
**Deer Stakeholder Engagement Process:
Informing the Ohio Department of Natural Resources-Division of
Wildlife 10-year Deer Management Plan**

Final Report



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To the Stakeholders,

I wanted to start by acknowledging your significant contribution to this process and your dedication to and love of deer hunting in the state of Ohio. Never have I worked with a group of people so passionate and knowledgeable about a single subject. Your commitment never wavered throughout this long process, and even when debate arose regarding the means by which hunting may be fostered going forward, you all valued each other's perspectives, listened actively, and were never once rude or inconsiderate. I was so impressed by each of you, and I hope that this report and any future materials derived from it capture your values honestly and accurately. Please don't hesitate to contact me if that ever fails to be the case.

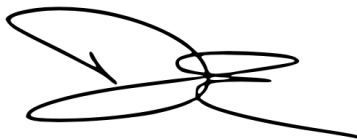
To the ODNR-DOW, in particular the Wildlife Biologists,

I want to thank you for your friendship and kindness in teaching me about deer hunting and habitat management. It was clear from the start that this was novel territory for me, and yet you always treated me with kindness and as a valued contributor to your difficult work. I'm also so impressed by your dedication to the people of Ohio. At the final meeting, before you all arrived, the stakeholders had nothing but positive things to say about your work and truly heartfelt things to say about you as human-beings. I agree with everything they said.

To Dr. Jeremy Bruskotter,

Finally, I'd like to thank you for your confidence and trust that I could facilitate this difficult process. It was a truly valuable experience and one that I believe led directly to my current position as an Assistant Professor at Michigan State University. I will never forget your kindness.

With sincere gratitude,

A handwritten signature in black ink, appearing to read 'Douglas Bessette', with a stylized, looping design.

Douglas Bessette

1.0. Executive Summary

In September of 2016, senior personnel from the Ohio Department of Natural Resources' Division of Wildlife (ODNR-DOW) approached Jeremy Bruskotter and Doug Bessette, an associate professor and post-doctoral researcher, respectively, at the Ohio State University's (OSU) School of Environment and Natural Resources. They requested assistance in engaging ODNR-DOW's key stakeholders. Specifically, ODNR-DOW sought to improve upon previous efforts in gathering information from hunters and land-owners by developing a high-quality, reproducible, Deer Stakeholder Engagement Process, or DSEP, and to then use that DSEP to inform development of ODNR-DOW's 10-year Deer Management Plan (DMP). The DMP is an ODNR-DOW internal document that is shared with the public and used for managing deer populations based on historical perspectives, stakeholders' interests, and science-based management.

Bruskotter and Bessette recommended the ODNR-DOW pursue a DSEP based on Structured Decision-Making (SDM), a process that has demonstrated considerable success in incorporating stakeholders' values, concerns and objectives into complex natural-resource planning decisions [1], including those of ODNR's own Lake Erie Percid Management Advisory Group (LEPMAG) [2]. By both helping diverse stakeholders work together in a scientifically rigorous, inclusive, defensible and transparent manner and emphasizing "value-focused thinking," SDM focuses stakeholders' attention on what they *want* to achieve rather than encouraging debate only about the options currently available [3]. This focus on values not only builds trust, dispels myths, and develops a common understanding amongst participants, but also weakens the appeal of single, salient or status quo options, leading to the generation and adoption of more and better options later in the process.

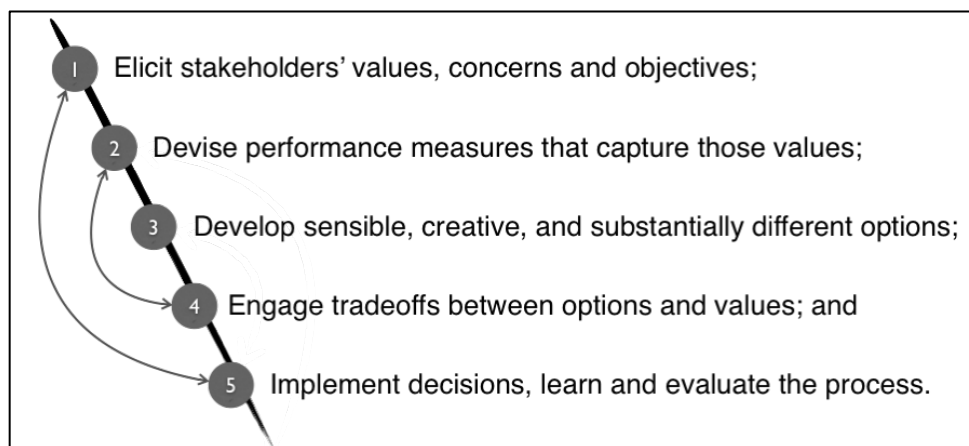


Figure 1.1. The Five Steps of Structured Decision Making

Together the ODNR-DOW and OSU devised a DSEP that included five workshops, each workshop linking directly to one step of the SDM process, pictured above (see [Figure 1.1.](#)). The workshops would take place every three months at the Cherry Valley Lodge in Newark, OH and

would include stakeholders representing nearly 20 organizations—see Box 2.1 for a full list. The dates and goals of each workshop are listed below.

- Workshop #1.** May 4th & 5th, 2017: **Eliciting Values & Objectives**
Workshop #2. Aug. 3rd & 4th, 2017: **Characterizing Performance**
Workshop #3. Nov. 16th & 17th, 2017: **Developing Options**
Workshop #4. Feb. 15th & 16th, 2018: **Evaluating Tradeoffs**
Workshop #5. May 10th & 11th, 2018: **Implementing Decisions**

Most stakeholders would attend all five workshops. Bessette would facilitate each workshop with Bruskotter assisting and ODNR-DOW personnel, primarily Michael Tonkovich, Clint McCoy and Mike Reynolds, in attendance to both ask and answer questions of and from stakeholders.

1.1. Key Findings

Below is a brief summary of each workshop, along with their findings and recommendations. For more detailed descriptions, findings and recommendations please see subsequent chapters.

Workshop #1 focused on eliciting stakeholders' values, concerns and fundamental objectives, or those objectives that all stakeholders in attendance agreed were important. Via large and small group deliberation, six fundamental objectives emerged at this workshop. These included:

1. *Improve the balance between hunter, farmer, landowner and other stakeholders' satisfaction;*
2. *Minimize the negative impacts of deer;*
3. *Maintain a healthy deer population;*
4. *Maximize deer hunting opportunities;*
5. *Preserve the tradition of deer hunting; and*
6. *Improve the relationship between ODNR-DOW personnel, hunters and the non-hunting public.*

In addition to these fundamental objectives, stakeholders identified over 20 “means objectives,” or means of achieving the fundamental objectives listed above (see [Section 3.2.3.](#) and [Box 3.5.](#)).¹ Examples of stakeholders' means objectives included improving ODNR-DOW's tools and technology, improving ODNR-DOW's surveys, and expanding ODNR-DOW's social media presence.

