.99	1.99	0.49	1.46	0.96
Any Buck Harvested	0.93	0.92	0.72	0.97	0.85	0.92
Any Buck Available	0.93	0.98	1.00	0.76	1.19	0.97
Any Deer Harvested	0.93	0.92	0.72	0.97	0.85	0.92
Any Deer	0.93	0.98	1.00	0.76	1.19	0.97

Available Population Growth	0.97	0.97	1.03	0.95	0.99	0.97

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.93	1.05	1.43	0.61	1.02	1.01
Big Bucks Available	0.93	1.04	2.09	0.52	1.53	1.00
Any Buck Harvested	0.97	0.96	0.74	1.02	0.89	0.97
Any Buck Available	0.97	1.02	1.03	0.79	1.24	1.01
Any Deer Harvested	0.97	0.96	0.74	1.02	0.89	0.97
Any Deer Available	0.97	1.02	1.03	0.79	1.24	1.01
Population Growth	1.00	1.01	1.07	0.98	1.03	1.00

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.87	0.98	1.34	0.57	0.96	0.94
Big Bucks Available	0.87	0.98	1.96	0.49	1.45	0.94
Any Buck Harvested	0.91	0.90	0.70	0.95	0.84	0.91
Any Buck Available	0.91	0.96	0.98	0.74	1.17	0.94
Any Deer Harvested	0.91	0.90	0.70	0.95	0.84	0.91
Any Deer Available	0.91	0.96	0.98	0.74	1.17	0.94
Population Growth	0.94	0.95	1.01	0.92	0.97	0.94

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.02	1.40	0.59	0.99	0.98

Big Bucks Available	0.90	1.01	2.03	0.50	1.49	0.97
Any Buck Harvested	0.95	0.94	0.73	0.99	0.86	0.94
Any Buck Available	0.95	0.99	1.01	0.77	1.21	0.98
Any Deer Harvested	0.95	0.94	0.73	0.99	0.86	0.94
Any Deer Available	0.95	0.99	1.01	0.77	1.21	0.98
Population Growth	0.98	0.98	1.04	0.96	1.01	0.98

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.15	1.57	0.67	1.11	1.11
Big Bucks Available	1.02	1.15	2.27	0.57	1.67	1.10
Any Buck Harvested	1.06	1.04	0.80	1.11	0.96	1.04
Any Buck Available	1.06	1.11	1.10	0.86	1.34	1.09
Any Deer Harvested	1.06	1.04	0.80	1.11	0.96	1.04
Any Deer Available	1.06	1.11	1.10	0.86	1.34	1.09
Population Growth	1.08	1.08	1.16	1.05	1.11	1.08

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.07	1.45	0.62	1.03	1.03
Big Bucks Available	0.94	1.06	2.12	0.53	1.56	1.02
Any Buck Harvested	0.98	0.96	0.75	1.02	0.89	0.97
Any Buck Available	0.98	1.03	1.03	0.79	1.24	1.01
Any Deer Harvested	0.98	0.96	0.75	1.02	0.89	0.97
Any Deer Available	0.98	1.03	1.03	0.79	1.24	1.01
Population	1.00	1.01	1.08	0.97	1.03	1.00

Growth

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.99	1.11	1.52	0.64	1.07	1.07
Big Bucks Available	0.98	1.11	2.20	0.55	1.61	1.07
Any Buck Harvested	1.01	1.00	0.77	1.05	0.91	1.00
Any Buck Available	1.01	1.06	1.06	0.82	1.28	1.04
Any Deer Harvested	1.01	1.00	0.77	1.05	0.91	1.00
Any Deer Available	1.01	1.06	1.06	0.82	1.28	1.04
Population Growth	1.04	1.04	1.12	1.01	1.07	1.04

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.13	1.54	0.66	1.09	1.09
Big Bucks Available	1.00	1.13	2.23	0.56	1.65	1.09
Any Buck Harvested	1.05	1.03	0.79	1.10	0.95	1.04
Any Buck Available	1.05	1.10	1.09	0.86	1.33	1.09
Any Deer Harvested	1.05	1.03	0.79	1.10	0.95	1.04
Any Deer Available	1.05	1.10	1.09	0.86	1.33	1.09
Population Growth	1.07	1.08	1.14	1.05	1.10	1.08

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.94	1.05	1.44	0.61	1.02	1.02
Big Bucks Available	0.93	1.05	2.09	0.52	1.54	1.01

Any Buck Harvested	0.97	0.96	0.74	1.01	0.88	0.96
Any Buck Available	0.97	1.02	1.03	0.79	1.23	1.00
Any Deer Harvested	0.97	0.96	0.74	1.01	0.88	0.96
Any Deer Available	0.97	1.02	1.03	0.79	1.23	1.00
Population Growth	1.00	1.00	1.07	0.98	1.03	1.00

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.09	1.50	0.64	1.06	1.05
Big Bucks Available	0.97	1.09	2.17	0.55	1.61	1.05
Any Buck Harvested	1.02	1.00	0.77	1.06	0.92	1.00
Any Buck Available	1.02	1.07	1.06	0.83	1.29	1.05
Any Deer Harvested	1.02	1.00	0.77	1.06	0.92	1.00
Any Deer Available	1.02	1.07	1.06	0.83	1.29	1.05
Population Growth	1.04	1.04	1.11	1.02	1.07	1.04

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.13	1.54	0.66	1.09	1.09
Big Bucks Available	1.00	1.13	2.24	0.56	1.65	1.09
Any Buck Harvested	1.06	1.04	0.80	1.10	0.95	1.04
Any Buck Available	1.05	1.11	1.09	0.86	1.33	1.09
Any Deer Harvested	1.06	1.04	0.80	1.10	0.95	1.04
Any Deer Available	1.05	1.11	1.09	0.86	1.33	1.09
Population	1.07	1.08	1.15	1.05	1.10	1.08

Growth

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.07	1.46	0.62	1.03	1.03
Big Bucks Available	0.94	1.06	2.12	0.53	1.56	1.02
Any Buck Harvested	0.98	0.96	0.75	1.02	0.89	0.97
Any Buck Available	0.97	1.02	1.03	0.79	1.24	1.01
Any Deer Harvested	0.98	0.96	0.75	1.02	0.89	0.97
Any Deer Available	0.97	1.02	1.03	0.79	1.24	1.01
Population Growth	1.00	1.01	1.08	0.98	1.03	1.00

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.09	1.48	0.64	1.06	1.05
Big Bucks Available	0.96	1.08	2.16	0.54	1.60	1.04
Any Buck Harvested	1.01	1.00	0.77	1.06	0.92	1.00
Any Buck Available	1.01	1.06	1.06	0.83	1.29	1.05
Any Deer Harvested	1.01	1.00	0.77	1.06	0.92	1.00
Any Deer Available	1.01	1.06	1.06	0.83	1.29	1.05
Population Growth	1.03	1.04	1.11	1.01	1.06	1.03

Northwestern

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.16	1.37	2.69	1.26	1.47	1.35
Big Bucks	1.16	1.36	3.31	1.77	1.95	1.34

Available						
Any Buck Harvested	1.15	1.14	0.97	1.10	1.09	1.14
Any Buck Available	1.15	1.21	1.16	1.33	1.38	1.20
Any Deer Harvested	1.16	1.15	1.08	1.13	1.13	1.15
Any Deer Available	1.15	1.16	1.10	1.17	1.18	1.16
Population Growth	1.15	1.16	1.23	1.17	1.18	1.16