Stakeholders also identified goals for the DSEP itself: for instance, ensuring i) the process identified all stakeholders' key interests and concerns accurately; ii) the process and results were clearly communicated to all stakeholders and relevant agencies; and, iii) the difficulties in deer management were demonstrated to the public (see [Section 3.2.1.](#) and [Box 3.1.](#)).

Workshop #2 focused on identifying metrics, or measures, that the ODNR-DOW could use to evaluate options according to the fundamental objectives listed above. The use of such

¹ All stakeholders are not expected to agree that each means objective is important or effective.

measures in SDM ensures that the tradeoffs between both stakeholders' values and the options being considered are engaged *explicitly* and *accurately*. Via small- and large-group deliberation, twenty-five performance measures were identified (see [Section 4.3.](#) and [Box 4.2.](#)), including the overall number of hunters, hunter success, acres of huntable habitat per hunter, number of regulations, pages of regulations, and number of informal complaints received by ODNR-DOW.

Following Workshop #2, ODNR-DOW personnel, Bessette and Bruskotter met to discuss the performance metrics identified and assess their feasibility. These meetings resulted in a potential restructuring and simplification of both the fundamental objectives and the metrics (see [Section 4.4.](#) and [Figure 4.2.](#)), both of which were presented to and ultimately approved by stakeholders at Workshop #3. The revised objectives included:

1. *Maintain a healthy deer population;*
2. *Minimize hunter dissatisfaction*
3. *Minimize landowner dissatisfaction; and*
4. *Improve communication between ODNR-DOW, deer hunters, land-owners and the non-hunting public.*

In addition to performance metrics already in use by ODNR-DOW to monitor the health and condition of deer,² the ODNR-DOW currently measures hunter and landowner dissatisfaction *via its* annual deer hunter survey and periodic goal-setting survey. It was determined that such metrics, in particular by minimizing and *balancing* both landowner and hunter dissatisfaction, ODNR-DOW could more reasonably and efficiently capture performance across the four objectives (see [Section 4.4.](#)). Stakeholders attending Workshop #3 would concur with this assessment and approve the revised objectives and performance metric.

Workshop #3 focused on developing options that would perform best across stakeholders' fundamental objectives using the metrics identified above. Following an initial discussion of the revised performance metric and objectives, ODNR-DOW personnel made presentations to the stakeholders covering six harvest management options.³ These options included:

1. Deer Management Units (DMUs),
2. a Deer Management Assistance Program (DMAP),
3. Antlerless Permit Allocations,
4. Free Landowner Deer Permits,
5. Separate Regulations for Public Lands, and

² Stakeholders reported high confidence in and no desire to augment ODNR-DOW's current deer condition and health metrics.

³ Stakeholders have requested that audio and visual recordings of these presentations be made available to the public. The PowerPoint presentations and summaries of each workshop are currently available on the ODNR-DOW's website: <http://wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/deer-stakeholder-process>

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6. “Other States’ Options,” including “Earn-a-Buck,” Season-specific Bag Limits and Licenses, etc.

Following these presentations, via small- and full-group deliberation, stakeholders identified one additional harvest management option: **Outfitter Licenses**, as well as two options for *improving communication*: **Developing a Deer Stakeholder Advisory Committee (DSAC)** and **ODNR-DOW Personnel Attending Sportshows and Banquets**, and two options for *preserving the tradition of deer hunting*: **Incorporating deer hunting into K-12 education**, and **Targeting ODNR-DOW social media campaigns at young, minority and female hunters and small game hunting**. Stakeholders evaluated each of these options by identifying specific likes, dislikes, and additional information needed, and provided preliminary levels of support for each item. These evaluations informed the next workshop.

Workshop #4 focused on evaluating tradeoffs between options and objectives. In addition to receiving presentations from ODNR-DOW on Chronic Wasting Disease (CWD), deer herd condition and health, the public involvement process, and public land proposals,⁴ stakeholders engaged in small-group discussions and conducted a written evaluation of options, objectives and the DSEP itself. The results of that evaluation demonstrated near unanimous support for pursuing DMUs, Outfitter licenses, Developing a DSAC, ODNR-DOW personnel attending sportshows and banquets, Incorporating deer hunting into K-12 education, and Targeting ODNR-DOW social media campaigns at young, minority and female hunters and small game hunting. Moderate support was reported for establishing a DMAP, as well as pursuing Anterless permit allocations and Landowner permits.

Stakeholders also evaluated the DSEP, rating positively the diversity of viewpoints represented, the access to and interaction between stakeholders and ODNR-DOW personnel, and both the structure and type and amount of information presented (see [Sections 6.2.1.](#) and [7.2.](#)). Stakeholders also self-reported greater post-DSEP understanding of both the harvest management options discussed and the difficulty and complexities of deer management (see [Figure 7.5.](#))

Workshop #5 focused on weighting the importance of objectives, evaluating portfolios of options, making recommendations to ODNR-DOW and defining the stakeholders’ contribution to the DMP. Stakeholders participated in small- and full-group deliberations and conducted a portfolio exercise (see [Section 7.3.](#)) intended to identify the most preferred options and objectives as well as remaining concerns and necessary clarifications.

The results of this exercise and subsequent discussions identified the following:

1. **All four of the fundamental objectives were important to stakeholders**; however, *Maintaining Healthy Deer* was identified as the most important fundamental objective (on average, receiving 33 importance points out of 100).

⁴ The PowerPoint presentations and summaries of each workshop are currently available on the ODNR-DOW’s website: <http://wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/deer-stakeholder-process>

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2. **Establishing DMUs was supported in principle by all stakeholders in attendance⁵**; however, stakeholders requested additional information about how and where boundaries would be defined and urged the ODNR-DOW to carefully consider how regulations would be communicated to the public.
 3. **Pursuing Outfitter Licenses was supported by nearly all stakeholders; however, stakeholders sought clarification** about the criteria identifying “Outfitters,” likely fees, how revenue generated would be allocated, and whether certification or training could positively augment or replace licenses. Additionally, ODNR-DOW urged that adopting outfitter licenses would require action by state legislators.
 4. **Pursuing Anterless Permit Allocations was supported by most stakeholders; however, some stakeholders** voiced concerns about how either-sex and anterless permits would be allotted and distributed.
 5. **Establishing a DMAP was supported by a majority of stakeholders**, assuming the program would be voluntary and damage permits would remain available. ODNR-DOW personnel assured stakeholders that the program would indeed be voluntary and damage permits would remain available.
 6. **Pursuing free Landowner Permits was supported by a slim majority of stakeholders**, amidst concern regarding the likelihood of permits remaining free into perpetuity and pending additional study regarding the necessity and effectiveness of such permits in improving harvest management. Additionally, ODNR-DOW urged that pursuing landowner permits would ultimately require action by state legislators.

Additionally,

7. **All stakeholders in attendance strongly recommended establishing an informal Deer Stakeholder Advisory Committee or DSAC**, one similar to this DSEP and the Ohio Department of Agriculture’s Division of Animal Health Species Specific Advisory Groups. Stakeholders urged that such a committee—with support from the Ohio Wildlife Council—would be critical in liaising between stakeholders and ODNR-DOW, providing recommendations to ODNR-DOW senior personnel, representing the concerns of diverse stakeholders—including young, female and minority hunters, and continuing the important work begun at this DSEP. Stakeholders recommended the DSAC be voluntary, self-funded, and meet *at least* once per year to primarily discuss key topics of concern and inform ODNR-DOW regulatory processes. Stakeholders also urged that the DSAC would continue to assist ODNR-DOW in developing and evaluating the 10-year DMP.
8. **All stakeholders requested that the ODNR-DOW presentations from Workshops 3 and 4 be made into publicly available webinars or podcasts (< 5 minutes), as**

⁵ It should be noted that some stakeholders in attendance represent organizations that have large memberships with formal policy approval processes, e.g., Ohio Farm Bureau Federation. The SDM framework used here is not meant to represent, replicate or replace those processes.

well as **improvements be made to ODNR-DOW's social media and online presence and stakeholder communication** more generally.

In closing, one of the ODNR-DOW's principal goals in establishing this DSEP was to improve communication between the agency and its key stakeholders. While this DSEP went a long way in doing so, conversations throughout the DSEP identified how important it was *to stakeholders* that ODNR-DOW maintain open dialogue, engage in a meaningful exchange of ideas and concerns, collect *and distribute* meaningful information, and provide access to decision-makers whenever possible.

Again and again it became clear that managing deer in Ohio is less about managing deer and more about managing relationships.

2.0. Structuring the Deer Stakeholder Engagement Process (DSEP)

2.1. Justification for the DSEP

The ODNR-DOW has a long history of engaging its stakeholders. In 2016 they identified a specific desire to engage key stakeholders and incorporate those stakeholders' recommendations into the ODNR-DOW's 10-year Deer Management Plan (DMP). The DMP is an internal document shared with the public and used for managing hunted deer populations based on historical perspectives, stakeholders' interests, and science-based management. Through a new DMP-targeted Deer Stakeholder Engagement Process (DSEP), ODNR-DOW desired to increase stakeholders' familiarity with harvest management and its complexities, as well as explore better methods of gathering and monitoring public input.

Similar to most environmental management plans, the ODNR-DOW's DMP is complex. It impacts an extended time horizon, involves a large number of stakeholder groups with potentially conflicting interests, and incorporates uncertainty with regard to how different strategies might perform. As such, there is no "silver bullet" or "one size fits all" approach to engaging stakeholders and incorporating their input [4]. While many environmental managers rely on a "deficit model" of communication, or experts using engagement processes to determine what laypeople most need to know, then crafting their messages about ongoing environmental management plans accordingly [5], recent research suggests more analytical-deliberative methods of communication and engagement outperform the deficit model [6]. Analytic-deliberative methods unite scientific rigor, structured discussion and evaluation of objectives and solutions. By more effectively identifying and addressing stakeholders' values [3], breaking complex decisions into more manageable steps [1], and incorporating more defensible means of engagement and negotiation [7], analytical-deliberative methods can lead to decisions that are more in line with stakeholders' key concerns [8-10] and increase stakeholder support [6].

One such analytical-deliberative approach is called Structured Decision-Making.

2.2. Structured Decision Making (SDM)

Structured Decision Making, or SDM, is an organized, step-by-step approach to making difficult environmental and natural-resource planning decisions. It has demonstrated considerable success in incorporating stakeholders' values, concerns and objectives into complex planning decisions [1], including decisions made by the ODNR's own Lake Erie Percid Management Advisory Group (LEPMAG) [2]. SDM focuses principally on helping diverse stakeholders work together in a scientifically rigorous, inclusive, defensible and transparent manner, while also emphasizing "value-focused thinking"[3]. Value-focused thinking focuses stakeholders' attention on what they *want* to achieve rather than encouraging debate only about the options currently available. A focus on values not only builds trust, dispels myths, and develops a common understanding amongst participants, but also weakens the appeal of single, salient or status quo options, leading to the generation and adoption of more and better options later in the process [1].

2.2.1. The Five, or Six, Steps of SDM

SDM processes typically move iteratively through six steps. For the sake of clarity throughout this document and because *Step One: Defining the problem and identifying stakeholders, resources and constraints*, was conducted—for the most part—previous to the initial DSEP workshop, we refer to those activities here as “preliminary steps.” This allows each of the five DSEP workshops to correspond with the same numbered step in the SDM process; see [Figure 1.0](#). Each step is described briefly below; however, more information regarding both the steps and their corresponding workshops are provided in the sections specific to each workshop.

2.2.1.1. Preliminary Steps: Defining the Problem and Identifying Stakeholders, Resources and Constraints

The first and often most difficult step of SDM requires decision-makers to define the overarching issue or problem, as well as identify opportunities, constraints, timelines, budgets, and potential stakeholders. This process is often referred to as *decision sketching* [1]. In this case, the ODNR-DOW had already accomplished much of the problem definition via ongoing development of and discussions regarding their draft 10-year DMP. That plan used as its foundation a single strategic ODNR-DOW objective: *Maximize opportunities for the public to enjoy deer while minimizing human conflicts*.