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.25	2.47	1.16	1.36	1.23
Big Bucks Available	1.06	1.24	3.06	1.63	1.79	1.23
Any Buck Harvested	1.04	1.03	0.90	1.00	1.00	1.03
Any Buck Available	1.04	1.10	1.08	1.21	1.26	1.09
Any Deer Harvested	1.04	1.04	0.97	1.02	1.02	1.04
Any Deer Available	1.04	1.05	1.02	1.07	1.08	1.05
Population Growth	1.04	1.05	1.15	1.07	1.08	1.05

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.12	1.32	2.60	1.22	1.43	1.30
Big Bucks Available	1.11	1.31	3.20	1.71	1.88	1.29
Any Buck Harvested	1.10	1.09	0.94	1.05	1.04	1.09
Any Buck Available	1.10	1.15	1.12	1.27	1.32	1.15
Any Deer Harvested	1.11	1.10	1.03	1.09	1.08	1.10
Any Deer Available	1.10	1.11	1.06	1.13	1.13	1.11
Population Growth	1.10	1.11	1.19	1.13	1.13	1.11

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.16	1.36	2.67	1.26	1.48	1.35
Big Bucks Available	1.15	1.36	3.31	1.77	1.95	1.34
Any Buck Harvested	1.15	1.14	0.97	1.10	1.10	1.14
Any Buck Available	1.15	1.21	1.16	1.33	1.38	1.21
Any Deer Harvested	1.16	1.15	1.08	1.14	1.14	1.15
Any Deer Available	1.14	1.15	1.10	1.16	1.17	1.15
Population Growth	1.14	1.15	1.22	1.16	1.17	1.15

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.25	2.47	1.16	1.35	1.23
Big Bucks Available	1.05	1.24	3.06	1.63	1.79	1.23
Any Buck Harvested	1.05	1.04	0.91	1.01	1.00	1.04
Any Buck Available	1.05	1.10	1.09	1.22	1.27	1.10
Any Deer Harvested	1.05	1.05	0.99	1.03	1.03	1.05
Any Deer Available	1.04	1.05	1.03	1.07	1.08	1.05
Population Growth	1.04	1.05	1.14	1.07	1.08	1.05

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.10	1.30	2.57	1.21	1.42	1.28
Big Bucks Available	1.10	1.30	3.18	1.71	1.87	1.28
Any Buck Harvested	1.10	1.09	0.94	1.06	1.05	1.09

Any Buck Available	1.10	1.16	1.12	1.28	1.33	1.15
Any Deer Harvested	1.10	1.10	1.03	1.09	1.08	1.10
Any Deer Available	1.10	1.10	1.06	1.12	1.13	1.10
Population Growth	1.10	1.10	1.18	1.12	1.13	1.10

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.16	1.37	2.69	1.27	1.48	1.35
Big Bucks Available	1.16	1.36	3.32	1.78	1.96	1.35
Any Buck Harvested	1.15	1.14	0.97	1.10	1.09	1.14
Any Buck Available	1.15	1.21	1.16	1.33	1.38	1.21
Any Deer Harvested	1.16	1.15	1.08	1.14	1.13	1.15
Any Deer Available	1.15	1.15	1.10	1.17	1.17	1.15
Population Growth	1.15	1.15	1.22	1.17	1.17	1.15

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.24	2.46	1.16	1.35	1.22
Big Bucks Available	1.05	1.24	3.05	1.63	1.79	1.22
Any Buck Harvested	1.05	1.04	0.91	1.01	1.00	1.04
Any Buck Available	1.04	1.10	1.08	1.22	1.26	1.09
Any Deer Harvested	1.05	1.05	0.98	1.03	1.03	1.05
Any Deer Available	1.05	1.05	1.02	1.07	1.08	1.05
Population Growth	1.05	1.05	1.14	1.07	1.08	1.05

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.30	2.58	1.22	1.42	1.29
Big Bucks Available	1.10	1.30	3.18	1.71	1.88	1.28
Any Buck Harvested	1.10	1.10	0.94	1.06	1.05	1.10
Any Buck Available	1.10	1.16	1.12	1.28	1.33	1.16
Any Deer Harvested	1.11	1.11	1.04	1.09	1.09	1.11
Any Deer Available	1.10	1.11	1.07	1.12	1.13	1.11
Population Growth	1.10	1.11	1.19	1.12	1.13	1.11

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.97	1.14	2.28	1.07	1.24	1.12
Big Bucks Available	0.96	1.13	2.82	1.50	1.65	1.12
Any Buck Harvested	0.95	0.94	0.84	0.91	0.91	0.94
Any Buck Available	0.95	1.00	1.01	1.11	1.16	0.99
Any Deer Harvested	0.95	0.95	0.90	0.93	0.93	0.95
Any Deer Available	0.95	0.96	0.95	0.98	0.98	0.96
Population Growth	0.95	0.96	1.05	0.98	0.98	0.96

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.86	1.01	2.03	0.96	1.12	1.00
Big Bucks Available	0.86	1.01	2.54	1.35	1.48	1.00
Any Buck Harvested	0.85	0.85	0.77	0.83	0.83	0.85
Any Buck Available	0.85	0.90	0.93	1.01	1.05	0.90
Any Deer	0.85	0.85	0.81	0.84	0.84	0.85

Harvested						
Any Deer Available	0.85	0.86	0.86	0.88	0.88	0.86
Population Growth	0.85	0.86	0.96	0.88	0.88	0.86

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.07	2.13	1.01	1.17	1.05
Big Bucks Available	0.91	1.07	2.67	1.42	1.55	1.05
Any Buck Harvested	0.90	0.89	0.80	0.87	0.87	0.89
Any Buck Available	0.90	0.95	0.97	1.06	1.10	0.95
Any Deer Harvested	0.90	0.89	0.84	0.88	0.88	0.89
Any Deer Available	0.89	0.90	0.90	0.92	0.93	0.90
Population Growth	0.89	0.90	1.00	0.92	0.93	0.90

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.96	1.13	2.26	1.07	1.24	1.12
Big Bucks Available	0.96	1.13	2.81	1.50	1.64	1.11
Any Buck Harvested	0.95	0.94	0.84	0.92	0.91	0.94
Any Buck Available	0.95	1.00	1.01	1.11	1.16	0.99
Any Deer Harvested	0.95	0.95	0.90	0.94	0.93	0.95
Any Deer Available	0.95	0.95	0.95	0.97	0.98	0.95
Population Growth	0.95	0.95	1.04	0.97	0.98	0.95

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks	0.85	1.01	2.02	0.95	1.11	0.99

Harvested						
Big Bucks Available	0.85	1.00	2.52	1.34	1.47	0.99
Any Buck Harvested	0.85	0.85	0.77	0.83	0.83	0.85
Any Buck Available	0.85	0.90	0.93	1.01	1.05	0.90
Any Deer Harvested	0.85	0.85	0.81	0.84	0.84	0.85
Any Deer Available	0.85	0.85	0.86	0.87	0.88	0.85
Population Growth	0.85	0.85	0.94	0.87	0.88	0.85