As such, the goal of this DSEP was to ensure that stakeholders have a meaningful role in determining the most important opportunities and in making the difficult tradeoffs that are the result of such conflicts. While science and science-based decisions are critical in such processes, it is often forgotten that science is intended to inform rather than make decisions. The intent of the SDM approach is to generate decisions that are organized, inclusive, transparent, and perhaps most importantly consistent with stakeholders and decision-makers’ values. As such, achieving ODNR-DOW’s strategic objective requires both identifying appropriate levels of and *maintaining balance between* hunters’ satisfaction, which tends to be correlated with a perceived abundance of deer, and farmers, landowners and the public’s satisfaction, which tends to be correlated with a perceived scarcity of deer—for more on how both populations’ perceptions don’t always align with reality see [Section 4.4.1](#).

An additional objective of the DMP development process involved improving upon previous ODNR-DOW efforts to engage stakeholders by developing a high-quality, reproducible, stakeholder engagement process, or DSEP. The desire to develop an improved DSEP led ODNR-DOW personnel to contact Jeremy Bruskotter and Doug Bessette, an Associate Professor and Post-doctoral Researcher, respectively, at OSU. Both Bruskotter and Bessette had previous experience using SDM methods in their research and facilitating stakeholder-focused SDM processes.

Initial meetings in the fall of 2016 between ODNR-DOW personnel included program directors, assistant chiefs and wildlife biologists, and OSU researchers including Bruskotter and Bessette as well as Kristina Slagle and Gabe Karns. These meetings led to the development of a 12-month DSEP, with each of five workshops linking directly to steps in the SDM process.

Potential stakeholders were identified by ODNR-DOW personnel to purposely represent as diverse a sample of potentially affected interests as possible (see [Section 10.0.](#)). [Box 2.1.](#) shows a list of the organizations stakeholders represented.

<ol style="list-style-type: none"> 1. Ohio Farm Bureau Federation 2. Ohio Department of Agriculture 3. Whitetails Unlimited 4. The Ohio State University 5. Ohio Bowhunters Association 6. Quality Deer Management Association 7. The Whitetail Deer Farmers of Ohio 8. Farmers & Hunters Feeding the Hungry 9. Ohio Farmers Union 	<ol style="list-style-type: none"> 10. The Nature Conservancy in Ohio 11. Ohio Conservation Federation 12. League of Ohio Sportsmen 13. Buckeye Firearms Association 14. Ohio Wildlife Council 15. Ohio Forestry Association 16. The Ohio Senate 17. Ohio Outdoor Writers & Social Media 18. Buckeye Big Buck Club
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Box 2.1 Stakeholders' Organizations

In order to properly define a problem, natural resource managers must also identify clear boundaries, or those concerns and individuals that are outside the purview of the specific decision-making process. For the current DSEP, ODNR-DOW and OSU agreed that five concerns in particular were beyond the authority and influence of the ODNR-DOW and the stakeholders in attendance. [Box 2.2.](#) lists those topics that would not be discussed during the current DSEP:

<ol style="list-style-type: none"> 1. Bringing back in-person check stations; 2. Discussing or planning for other species; 3. Coyote bounties; 4. Fee increases for Division operations; and 5. Indemnity for wildlife damages

Box. 2.2. Topics Outside the Purview of this DSEP

2.2.1.2. Step One: Eliciting Values and Identifying Objectives.

Once the initial decision sketch is complete (note that it is only a sketch and thus could be edited and improved upon throughout the DSEP), the next step of SDM focuses on identifying stakeholders' most important values, concerns and objectives. This focus on identifying what people *want to achieve* rather than initiating a debate between options not only weakens the appeal of single, salient or status quo alternatives [3], but typically leads to the generation of more creative and better-performing options later on [11, 12]. Such a focus i.e., one dependent on value-focused thinking, also builds trust, dispels myths, and develops a common understanding amongst participants [3]. This way of approaching decisions is in opposition to the way that decisions commonly get made, i.e., by using "alternative-focused thinking."

In the first workshop we would initiate this value-focused process by asking individuals to answer two questions. These questions included what elements of managing deer populations did they believe most require our attention? And, what did they think were the most important objectives of an (Ohio) deer-management plan? Stakeholders would engage these questions

individually, before introductions had been made, and would be instructed not to speak to anyone during the activity. This was purposeful, as individuals thinking through problems and decisions separate from groups, at least initially, is key in reducing “groupthink” and helps to expand the range of issues considered.

2.2.1.2.1. Fundamental and Means Objectives

Throughout *Step One*, individuals and small groups would be tasked with not only identifying their values and concerns, but generating *objectives* with regard to deer management. In SDM parlance, objectives are concise statements about “the things that matter” [1] Objectives are not targets, “things to do,” or principles, but instead consist of:

1. A “thing that matters,” and
2. A verb that indicates the desired direction of change.

For example, a proper SDM objective is “Minimize deer-related traffic accidents,” while “Reduce deer-related traffic accidents by 50%” would be a target or goal. Targets and goals are avoided in SDM as they may unnecessarily restrict the range of options or strategies considered later in the decision-making process. Imagine an option that performs extremely well across a number of objectives, but fails to achieve a specific target. Even if it only narrowly misses that target, that option may be ignored or eliminated.

Stakeholders were also urged to choose verbs that were *not* value neutral. Simply put, participants were instructed to take a side. For example, stakeholders were advised to use verbs like “maximize, increase, or maintain” instead of verbs like “promote” or “optimize.” Verbs of the latter variety can sometimes hide the necessary actions required to achieve those objectives, as well as the negative tradeoffs that accompany those actions. Stakeholders would also be instructed that their objectives should be context-specific and need not be easily quantifiable.

More than just identifying objectives, stakeholders were tasked with constructing a list of ***fundamental*** objectives. Identifying fundamental objectives means identifying objectives that *all* stakeholders would agree are important and that the preferred direction of the objective’s verb remains the *same* for all stakeholders. For instance, all stakeholders agreed that “maximizing deer hunting opportunities” was a fundamental objective of Ohio deer management. Nobody argued that hunting opportunities were either a) unimportant, or b) that we should decrease or minimize them.

Stakeholders would also be tasked with generating a list of ***means*** objectives. Means objectives are structured in the same way as fundamental objectives but provide statements about how to achieve fundamental objectives. For example, in order to maximize hunting opportunities, many (but not all) stakeholders felt that Ohio should “maximize access.” To move between fundamental and means objectives, participants would be urged to ask themselves or their group members either “why do we care about this?” (to identify fundamental objectives) or “how do we achieve this?” (to identify means objectives).

While all stakeholders are expected to agree that fundamental objectives are important—though not necessarily to the same degree, individuals will often disagree over the means by which those fundamental objectives are pursued.

One way of visually depicting the results of this process is by developing a *Means-End Network*. A means-ends network helps to identify and structure stakeholders' objectives along with possible means for achieving those objectives. For more on *Step One* and the Means-Ends Network developed during Workshop #1, see [Chapter 3.0](#) and [Figure 3.1](#). For the finalized Means-Ends Network see [Section 6.1](#) and [Figure 6.1](#).

2.2.1.3 Step Two: Characterizing Performance Measures

Step Two of SDM focuses on developing performance metrics that can be used to evaluate how well the options that would be generated later in the DSEP perform across the fundamental objectives identified in *Step One*. The best type of performance measures are information-rich, clear, concise and easily understood and can be communicated by people with varied levels of experience and education. It is also critical that such measures be operationalizable, meaning they are practical, inexpensive and typically incorporate existing—and available—expertise and technology. Good performance measures are also both scientifically rigorous and value-based.

Over the course of developing performance measures, stakeholders will typically revise, eliminate or identify new objectives. This process of developing performance measures is thus not only important to refine what really matters to stakeholders, but also would be key in determining both what information the ODNR-DOW may need to collect or present and which models the ODNR-DOW may need to develop, adopt or present to stakeholders.

The importance of developing good performance measures cannot be understated. These measures often become the focus of deliberation, expose important value-based tradeoffs and provide a means for communicating the rationale for tough decisions to the public [1]. As such, devoting an entire workshop to their development was key. For more on *Step Two* and Workshop #2, see [Chapter 4.0](#).

****RECOMMENDATION 2.1:** Despite concerns voiced by some stakeholders regarding both the usefulness of Step Two and the resulting metrics identified, we recommend that the development of performance metrics be repeated in future DSEPs. **

2.2.1.4. Step Three: Generating creative strategies and options

The third step of SDM focuses on generating sensible, creative and substantially different *strategies*, or options, that perform well across stakeholders' fundamental objectives. This step, of inviting stakeholders to generate and explore different strategies, is key to developing and encouraging stakeholder ownership of the decision-making process and its result. Additionally, stakeholders tend to learn a great deal about the complexities of environmental or natural resource management [9], as well as what and how much can be realistically achieved.

This process of creating alternatives also tends to develop or generate support for solutions that better link to, and thus perform better across, fundamental objectives. As with the previous

step, generating and exploring different strategies also tends to lead to refinement of performance measures and objectives. Such iterative refinement would be encouraged and sufficient time would be allotted during all of the workshops. For more on this step and Workshop #3, see [Chapter 5.0](#).

2.2.1.5. Step Four: Evaluating tradeoffs between options and objectives

Step Four of SDM tends to be the first instance in which stakeholders actively engage the consequences of their decisions and begin analyzing tradeoffs between options and objectives. As a result, Workshop #4 would be a crucial one, requiring presentations by ODNR-DOW on the predicted consequences of different options, as well as on key uncertainties, thresholds and tipping points. How best to present this information would to a large extent rely on the options and objectives generated in previous workshops. Once stakeholders sufficiently understood the consequences, they would begin to engage in tradeoff analysis, using consequence tables, direct ranking of options and the weighting of objectives and performance measures [13, 14].

Tradeoff analysis is a key tenet of SDM, and SDM's methods focus on i) developing "win-wins" or options that perform well across objectives thought to conflict, ii) exposing unavoidable tradeoffs, iii) making tradeoffs explicit and transparent, and iv) communicating a group's rationale for a decision to the public [1].

Workshop #4 was thus also intended to begin making clear stakeholders' decisions regarding, and thus provide explicit support for, specific options that could be included in the 10-year DMP. For more on this step and Workshop #4, see [Chapter 6.0](#).

2.2.1.6. Step Five: Implementing Decisions, Learning and Evaluating the Process

Step Five of SDM asks stakeholders and decision-makers to explicitly identify those options that perform best across the most important objectives, as well as provide any final adjustments to or identify areas requiring clarification regarding both the options and objectives.

Additionally, *Step Five* requires that an **Adaptive Management** plan be developed—if not already done previously, in this case both for monitoring success of the DMP and conducting additional DSEPs. Adaptive management is a systematic approach to improving environmental management via the monitoring of impacts, learning from outcomes, and the adjustment of strategies [15]. At Workshop #5, stakeholders would develop an adaptive management plan in the form of a Deer Stakeholder Advisory Committee, or DSAC. For more information on this Committee and Workshop #5, see [Chapter 7.0](#).

2.3. DSEP Schedule

The DSEP relied on five workshops, occurring every three months, each held at the Cherry Valley Lodge in Newark, Ohio. As stated above, each workshop linked directly to one step in the SDM process and is listed below.

Workshop #1 took place on May 4th and 5th, 2017: Eliciting Objectives
Workshop #2 took place on August 3rd and 4th, 2017: Characterizing Performance
Workshop #3 took place on November 16th and 17th, 2017: Generating Options

Workshop #4 took place on February 15th and 16th, 2018: Engaging Tradeoffs, and Workshop #5 took place on May 11th, 2018: Implementing Decisions.

Each of the first four workshops was purposely scheduled to occur over the course of one afternoon, one evening and the following morning. This format was intended to allow participants to:

1. Build relationships in a more casual atmosphere, e.g., over dinner and breakfast;
2. Spend sufficient time reflecting on the afternoon's tasks before engaging new tasks in the morning;
3. Work on "homework assignments" that would inform the next day's tasks; and,
4. Relax and discuss between difficult deliberations.

Additionally, this format allowed the facilitator to synthesize the results of the afternoon session and incorporate them into the next day's activities and discussions.

Based on DSEP evaluations, participants valued this format and the informal discussions it enabled.

****RECOMMENDATION 2.2:** Despite the added expense of providing participants with dinner, breakfast and hotel accommodations, we strongly recommend the [Afternoon-Evening-Morning] workshop format—as compared to the more typical [Morning-Afternoon] workshop format—in future stakeholder engagement processes **

The fifth workshop was purposely scheduled to use the [Morning-Afternoon] format so that the DSEP could close with a celebratory dinner, held at the Red Oak Pub & Restaurant in Newark, OH.

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3.0. Workshop #1: Eliciting Stakeholders' Values, Concerns & Objectives

The first workshop began at 1pm on May 4th, 2017 and concluded at noon on May 5th. Twenty-one stakeholders along with personnel from the ODNR-DOW and OSU engaged in exercises aimed at characterizing the fundamental objectives of Ohio deer management. These exercises were in addition to discussions held informally during breaks, meals and in the evening.

3.1. Day One

At the outset of Workshop #1, stakeholders were invited to participate in an individual brainstorming activity that asked them to address two questions:

1. What elements of managing deer populations do you believe most require our attention?
2. What do you think are the most important objectives of any (Ohio) deer-management plan?