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.90	1.06	2.12	1.01	1.17	1.05
Big Bucks Available	0.90	1.06	2.65	1.41	1.55	1.05
Any Buck Harvested	0.89	0.89	0.80	0.87	0.87	0.89
Any Buck Available	0.90	0.95	0.96	1.05	1.10	0.94
Any Deer Harvested	0.89	0.89	0.84	0.88	0.88	0.89
Any Deer Available	0.89	0.90	0.90	0.92	0.92	0.90
Population Growth	0.89	0.90	0.99	0.92	0.92	0.90

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.96	1.13	2.25	1.07	1.24	1.11
Big Bucks Available	0.95	1.12	2.80	1.50	1.64	1.11
Any Buck Harvested	0.95	0.95	0.84	0.92	0.92	0.95
Any Buck Available	0.95	1.00	1.01	1.12	1.16	1.00
Any Deer Harvested	0.95	0.95	0.89	0.94	0.94	0.95
Any Deer Available	0.95	0.96	0.95	0.97	0.98	0.96

Population Growth	0.95	0.96	1.05	0.97	0.98	0.96

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.85	1.00	2.02	0.96	1.11	0.99
Big Bucks Available	0.85	1.00	2.52	1.35	1.47	0.99
Any Buck Harvested	0.85	0.85	0.77	0.83	0.83	0.85
Any Buck Available	0.85	0.90	0.93	1.01	1.05	0.90
Any Deer Harvested	0.85	0.85	0.81	0.84	0.84	0.85
Any Deer Available	0.85	0.86	0.86	0.88	0.88	0.86
Population Growth	0.85	0.86	0.95	0.88	0.88	0.86

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.08	2.16	1.02	1.19	1.06
Big Bucks Available	0.91	1.07	2.68	1.43	1.57	1.06
Any Buck Harvested	0.91	0.90	0.81	0.88	0.87	0.90
Any Buck Available	0.90	0.96	0.98	1.07	1.11	0.95
Any Deer Harvested	0.91	0.90	0.86	0.89	0.89	0.90
Any Deer Available	0.90	0.91	0.91	0.93	0.94	0.91
Population Growth	0.90	0.91	1.00	0.93	0.94	0.91

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.08	1.27	2.51	1.18	1.37	1.25
Big Bucks Available	1.07	1.26	3.10	1.66	1.82	1.25

Any Buck Harvested	1.05	1.05	0.91	1.01	1.00	1.05
Any Buck Available	1.05	1.11	1.09	1.23	1.27	1.11
Any Deer Harvested	1.06	1.06	0.99	1.04	1.04	1.06
Any Deer Available	1.05	1.06	1.03	1.08	1.08	1.06
Population Growth	1.05	1.06	1.15	1.08	1.08	1.06

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.96	1.14	2.26	1.07	1.25	1.12
Big Bucks Available	0.96	1.13	2.81	1.50	1.64	1.12
Any Buck Harvested	0.95	0.95	0.84	0.92	0.92	0.95
Any Buck Available	0.95	1.01	1.01	1.12	1.16	1.00
Any Deer Harvested	0.95	0.95	0.89	0.93	0.93	0.95
Any Deer Available	0.95	0.96	0.94	0.97	0.98	0.95
Population Growth	0.95	0.96	1.05	0.97	0.98	0.95

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.20	2.38	1.12	1.31	1.18
Big Bucks Available	1.02	1.20	2.96	1.58	1.73	1.18
Any Buck Harvested	1.00	1.00	0.88	0.97	0.96	1.00
Any Buck Available	1.01	1.06	1.05	1.18	1.22	1.06
Any Deer Harvested	1.00	1.00	0.94	0.98	0.98	1.00
Any Deer Available	1.00	1.01	0.98	1.02	1.03	1.01
Population Growth	1.00	1.01	1.10	1.02	1.03	1.01

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.06	1.25	2.48	1.17	1.36	1.23
Big Bucks Available	1.06	1.25	3.07	1.64	1.80	1.23
Any Buck Harvested	1.06	1.05	0.91	1.02	1.01	1.05
Any Buck Available	1.06	1.12	1.09	1.23	1.28	1.11
Any Deer Harvested	1.06	1.05	0.99	1.04	1.04	1.05
Any Deer Available	1.05	1.06	1.03	1.07	1.08	1.05
Population Growth	1.05	1.06	1.13	1.07	1.08	1.05

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.13	2.24	1.06	1.24	1.11
Big Bucks Available	0.96	1.13	2.80	1.50	1.65	1.11
Any Buck Harvested	0.96	0.95	0.84	0.93	0.92	0.95
Any Buck Available	0.96	1.01	1.01	1.13	1.17	1.01
Any Deer Harvested	0.95	0.94	0.88	0.93	0.93	0.94
Any Deer Available	0.94	0.95	0.94	0.97	0.97	0.95
Population Growth	0.94	0.95	1.04	0.97	0.97	0.95

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.00	1.18	2.34	1.11	1.29	1.16
Big Bucks Available	1.00	1.18	2.91	1.56	1.71	1.16
Any Buck Harvested	1.02	1.01	0.88	0.98	0.97	1.01

Any Buck Available	1.01	1.07	1.05	1.19	1.23	1.06
Any Deer Harvested	1.02	1.01	0.95	1.00	0.99	1.01
Any Deer Available	1.01	1.01	0.99	1.03	1.04	1.01
Population Growth	1.01	1.01	1.10	1.03	1.04	1.01

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.26	2.49	1.18	1.37	1.24
Big Bucks Available	1.06	1.25	3.08	1.65	1.81	1.24
Any Buck Harvested	1.06	1.05	0.91	1.02	1.01	1.05
Any Buck Available	1.06	1.11	1.09	1.23	1.28	1.11
Any Deer Harvested	1.05	1.05	0.99	1.04	1.03	1.05
Any Deer Available	1.05	1.05	1.02	1.07	1.08	1.05
Population Growth	1.05	1.05	1.13	1.07	1.08	1.05

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.12	2.24	1.06	1.24	1.11
Big Bucks Available	0.95	1.12	2.79	1.49	1.64	1.11
Any Buck Harvested	0.95	0.95	0.84	0.93	0.92	0.95
Any Buck Available	0.95	1.01	1.01	1.12	1.17	1.00
Any Deer Harvested	0.95	0.95	0.89	0.94	0.93	0.95
Any Deer Available	0.95	0.96	0.94	0.97	0.98	0.96
Population Growth	0.95	0.96	1.05	0.97	0.98	0.96

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.20	2.38	1.12	1.31	1.18
Big Bucks Available	1.01	1.19	2.94	1.57	1.73	1.17
Any Buck Harvested	1.00	1.00	0.88	0.97	0.96	1.00
Any Buck Available	1.00	1.05	1.05	1.17	1.22	1.05
Any Deer Harvested	1.01	1.00	0.94	0.99	0.99	1.00
Any Deer Available	1.00	1.01	0.99	1.03	1.03	1.01
Population Growth	1.00	1.01	1.09	1.03	1.03	1.01

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.21	1.43	2.82	1.32	1.55	1.41
Big Bucks Available	1.21	1.43	3.48	1.86	2.05	1.41
Any Buck Harvested	1.20	1.19	1.01	1.15	1.14	1.19
Any Buck Available	1.20	1.26	1.21	1.39	1.44	1.26
Any Deer Harvested	1.21	1.20	1.11	1.18	1.18	1.20
Any Deer Available	1.19	1.20	1.14	1.22	1.22	1.20
Population Growth	1.19	1.20	1.28	1.22	1.22	1.20

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.12	1.32	2.63	1.22	1.43	1.30
Big Bucks Available	1.11	1.31	3.23	1.71	1.88	1.30
Any Buck Harvested	1.10	1.09	0.95	1.05	1.04	1.09
Any Buck	1.09	1.15	1.13	1.27	1.32	1.15

Available						
Any Deer Harvested	1.11	1.11	1.04	1.09	1.09	1.11
Any Deer Available	1.10	1.11	1.07	1.13	1.13	1.11
Population Growth	1.10	1.11	1.20	1.13	1.13	1.11

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.16	1.37	2.71	1.28	1.49	1.35
Big Bucks Available	1.16	1.37	3.35	1.79	1.97	1.35
Any Buck Harvested	1.15	1.14	0.98	1.11	1.10	1.14
Any Buck Available	1.15	1.21	1.16	1.33	1.39	1.20
Any Deer Harvested	1.15	1.15	1.07	1.13	1.13	1.15
Any Deer Available	1.14	1.15	1.10	1.17	1.18	1.15
Population Growth	1.14	1.15	1.24	1.17	1.18	1.15

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.22	1.44	2.83	1.32	1.55	1.42
Big Bucks Available	1.22	1.43	3.49	1.86	2.05	1.41
Any Buck Harvested	1.20	1.19	1.01	1.15	1.14	1.19
Any Buck Available	1.20	1.27	1.21	1.39	1.44	1.26
Any Deer Harvested	1.22	1.21	1.13	1.20	1.19	1.21
Any Deer Available	1.20	1.20	1.15	1.22	1.22	1.20
Population Growth	1.20	1.20	1.28	1.22	1.22	1.20

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status	One-	MARs	Partial	Shorter	Voluntary

	Quo	Buck		MARs	Season	Restraint
Big Bucks Harvested	1.11	1.31	2.60	1.22	1.42	1.29
Big Bucks Available	1.10	1.30	3.21	1.70	1.88	1.29
Any Buck Harvested	1.10	1.09	0.95	1.06	1.05	1.09
Any Buck Available	1.10	1.16	1.14	1.28	1.33	1.16
Any Deer Harvested	1.11	1.11	1.05	1.09	1.09	1.11
Any Deer Available	1.10	1.11	1.07	1.12	1.13	1.10
Population Growth	1.10	1.11	1.19	1.12	1.13	1.10

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.16	1.37	2.72	1.28	1.50	1.35
Big Bucks Available	1.16	1.37	3.35	1.80	1.97	1.35
Any Buck Harvested	1.16	1.14	0.98	1.11	1.10	1.14
Any Buck Available	1.16	1.22	1.17	1.34	1.39	1.21
Any Deer Harvested	1.16	1.16	1.08	1.14	1.14	1.16
Any Deer Available	1.14	1.15	1.11	1.17	1.17	1.15
Population Growth	1.14	1.15	1.23	1.17	1.17	1.15

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.22	1.44	2.85	1.33	1.56	1.42
Big Bucks Available	1.22	1.43	3.49	1.87	2.05	1.42
Any Buck Harvested	1.21	1.20	1.02	1.15	1.14	1.20
Any Buck Available	1.20	1.27	1.21	1.39	1.44	1.26
Any Deer Harvested	1.22	1.22	1.13	1.20	1.20	1.22

Any Deer Available	1.20	1.21	1.15	1.22	1.23	1.21
Population Growth	1.20	1.21	1.28	1.22	1.23	1.21

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.31	2.61	1.22	1.42	1.29
Big Bucks Available	1.10	1.30	3.21	1.71	1.88	1.29
Any Buck Harvested	1.11	1.10	0.96	1.07	1.06	1.10
Any Buck Available	1.10	1.16	1.14	1.29	1.34	1.16
Any Deer Harvested	1.12	1.11	1.05	1.10	1.09	1.11
Any Deer Available	1.10	1.11	1.07	1.13	1.13	1.11
Population Growth	1.10	1.11	1.19	1.13	1.13	1.11

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.16	1.37	2.70	1.28	1.50	1.35
Big Bucks Available	1.16	1.37	3.34	1.79	1.97	1.35
Any Buck Harvested	1.15	1.14	0.98	1.11	1.10	1.14
Any Buck Available	1.15	1.21	1.17	1.34	1.39	1.21
Any Deer Harvested	1.15	1.15	1.07	1.14	1.13	1.15
Any Deer Available	1.14	1.15	1.11	1.17	1.17	1.15
Population Growth	1.14	1.15	1.23	1.17	1.17	1.15

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.20	2.40	1.12	1.31	1.18

Big Bucks Available	1.01	1.19	2.97	1.57	1.73	1.17
Any Buck Harvested	1.00	1.00	0.89	0.97	0.97	1.00
Any Buck Available	1.00	1.06	1.06	1.17	1.22	1.05
Any Deer Harvested	1.01	1.01	0.96	0.99	0.99	1.01
Any Deer Available	1.00	1.01	1.00	1.03	1.04	1.01
Population Growth	1.00	1.01	1.11	1.03	1.04	1.01

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.91	1.07	2.15	1.01	1.18	1.06
Big Bucks Available	0.91	1.07	2.69	1.43	1.56	1.05
Any Buck Harvested	0.90	0.89	0.81	0.87	0.87	0.89
Any Buck Available	0.90	0.95	0.98	1.06	1.10	0.94
Any Deer Harvested	0.90	0.89	0.85	0.88	0.88	0.89
Any Deer Available	0.89	0.90	0.91	0.93	0.93	0.90
Population Growth	0.89	0.90	1.01	0.93	0.93	0.90

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.96	1.13	2.27	1.07	1.25	1.12
Big Bucks Available	0.96	1.13	2.84	1.51	1.65	1.12
Any Buck Harvested	0.95	0.94	0.84	0.92	0.92	0.94
Any Buck Available	0.95	1.00	1.02	1.12	1.16	1.00
Any Deer Harvested	0.94	0.94	0.89	0.93	0.93	0.94
Any Deer Available	0.95	0.96	0.95	0.98	0.98	0.95
Population	0.95	0.96	1.06	0.98	0.98	0.95

Growth

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.20	2.40	1.13	1.32	1.19
Big Bucks Available	1.01	1.20	2.98	1.58	1.74	1.18
Any Buck Harvested	1.01	1.00	0.89	0.98	0.97	1.00
Any Buck Available	1.01	1.06	1.06	1.18	1.23	1.06
Any Deer Harvested	1.01	1.01	0.96	1.00	1.00	1.01
Any Deer Available	1.01	1.02	1.00	1.03	1.04	1.01
Population Growth	1.01	1.02	1.10	1.03	1.04	1.01

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.90	1.06	2.13	1.00	1.17	1.04
Big Bucks Available	0.89	1.05	2.65	1.41	1.55	1.04
Any Buck Harvested	0.89	0.89	0.81	0.87	0.87	0.89
Any Buck Available	0.89	0.95	0.97	1.06	1.10	0.94
Any Deer Harvested	0.89	0.89	0.85	0.88	0.88	0.89
Any Deer Available	0.89	0.90	0.90	0.92	0.92	0.90
Population Growth	0.89	0.90	0.99	0.92	0.92	0.90

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival						
	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.95	1.12	2.25	1.06	1.23	1.11
Big Bucks Available	0.95	1.12	2.80	1.49	1.63	1.11
Any Buck	0.94	0.94	0.84	0.92	0.91	0.94