Stakeholders were asked to respond to these questions before any introductions had been made and were instructed not to speak to anyone during the activity. This was purposeful, as individuals thinking through problems and decisions separate from groups, at least initially, is key in reducing “groupthink” and helps to expand the range of issues considered [1]. Participants had 20 minutes to write down answers to the two questions.

Following this individual activity, brief introductions were made by all workshop participants and ODNR-DOW personnel, as well as a short presentation by the facilitator Bessette. That presentation introduced stakeholders to the SDM process and its six steps, some of the elicitation methods we would use during the DSEP, as well as the DSEP and workshop structures. The presentation also instructed stakeholders on how to develop good objectives and distinguish between means objectives and fundamental objectives (see [Section 2.2.1.2.1.](#)), as well as provided instructions for developing a Means-Ends Network (see [Section 3.2.4](#)). A completed Means-Ends Network was the goal of Workshop #1.

Following the presentation, stakeholders engaged in a small-group brainstorming activity that asked individuals to report their own concerns and objectives, identify common areas of concern and objectives amongst small-group members, discuss concerns as a group, and eventually report a summarized list of objectives back to the full workshop group. Small groups were established by attaching a number (1 – 4) to each participant’s position at the main workshop table. This was done so that those individuals who were least likely to sit together were most likely to be in a small group together. The composition of the small groups did not change during this first workshop, but were changed for subsequent workshops.

Following the small group activity, stakeholders collected in the main room to report back on their findings. Each small group presented their respective list of objectives, while the OSU facilitator and other group members asked clarifying questions.

3.1.1 Role of ODNR-DOW Personnel throughout the DSEP

It should be noted that throughout Workshop #1, ODNR-DOW personnel were present only to provide subject-matter expertise upon request of the participants. They were not involved in eliciting objectives, presentations or discussions, and did not participate in any individual, small-group or full-group activities, other than to take notes. This was done to ensure that the objectives identified were only those of the stakeholder representatives in attendance, and not those of ODNR-DOW personnel.

ODNR-DOW personnel's role would change however, primarily expanding as subject-matter expertise became more central to the decision-making tasks and presentations were requested by stakeholders. During Workshops 3 and 4, ODNR-DOW personnel would make a number of topical presentations and hold Q&As regarding those topics. Additional ODNR-DOW personnel, including communications staff, the chief and assistant chief, would visit later workshops to either answer questions, provide logistical support or simply to learn about the stakeholders and the DSEP.

3.1.2. Connecting fundamental objectives to performance metrics

After the small groups reported their fundamental and means objectives to the full group, participants were introduced to their homework assignment for the night, which asked participants to do two things: first, identify what they would need to occur over the next five meetings to each rate the DSEP successful; and second, think about how they might go about measuring performance regarding the fundamental objectives their group identified. For example, having identified “maximize deer hunting opportunities” as a fundamental objective, how might they go about measuring those opportunities? Would they compare the total number of days each option makes available for hunting? Or, perhaps participants would prefer to compare options’ effect on the number of deer each hunter is expected to see each season. Or, perhaps, participants may want to evaluate options based on how likely they would lead to a successful deer harvest, or even, simply the total acres that each option makes available for hunting. This exercise along with deciding which measures participants want to use and would be most *effective* would be a focus of the Workshop #2.

At the conclusion of the first day’s group activities, the participants broke for a BBQ dinner provided by the Cherry Valley Lodge.

3.2. Day Two

Day Two of Workshop #1 began with a light breakfast at the Cherry Valley Lodge and brief remarks made to the group by ODNR-DOW senior personnel.

3.2.1. Objectives for a Successful DSEP

Immediately following, participants began reporting the results of their homework assignment, i.e., the DSEP objectives, to the full group. The facilitator asked each stakeholder to state a single DSEP objective before moving on to the next participant. After all participants had identified at least one DSEP objective, the process of reporting repeated until all participants felt confident that all relevant DSEP objectives had been identified. This format was repeated

during subsequent full-group discussions at later workshops.

The DSEP objectives provided by stakeholders are listed below in no particular order:

1. Identify all stakeholders' key interests and concerns accurately.
2. Rely on the best available technology and science.
3. Ensure both the process and results are clearly communicated to all stakeholders and relevant agencies via a publicly available report and social media.
4. Demonstrate to the public the difficulties involved in deer management.
5. Create a product that provides clear deer management objectives to the ODNR-DOW.
6. Improve the relationship between hunters and non-hunters.
7. Provide clear means of evaluating performance, i.e., demonstrate its impact on ODNR-DOW deer management decisions.
8. Include more diverse stakeholder representatives and focus on the interests of young and female hunters.

Box 3.1. Objectives for a Successful DSEP

Note that many of these objectives were similar to the fundamental and means objectives of deer management identified by participants.

3.2.2. The Characterization of Fundamental Objectives

Next, participants were tasked with reviewing both the fundamental and means objectives they had identified the previous day. Over 20 fundamental objectives and 50 means objectives had been identified; however, many of these objectives i) captured similar concepts, but used different terms, ii) needed to be recategorized (fundamental as means, and vice versa) or iii) needed to be restructured to fit the SDM model, i.e., including only a verb and the thing that mattered.

Upon review, the OSU facilitator identified 10 fundamental objectives that had emerged from the previous day's work. These included:

1. Increase deer hunting opportunities for residents of Ohio.
2. Minimize negative impacts of deer.
3. Maximize access.
4. Maintain a healthy deer population.
5. Maximize retention, recruitment and reactivation.
6. Improve education.
7. Improve Division of Wildlife communication.
8. Ensure a fair and appropriate distribution of deer statewide.
9. Maintain balance between farmer, hunter and landowner satisfaction.

10. Improve technology management.

Box 3.2. Initial List of Fundamental Objectives

The facilitator presented these 10 fundamental objectives to the stakeholders and asked them, as small groups, to i) ensure that the terminology accurately captured their understanding, and ii) ensure that the objective was actually a fundamental objective and not simply a *means* to achieving one.⁶ Most often in these types of processes, anywhere from four to seven fundamental objectives are identified and then used to guide the development of options and tradeoff analysis later on.

Once each group had reviewed the list of objectives above and constructed their own list of revised fundamental objectives, they were instructed to individually rank each fundamental objective in order of importance. They were then asked to discuss how best to represent an overall, small-group, ranking of objectives' importance. Participants were instructed that this activity was merely to introduce them to the difficulty involved in prioritizing objectives; the resulting rank orders would not be recorded.