Harvested						
Any Buck Available	0.94	1.00	1.01	1.11	1.15	0.99
Any Deer Harvested	0.94	0.94	0.90	0.93	0.93	0.94
Any Deer Available	0.94	0.95	0.95	0.97	0.98	0.95
Population Growth	0.94	0.95	1.04	0.97	0.98	0.95

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.01	1.20	2.39	1.12	1.31	1.18
Big Bucks Available	1.01	1.19	2.97	1.58	1.73	1.18
Any Buck Harvested	1.01	1.00	0.89	0.98	0.97	1.00
Any Buck Available	1.00	1.06	1.06	1.18	1.23	1.06
Any Deer Harvested	1.01	1.01	0.95	0.99	0.99	1.01
Any Deer Available	1.00	1.01	1.00	1.03	1.04	1.01
Population Growth	1.00	1.01	1.10	1.03	1.04	1.01

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.90	1.06	2.14	1.02	1.18	1.05
Big Bucks Available	0.90	1.06	2.67	1.43	1.57	1.05
Any Buck Harvested	0.90	0.89	0.81	0.88	0.87	0.90
Any Buck Available	0.90	0.95	0.97	1.06	1.11	0.94
Any Deer Harvested	0.90	0.90	0.85	0.89	0.89	0.90
Any Deer Available	0.89	0.90	0.91	0.92	0.93	0.90
Population Growth	0.89	0.90	1.00	0.92	0.93	0.90

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn

Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	0.96	1.13	2.28	1.07	1.24	1.12
Big Bucks Available	0.95	1.12	2.81	1.50	1.64	1.11
Any Buck Harvested	0.96	0.96	0.86	0.93	0.92	0.96
Any Buck Available	0.95	1.01	1.02	1.13	1.17	1.00
Any Deer Harvested	0.96	0.96	0.92	0.95	0.95	0.96
Any Deer Available	0.95	0.96	0.96	0.98	0.99	0.96
Population Growth	0.95	0.96	1.06	0.98	0.99	0.96

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.13	1.33	2.64	1.24	1.45	1.31
Big Bucks Available	1.12	1.33	3.26	1.74	1.91	1.31
Any Buck Harvested	1.12	1.11	0.96	1.08	1.07	1.11
Any Buck Available	1.12	1.18	1.15	1.30	1.35	1.17
Any Deer Harvested	1.12	1.12	1.06	1.11	1.10	1.12
Any Deer Available	1.11	1.12	1.08	1.14	1.14	1.12
Population Growth	1.11	1.12	1.21	1.14	1.14	1.12

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.20	2.40	1.12	1.31	1.19
Big Bucks Available	1.02	1.20	2.98	1.58	1.74	1.18
Any Buck Harvested	1.00	1.00	0.88	0.97	0.96	1.00
Any Buck Available	1.00	1.06	1.06	1.17	1.22	1.05

Any Deer Harvested	1.01	1.00	0.95	0.99	0.99	1.00
Any Deer Available	1.00	1.01	1.00	1.03	1.04	1.01
Population Growth	1.00	1.01	1.12	1.03	1.04	1.01

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.27	2.52	1.18	1.37	1.25
Big Bucks Available	1.07	1.26	3.12	1.66	1.82	1.24
Any Buck Harvested	1.06	1.05	0.93	1.02	1.01	1.05
Any Buck Available	1.06	1.11	1.10	1.23	1.28	1.11
Any Deer Harvested	1.07	1.06	1.00	1.05	1.04	1.06
Any Deer Available	1.06	1.07	1.04	1.08	1.09	1.06
Population Growth	1.06	1.07	1.16	1.08	1.09	1.06

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.12	1.32	2.64	1.23	1.44	1.31
Big Bucks Available	1.12	1.32	3.26	1.73	1.91	1.31
Any Buck Harvested	1.11	1.10	0.96	1.07	1.06	1.10
Any Buck Available	1.11	1.17	1.15	1.30	1.35	1.17
Any Deer Harvested	1.12	1.11	1.05	1.10	1.10	1.11
Any Deer Available	1.10	1.11	1.08	1.13	1.13	1.11
Population Growth	1.10	1.11	1.19	1.13	1.13	1.11

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint

Big Bucks Harvested	1.02	1.20	2.41	1.13	1.31	1.19
Big Bucks Available	1.01	1.20	2.98	1.58	1.74	1.18
Any Buck Harvested	1.00	1.00	0.88	0.97	0.97	1.00
Any Buck Available	1.00	1.06	1.06	1.17	1.22	1.05
Any Deer Harvested	1.01	1.00	0.95	0.99	0.99	1.00
Any Deer Available	1.00	1.01	1.00	1.03	1.04	1.01
Population Growth	1.00	1.01	1.10	1.03	1.04	1.01

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.07	1.26	2.52	1.18	1.38	1.24
Big Bucks Available	1.06	1.26	3.11	1.66	1.82	1.24
Any Buck Harvested	1.06	1.06	0.92	1.03	1.02	1.06
Any Buck Available	1.06	1.12	1.11	1.24	1.29	1.12
Any Deer Harvested	1.07	1.06	1.00	1.05	1.05	1.06
Any Deer Available	1.05	1.06	1.03	1.08	1.09	1.06
Population Growth	1.05	1.06	1.15	1.08	1.09	1.06

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.11	1.31	2.61	1.23	1.43	1.30
Big Bucks Available	1.11	1.31	3.23	1.72	1.89	1.29
Any Buck Harvested	1.12	1.11	0.96	1.08	1.07	1.11
Any Buck Available	1.12	1.18	1.15	1.30	1.36	1.18
Any Deer	1.12	1.12	1.06	1.11	1.10	1.12

Harvested						
Any Deer Available	1.11	1.11	1.08	1.13	1.14	1.11
Population Growth	1.11	1.11	1.20	1.13	1.14	1.11

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.02	1.20	2.41	1.13	1.32	1.19
Big Bucks Available	1.02	1.20	2.98	1.59	1.74	1.18
Any Buck Harvested	1.01	1.00	0.89	0.97	0.97	1.00
Any Buck Available	1.00	1.06	1.06	1.18	1.22	1.05
Any Deer Harvested	1.01	1.01	0.95	0.99	0.99	1.01
Any Deer Available	1.00	1.01	1.00	1.03	1.04	1.01
Population Growth	1.00	1.01	1.11	1.03	1.04	1.01

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Partial MARs	Shorter Season	Voluntary Restraint
Big Bucks Harvested	1.05	1.24	2.48	1.17	1.37	1.23
Big Bucks Available	1.05	1.24	3.08	1.65	1.81	1.22
Any Buck Harvested	1.06	1.05	0.92	1.03	1.02	1.05
Any Buck Available	1.06	1.12	1.10	1.24	1.29	1.11
Any Deer Harvested	1.06	1.06	1.00	1.05	1.04	1.06
Any Deer Available	1.05	1.06	1.03	1.08	1.09	1.06
Population Growth	1.05	1.06	1.15	1.08	1.09	1.06

Westchester/Suffolk

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint

Big Bucks Harvested	1.10	1.36	3.39	1.37
Big Bucks Available	1.09	1.47	4.00	1.37
Any Buck Harvested	1.09	1.08	0.96	1.09
Any Buck Available	1.09	1.17	1.10	1.15
Any Deer Harvested	1.12	1.11	1.04	1.12
Any Deer Available	1.09	1.10	1.02	1.10
Population Growth	1.09	1.10	1.14	1.10

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.15	1.25
Big Bucks Available	1.00	1.35	3.73	1.25
Any Buck Harvested	1.00	0.99	0.91	0.99
Any Buck Available	0.99	1.07	1.03	1.05
Any Deer Harvested	1.00	1.00	0.96	1.00
Any Deer Available	1.00	1.01	0.97	1.00
Population Growth	1.00	1.01	1.09	1.00

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.06	1.31	3.29	1.32
Big Bucks Available	1.05	1.42	3.89	1.32
Any Buck Harvested	1.05	1.04	0.94	1.04
Any Buck Available	1.05	1.13	1.07	1.11
Any Deer Harvested	1.07	1.07	1.00	1.07
Any Deer Available	1.05	1.06	1.00	1.06
Population Growth	1.05	1.06	1.12	1.06

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.09	1.36	3.41	1.37
Big Bucks Available	1.09	1.47	4.02	1.37
Any Buck Harvested	1.10	1.09	0.97	1.09
Any Buck Available	1.10	1.18	1.10	1.16
Any Deer Harvested	1.12	1.11	1.04	1.11
Any Deer Available	1.09	1.09	1.03	1.09
Population Growth	1.09	1.09	1.13	1.09

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.00	1.25	3.17	1.26
Big Bucks Available	1.00	1.35	3.74	1.25

Any Buck Harvested	1.00	0.99	0.91	1.00
Any Buck Available	1.00	1.08	1.04	1.05
Any Deer Harvested	1.01	1.01	0.97	1.01
Any Deer Available	1.00	1.01	0.98	1.01
Population Growth	1.00	1.01	1.08	1.01

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.30	1.31
Big Bucks Available	1.04	1.41	3.89	1.31
Any Buck Harvested	1.05	1.04	0.94	1.05
Any Buck Available	1.05	1.13	1.07	1.11
Any Deer Harvested	1.07	1.06	1.00	1.06
Any Deer Available	1.05	1.06	1.00	1.05
Population Growth	1.05	1.06	1.11	1.05

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.09	1.35	3.39	1.37
Big Bucks Available	1.09	1.47	4.01	1.37
Any Buck Harvested	1.09	1.08	0.96	1.08
Any Buck Available	1.09	1.17	1.09	1.15
Any Deer Harvested	1.11	1.10	1.03	1.10
Any Deer Available	1.08	1.09	1.02	1.09
Population Growth	1.08	1.09	1.13	1.09

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.14	1.25
Big Bucks Available	0.99	1.34	3.71	1.24
Any Buck Harvested	1.00	0.99	0.91	0.99
Any Buck Available	1.00	1.07	1.03	1.05
Any Deer Harvested	1.01	1.01	0.97	1.01
Any Deer Available	1.00	1.01	0.97	1.01
Population Growth	1.00	1.01	1.08	1.01

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.28	1.31
Big Bucks Available	1.04	1.40	3.87	1.31
Any Buck Harvested	1.05	1.04	0.94	1.04

Any Buck Available	1.05	1.13	1.07	1.11
Any Deer Harvested	1.07	1.06	1.01	1.07
Any Deer Available	1.04	1.05	1.00	1.05
Population Growth	1.04	1.05	1.11	1.05

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.99	1.23	3.12	1.24
Big Bucks Available	0.99	1.33	3.69	1.24
Any Buck Harvested	0.98	0.97	0.90	0.98
Any Buck Available	0.98	1.06	1.02	1.04
Any Deer Harvested	1.00	1.00	0.96	1.00
Any Deer Available	0.99	1.00	0.97	0.99
Population Growth	0.99	1.00	1.07	0.99

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.90	1.11	2.84	1.12
Big Bucks Available	0.90	1.21	3.37	1.12
Any Buck Harvested	0.91	0.90	0.84	0.90
Any Buck Available	0.90	0.97	0.96	0.96
Any Deer Harvested	0.90	0.90	0.87	0.90
Any Deer Available	0.91	0.92	0.89	0.92
Population Growth	0.91	0.92	0.99	0.92

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.94	1.17	2.97	1.18
Big Bucks Available	0.94	1.26	3.52	1.18
Any Buck Harvested	0.94	0.93	0.86	0.93
Any Buck Available	0.94	1.01	0.99	0.99
Any Deer Harvested	0.94	0.94	0.91	0.94
Any Deer Available	0.94	0.95	0.93	0.95
Population Growth	0.94	0.95	1.03	0.95

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.14	1.25
Big Bucks Available	0.99	1.34	3.71	1.25
Any Buck Harvested	0.98	0.98	0.90	0.98
Any Buck Available	0.98	1.06	1.03	1.04
Any Deer Harvested	1.00	0.99	0.95	0.99

Any Deer Available	0.98	0.99	0.97	0.99
Population Growth	0.98	0.99	1.06	0.99

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.90	1.11	2.84	1.12
Big Bucks Available	0.89	1.21	3.36	1.12
Any Buck Harvested	0.91	0.90	0.84	0.90
Any Buck Available	0.91	0.98	0.96	0.96
Any Deer Harvested	0.91	0.90	0.87	0.90
Any Deer Available	0.91	0.92	0.90	0.92
Population Growth	0.91	0.92	0.99	0.92

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.94	1.17	2.98	1.18
Big Bucks Available	0.94	1.27	3.53	1.18
Any Buck Harvested	0.94	0.94	0.87	0.94
Any Buck Available	0.94	1.01	0.99	0.99
Any Deer Harvested	0.95	0.95	0.92	0.95
Any Deer Available	0.94	0.95	0.93	0.95
Population Growth	0.94	0.95	1.02	0.95

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.99	1.23	3.12	1.24
Big Bucks Available	0.99	1.33	3.70	1.24
Any Buck Harvested	0.99	0.98	0.90	0.99
Any Buck Available	0.99	1.06	1.03	1.04
Any Deer Harvested	1.00	1.00	0.95	1.00
Any Deer Available	0.98	1.00	0.96	0.99
Population Growth	0.98	1.00	1.06	0.99

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.90	1.12	2.86	1.12
Big Bucks Available	0.89	1.21	3.38	1.12
Any Buck Harvested	0.91	0.90	0.84	0.90
Any Buck Available	0.91	0.98	0.96	0.96
Any Deer Harvested	0.91	0.91	0.88	0.91
Any Deer Available	0.91	0.92	0.90	0.92
Population Growth	0.91	0.92	0.99	0.92

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.95	1.18	3.00	1.19
Big Bucks Available	0.94	1.27	3.55	1.18
Any Buck Harvested	0.94	0.94	0.87	0.94
Any Buck Available	0.94	1.02	0.99	1.00
Any Deer Harvested	0.96	0.95	0.92	0.95
Any Deer Available	0.95	0.95	0.93	0.95
Population Growth	0.95	0.95	1.03	0.95

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.04	1.29	3.25	1.30
Big Bucks Available	1.03	1.39	3.84	1.29
Any Buck Harvested	1.03	1.02	0.93	1.03
Any Buck Available	1.03	1.11	1.06	1.09
Any Deer Harvested	1.05	1.05	1.00	1.05
Any Deer Available	1.04	1.04	0.99	1.04
Population Growth	1.04	1.04	1.10	1.04