After deliberating for just over an hour, each small group reported their own revised list of fundamental objectives to the full group, while the facilitator and other group members asked clarifying questions and ensured that the objectives reported were truly “fundamental,” i.e., they were not simply means to achieving another, previously mentioned, objective. Each small group's fundamental objectives are provided below.

- 1.1. Maximize deer hunting opportunities.
- 1.2. Minimize economic impacts to agriculture and forestry.
- 1.3. Maximize hunter access.
- 1.4. Minimize disease.
- 1.5. Maximize recruitment, retention and reactivation.
- 1.6. Maximize communication and education.
- 1.7. Minimize driving hazards.
- 2.1. Maintain a quality—healthy and huntable—deer population statewide.
- 2.2. Maintain farmer, landowner, and hunter balance.
- 2.3. Increase deer hunting opportunities & access for in-state residents.
- 2.4. Decrease number of non-resident hunters.
- 2.5. Manage deer using smaller deer management units (DMUs).
- 2.6. Increase number and diversity of deer hunting opportunities for young hunters.
- 3.1. Maintain healthy herd.
- 3.2. Optimize herd size (maintain herd at biological and cultural carrying capacity).
- 3.3. Maximize hunter opportunity.
- 3.4. Minimize damage.
- 4.1. Improve deer habitat management.
- 4.2. Maximize herd size while minimizing land conflicts.

⁶ This is typically done by asking “Why do we care about this?”

-
-
- 4.3. Improve technology management.
 - 4.4. Maximize land access.
 - 4.5. Maximize herd health.

Box 3.3. First Revision of Fundamental Objectives: Small Groups

During this process of reporting, in which each group's objectives were copied, presented on the screen in the front of the full group, and discussed, six fundamental objectives materialized. These six objectives are provided below—we would return to these objectives later in the DSEP.

- 1. Improve the balance between hunter, farmer, landowner and other stakeholder satisfaction.
 - 2. Minimize the negative impacts of deer.
 - 3. Maintain a healthy deer population.
 - 4. Maximize deer hunting opportunities.
 - 5. Preserve the tradition of hunting.
 - 6. Improve the relationship between ODNR-DOW personnel, hunters and the non-hunting public.

Box 3.4. Second Revision of Fundamental Objectives: Full Group

3.2.3. The Characterization of Means Objectives

Following a short break, the participants began their final small-group activity, a short period in which each group was asked to identify two means objectives for each of the six fundamental objectives. These means objectives were intended to inform the means-ends network that would be compiled, evaluated and iterated by participants following Workshop #1 and at Workshop #2. After deliberating for approximately 30 minutes, each small group reported their means objectives to the full group. They are listed below:

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1.1. Protect and expand public land access.	3.4. Increase deer harvest.
1.2. Manage public lands for deer habitat.	3.5. Increase hunter recruitment.
1.3. Increase collaboration between hunters and landowners.	3.6. Increase public education programs.
1.4. Improve deer harvest on farms and commercial woodlands.	3.7. Improve public relations.
1.5. Reduce deer herd by 2/3.	3.8. Improve damage control through surveillance.
1.6. Incentivize landowners to allow hunter access.	3.9. Improve damage control through habitat enhancements.
1.7. Acquire more public land via purchase or long-term lease.	4.1. Improve communication.
1.8. Ban interstate movement of whitetail deer.	4.2. Improve technology (better modeling and tools).
1.9. Revisit season start dates.	4.3. Improve education.
1.10. Improve Division involvement in social media forums.	4.4. Increase incentives for improved habitat.
1.11. Identify deer crossing hot spots.	4.5. Increase use of high fence/forced crossings.
1.12. Incorporate more deer-safe crossings.	4.6. Increase use of damage control permits.
2.1. Improve communication	4.7. Increase hunter education opportunities.
2.2. Improve education	4.8. Improve hunter success rates.
2.3. Improve technology	4.9. Improve disease control plans.
2.4. Improve access	4.10. Increase Division of Forestry collaboration.
2.5. Adjust and add season days and lengths	4.11. Maximize balance of nature.
2.6. Improve habitat	4.12. Utilize farm policy impact.
2.7. Increase number of youth programs	4.13. Improve harvest reporting.
3.1. Improve use of stakeholder surveys, focus groups, and social media.	4.14. Maximize social media use
3.2. Increase regulations on outfitters.	4.15. Maximize opportunities, i.e. season dates, days, times
3.3. Educate landowners on benefits of deer hunting.	4.16. Maximize land-owner respect
	4.17. Minimize disease
	4.18. Develop/update disease management plan.

Box. 3.5. Initial List of Means Objectives

Following the reporting of the means objectives, Bessette and Scott Hale, the ODNR-DOW Assistant Chief, thanked the participants for their contributions, answered remaining questions, and reminded the participants that materials from Workshop #1 would be emailed to the participants for review and uploaded to ODNR-DOW's website.

3.2.4. Means-Ends Network

Following Workshop #1, the OSU facilitator constructed a Means-Ends Network representing the fundamental and means objectives identified by stakeholders (see [Figure 3.1.](#)). This network linked likely means to likely ends using arrows. For example, increasing the ODNR-DOW's social media presence and improving the use of stakeholder surveys and focus groups will likely help to improve communication, which will likely help to improve the relationship

between ODNR-DOW personnel, hunters and the non-hunting public, etc. Improving the ODNR-DOW's tools, technology and models will also likely improve their communication, relationship, etc.

In certain cases, it was thought that pursuing specific means objectives, i.e., improving communication, technology and education, would contribute to achieving *all* of the fundamental objectives. As such, these objectives were marked with a ★.

It is important to remember that [Figure 3.1](#). was only an initial draft means-ends network, one generated by the OSU facilitator based on his characterization of how the workshop participants reported objectives. It was subsequently reviewed and revised by the stakeholders at Workshop #2. See [Section 6.1](#). for more information and a later network (see [Figure 6.1](#).).