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.95	1.18	3.00	1.19
Big Bucks Available	0.95	1.28	3.56	1.19
Any Buck Harvested	0.95	0.94	0.87	0.94
Any Buck Available	0.95	1.02	0.99	1.00
Any Deer Harvested	0.96	0.95	0.91	0.96
Any Deer Available	0.95	0.96	0.93	0.96
Population Growth	0.95	0.96	1.03	0.96

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.99	1.24	3.12	1.25
Big Bucks Available	0.99	1.34	3.70	1.24
Any Buck Harvested	0.99	0.98	0.90	0.99
Any Buck Available	0.99	1.07	1.03	1.05
Any Deer Harvested	1.00	1.00	0.95	1.00
Any Deer Available	0.99	1.00	0.96	1.00
Population Growth	0.99	1.00	1.07	1.00

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.04	1.28	3.24	1.30
Big Bucks Available	1.03	1.39	3.83	1.30
Any Buck Harvested	1.04	1.03	0.93	1.03
Any Buck Available	1.04	1.12	1.06	1.10
Any Deer Harvested	1.05	1.05	1.00	1.05
Any Deer Available	1.03	1.04	0.99	1.04
Population Growth	1.03	1.04	1.09	1.04

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.95	1.18	3.00	1.19
Big Bucks Available	0.95	1.28	3.56	1.19
Any Buck Harvested	0.96	0.95	0.87	0.95
Any Buck Available	0.96	1.03	1.00	1.01
Any Deer Harvested	0.95	0.94	0.90	0.94
Any Deer Available	0.94	0.95	0.92	0.95
Population Growth	0.94	0.95	1.02	0.95

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.99	1.23	3.12	1.24
Big Bucks Available	0.98	1.33	3.68	1.24
Any Buck Harvested	1.00	0.99	0.91	1.00
Any Buck Available	1.00	1.08	1.03	1.06
Any Deer Harvested	1.02	1.01	0.97	1.01
Any Deer Available	0.99	1.00	0.97	1.00
Population Growth	0.99	1.00	1.06	1.00

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.03	1.28	3.24	1.30
Big Bucks Available	1.03	1.39	3.82	1.29
Any Buck Harvested	1.03	1.02	0.93	1.03
Any Buck Available	1.03	1.11	1.06	1.09
Any Deer Harvested	1.04	1.04	0.99	1.04
Any Deer Available	1.03	1.03	0.99	1.03
Population Growth	1.03	1.03	1.09	1.03

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn

Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.94	1.17	2.98	1.18
Big Bucks Available	0.94	1.27	3.53	1.18
Any Buck Harvested	0.95	0.94	0.87	0.95
Any Buck Available	0.95	1.02	1.00	1.00
Any Deer Harvested	0.96	0.96	0.92	0.96
Any Deer Available	0.95	0.96	0.93	0.95
Population Growth	0.95	0.96	1.03	0.95

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.00	1.24	3.14	1.25
Big Bucks Available	0.99	1.34	3.71	1.25
Any Buck Harvested	0.99	0.99	0.90	0.99
Any Buck Available	0.99	1.07	1.03	1.05
Any Deer Harvested	1.02	1.01	0.96	1.02
Any Deer Available	0.99	1.00	0.96	1.00
Population Growth	0.99	1.00	1.06	1.00

Density Dependence, High Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.10	1.36	3.42	1.38
Big Bucks Available	1.10	1.48	4.03	1.38
Any Buck Harvested	1.09	1.08	0.97	1.08
Any Buck Available	1.09	1.17	1.10	1.15
Any Deer Harvested	1.11	1.10	1.03	1.11
Any Deer Available	1.09	1.09	1.03	1.09
Population Growth	1.09	1.09	1.14	1.09

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.26	3.19	1.27
Big Bucks Available	1.01	1.36	3.76	1.27
Any Buck Harvested	1.00	1.00	0.91	1.00
Any Buck Available	1.00	1.08	1.04	1.06
Any Deer Harvested	1.03	1.03	0.98	1.03
Any Deer Available	1.01	1.02	0.98	1.02
Population Growth	1.01	1.02	1.09	1.02

Density Dependence, High Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.06	1.31	3.31	1.32
Big Bucks Available	1.05	1.42	3.91	1.32
Any Buck Harvested	1.05	1.04	0.94	1.04
Any Buck Available	1.05	1.12	1.07	1.10
Any Deer Harvested	1.06	1.05	0.99	1.06
Any Deer Available	1.04	1.05	1.00	1.05
Population Growth	1.04	1.05	1.11	1.05

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.10	1.36	3.43	1.38
Big Bucks Available	1.10	1.48	4.05	1.38
Any Buck Harvested	1.09	1.08	0.97	1.08
Any Buck Available	1.09	1.17	1.10	1.15
Any Deer Harvested	1.11	1.10	1.04	1.10
Any Deer Available	1.09	1.09	1.03	1.09
Population Growth	1.09	1.09	1.14	1.09

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.26	3.17	1.27
Big Bucks Available	1.01	1.36	3.76	1.27
Any Buck Harvested	1.01	1.00	0.91	1.01
Any Buck Available	1.01	1.09	1.04	1.07
Any Deer Harvested	1.02	1.02	0.97	1.02
Any Deer Available	1.01	1.02	0.98	1.01
Population Growth	1.01	1.02	1.08	1.01

Density Dependence, High Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.06	1.32	3.33	1.33
Big Bucks Available	1.06	1.42	3.93	1.33
Any Buck Harvested	1.06	1.05	0.95	1.05
Any Buck Available	1.06	1.13	1.08	1.11
Any Deer Harvested	1.07	1.06	1.01	1.06
Any Deer Available	1.05	1.05	1.00	1.05
Population Growth	1.05	1.05	1.11	1.05

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.10	1.36	3.42	1.38

Big Bucks Available	1.10	1.47	4.03	1.37
Any Buck Harvested	1.09	1.08	0.96	1.08
Any Buck Available	1.09	1.17	1.10	1.15
Any Deer Harvested	1.13	1.12	1.04	1.13
Any Deer Available	1.09	1.10	1.03	1.10
Population Growth	1.09	1.10	1.14	1.10

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.26	3.18	1.27
Big Bucks Available	1.01	1.36	3.77	1.27
Any Buck Harvested	1.02	1.01	0.92	1.01
Any Buck Available	1.02	1.09	1.05	1.07
Any Deer Harvested	1.03	1.03	0.98	1.03
Any Deer Available	1.01	1.02	0.98	1.02
Population Growth	1.01	1.02	1.09	1.02

Density Dependence, High Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.30	1.32
Big Bucks Available	1.05	1.41	3.90	1.32
Any Buck Harvested	1.05	1.04	0.94	1.04
Any Buck Available	1.05	1.12	1.07	1.10
Any Deer Harvested	1.06	1.05	1.00	1.06
Any Deer Available	1.04	1.05	1.00	1.05
Population Growth	1.04	1.05	1.11	1.05

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.00	1.25	3.16	1.26
Big Bucks Available	1.00	1.35	3.73	1.25
Any Buck Harvested	1.00	0.99	0.91	0.99
Any Buck Available	1.00	1.07	1.03	1.05
Any Deer Harvested	1.02	1.02	0.97	1.02
Any Deer Available	1.00	1.01	0.97	1.01
Population Growth	1.00	1.01	1.08	1.01

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.92	1.15	2.92	1.16
Big Bucks Available	0.93	1.25	3.47	1.16

Any Buck Harvested	0.93	0.92	0.85	0.92
Any Buck Available	0.93	1.00	0.97	0.98
Any Deer Harvested	0.93	0.92	0.89	0.93
Any Deer Available	0.93	0.94	0.91	0.94
Population Growth	0.93	0.94	1.01	0.94

Density Dependence, Low Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.96	1.19	3.03	1.20
Big Bucks Available	0.96	1.29	3.59	1.20
Any Buck Harvested	0.95	0.95	0.87	0.95
Any Buck Available	0.96	1.03	1.00	1.01
Any Deer Harvested	0.96	0.95	0.92	0.95
Any Deer Available	0.96	0.97	0.94	0.97
Population Growth	0.96	0.97	1.04	0.97

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.25	3.18	1.26
Big Bucks Available	1.00	1.35	3.75	1.26
Any Buck Harvested	1.00	0.99	0.91	1.00
Any Buck Available	1.00	1.08	1.04	1.06
Any Deer Harvested	1.02	1.02	0.97	1.02
Any Deer Available	1.00	1.01	0.97	1.01
Population Growth	1.00	1.01	1.07	1.01

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.92	1.14	2.92	1.16
Big Bucks Available	0.92	1.24	3.46	1.15
Any Buck Harvested	0.93	0.92	0.85	0.92
Any Buck Available	0.93	1.00	0.98	0.98
Any Deer Harvested	0.92	0.92	0.89	0.92
Any Deer Available	0.93	0.94	0.91	0.94
Population Growth	0.93	0.94	1.00	0.94

Density Dependence, Low Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.96	1.20	3.04	1.21
Big Bucks Available	0.96	1.29	3.59	1.20
Any Buck Harvested	0.96	0.95	0.88	0.95
Any Buck Available	0.96	1.03	1.00	1.01

Any Deer Harvested	0.96	0.96	0.93	0.96
Any Deer Available	0.96	0.97	0.94	0.97
Population Growth	0.96	0.97	1.03	0.97

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.25	3.17	1.26
Big Bucks Available	1.00	1.35	3.74	1.26
Any Buck Harvested	1.01	1.00	0.91	1.00
Any Buck Available	1.01	1.08	1.04	1.06
Any Deer Harvested	1.02	1.01	0.97	1.01
Any Deer Available	1.00	1.01	0.97	1.00
Population Growth	1.00	1.01	1.07	1.00

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.93	1.15	2.93	1.16
Big Bucks Available	0.92	1.25	3.47	1.16
Any Buck Harvested	0.93	0.92	0.86	0.93
Any Buck Available	0.93	1.00	0.98	0.98
Any Deer Harvested	0.93	0.93	0.89	0.93
Any Deer Available	0.93	0.94	0.91	0.94
Population Growth	0.93	0.94	1.01	0.94

Density Dependence, Low Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.97	1.20	3.05	1.21
Big Bucks Available	0.96	1.30	3.61	1.21
Any Buck Harvested	0.97	0.97	0.89	0.97
Any Buck Available	0.97	1.04	1.01	1.02
Any Deer Harvested	0.99	0.99	0.95	0.99
Any Deer Available	0.97	0.98	0.94	0.98
Population Growth	0.97	0.98	1.04	0.98

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.05	1.31	3.29	1.32
Big Bucks Available	1.05	1.41	3.88	1.32
Any Buck Harvested	1.05	1.04	0.94	1.04
Any Buck Available	1.05	1.12	1.07	1.10
Any Deer Harvested	1.07	1.06	1.01	1.06

Any Deer Available	1.05	1.06	1.00	1.05
Population Growth	1.05	1.06	1.11	1.05

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.97	1.20	3.04	1.21
Big Bucks Available	0.97	1.30	3.61	1.21
Any Buck Harvested	0.96	0.95	0.88	0.96
Any Buck Available	0.96	1.04	1.01	1.02
Any Deer Harvested	0.97	0.97	0.93	0.97
Any Deer Available	0.97	0.97	0.94	0.97
Population Growth	0.97	0.97	1.05	0.97

Density Dependence, Full Range Juvenile Survival, High Male Fawn Survival, Full Range Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.25	3.17	1.26
Big Bucks Available	1.00	1.35	3.74	1.26
Any Buck Harvested	1.00	1.00	0.91	1.00
Any Buck Available	1.00	1.08	1.04	1.06
Any Deer Harvested	1.02	1.02	0.97	1.02
Any Deer Available	1.01	1.02	0.97	1.01
Population Growth	1.01	1.02	1.08	1.01

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, High Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.30	1.32
Big Bucks Available	1.05	1.42	3.90	1.32
Any Buck Harvested	1.05	1.04	0.94	1.04
Any Buck Available	1.05	1.13	1.08	1.11
Any Deer Harvested	1.06	1.06	1.00	1.06
Any Deer Available	1.04	1.05	1.00	1.05
Population Growth	1.04	1.05	1.10	1.05

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Low Female Fawn Survival				
	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.97	1.20	3.06	1.21
Big Bucks Available	0.97	1.30	3.61	1.21
Any Buck Harvested	0.97	0.96	0.88	0.96
Any Buck Available	0.96	1.04	1.01	1.02
Any Deer Harvested	0.98	0.98	0.94	0.98
Any Deer Available	0.97	0.98	0.95	0.97

Population Growth	0.97	0.98	1.04	0.97

Density Dependence, Full Range Juvenile Survival, Low Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.01	1.26	3.18	1.27
Big Bucks Available	1.01	1.36	3.77	1.27
Any Buck Harvested	1.01	1.00	0.92	1.00
Any Buck Available	1.01	1.09	1.04	1.07
Any Deer Harvested	1.02	1.01	0.97	1.01
Any Deer Available	1.00	1.01	0.97	1.01
Population Growth	1.00	1.01	1.07	1.01

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, High Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	1.05	1.30	3.30	1.31
Big Bucks Available	1.04	1.41	3.89	1.31
Any Buck Harvested	1.06	1.05	0.95	1.05
Any Buck Available	1.06	1.13	1.08	1.11
Any Deer Harvested	1.06	1.06	1.00	1.06
Any Deer Available	1.04	1.05	1.00	1.05
Population Growth	1.04	1.05	1.11	1.05

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Low Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.97	1.20	3.04	1.21
Big Bucks Available	0.96	1.30	3.60	1.21
Any Buck Harvested	0.97	0.96	0.88	0.96
Any Buck Available	0.96	1.04	1.01	1.02
Any Deer Harvested	0.98	0.98	0.94	0.98
Any Deer Available	0.97	0.98	0.94	0.97
Population Growth	0.97	0.98	1.04	0.97

Density Dependence, Full Range Juvenile Survival, Full Range Male Fawn Survival, Full Range Female Fawn Survival

	Status Quo	One-Buck	MARs	Voluntary Restraint
Big Bucks Harvested	0.99	1.23	3.14	1.24
Big Bucks Available	0.99	1.34	3.71	1.24
Any Buck Harvested	1.01	1.00	0.91	1.00
Any Buck Available	1.00	1.08	1.04	1.06
Any Deer Harvested	1.02	1.01	0.97	1.01

Any Deer Available	1.00	1.01	0.97	1.00
Population Growth	1.00	1.01	1.07	1.00