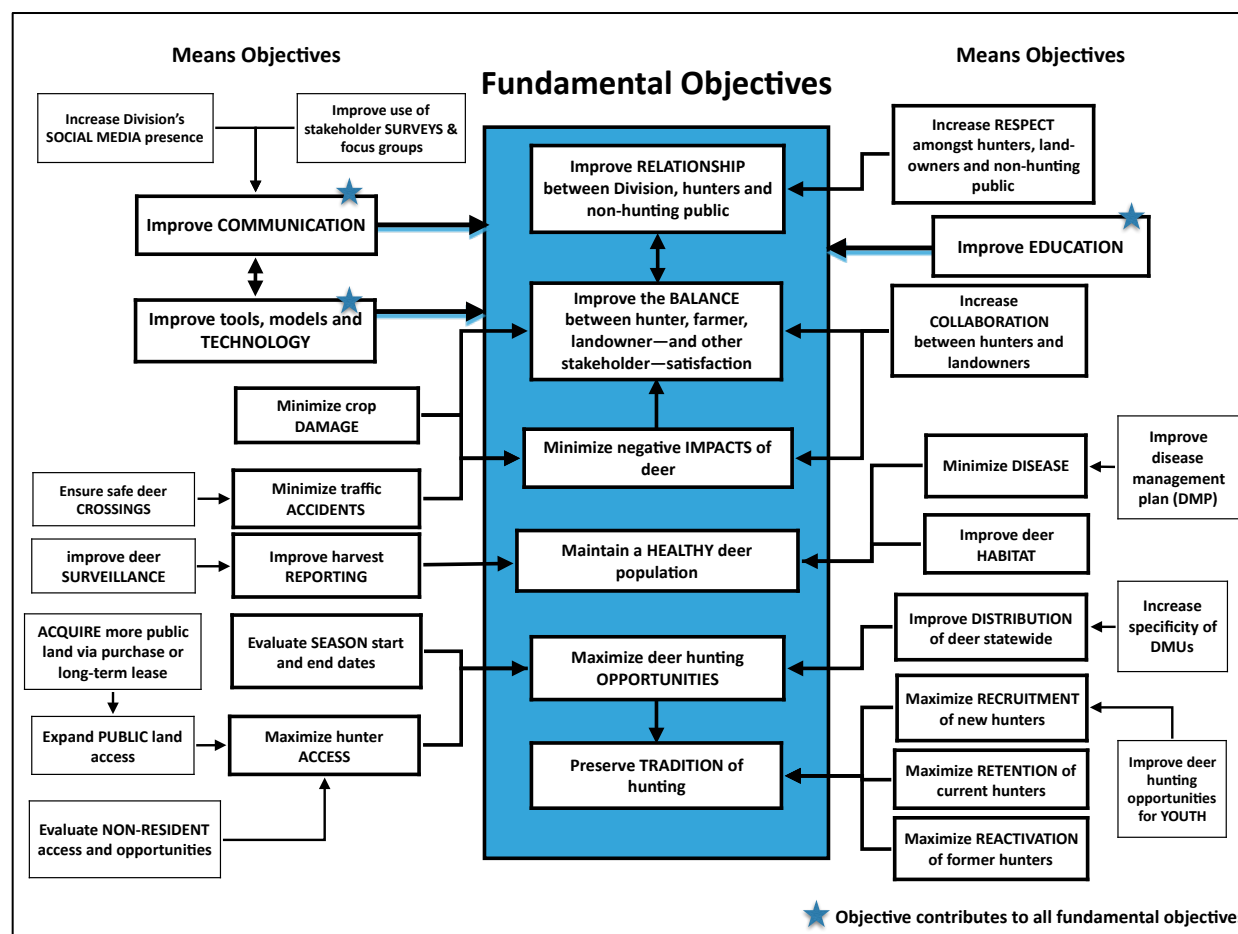


Figure 3.1. Means-Ends Network. This network shows likely linkages between the fundamental and means objectives identified by stakeholders. Six fundamental objectives are listed in the center blue box. Means objectives are listed to the right and left of the blue box, in no particular order of importance. The ODNR-DOW is represented by “Division” in this network.

3.2.5. Topics identified requiring further clarification

A number of topics and concerns were raised by stakeholders during discussion or in their written notes and were identified as requiring further explanation by ODNR-DOW personnel. These issues are listed below.

1. Estimated herd size: current numbers, along with past and predicted trends;
2. Chronic Wasting Disease (CWD): CWD's extent, predictions regarding its spread, and Division plans in case of outbreak;
3. Access: summary, past and predicted trends;
4. Outfitters: current regulations, data, past and predicted trends;
5. Nuisance permits: summary of, availability, past and predicted trends;
6. Crop damage: estimates, past and predicted trends;
7. Regulatory process: explanation; and
8. Captive cervid industry: summary.

Box 3.6. Topics requiring further explanation by ODNR-DOW personnel

The first two topics were reviewed explicitly by ODNR-DOW during presentations at subsequent workshops. ODNR-DOW personnel answered questions regarding Topics 3 through 8 at subsequent workshops, but did not make formal presentations regarding them.

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4.0. Workshop #2: Devising Performance Measures to Capture stakeholders' values

The second workshop began at 1pm on August 3rd, 2017 and concluded at noon on August 4th. The goal of Workshop #2 was to identify metrics, or performance measures, that would capture stakeholders' values, more specifically their fundamental objectives, and could then be used at later workshops to evaluate options or strategies. Performance measures are developed to ensure that stakeholders and decision-makers engage i) the tradeoffs between different groups and individuals' *values* explicitly and ii) the tradeoffs between plans, options or strategies' *performance* accurately. In order to be useful, performance measures must be understood by all and agreed upon by a majority of relevant stakeholders and decision-makers. Arguing that a performance measure cannot or should not be identified serves only to ensure that a particular value or objective will not be measured and thus not managed.

As the saying goes, '*We can only manage what we can measure!*'

4.1. Day One

4.1.1. Stakeholder Concerns

Workshop #2 began with introductions and updates from stakeholders in attendance regarding comments, concerns or questions identified by their stakeholder groups between workshops. Only three concerns were identified; these regarded:

1. Maintaining and/or improving the transparency of the DSEP and its results;
2. Providing audio or video recordings of the DSEP; and,
3. Reducing the length of the DSEP summary reports.

Regarding the first and second concerns, the facilitator ensured the stakeholders that all of the materials and reports from the DSEP would be made publicly available; however, both OSU and ODNR-DOW personnel urged that recording the DSEP was not recommended as it was thought that those in attendance would be less willing to speak freely and openly about matters if their comments were made public. Regarding the length of the summary reports, it was agreed that a more concise summary report would be prepared and distributed following Workshops 2 through 5.

Following this discussion, stakeholders were asked to review the publicly available summary document from the previous workshop as well as the Means-Ends Network drafted by the facilitator.

4.1.2. Preserving the Tradition of Deer Hunting

While reviewing Workshop #1's results, stakeholders were asked specifically to review the fundamental objective, *Preserve the tradition of deer hunting*. This request was made in response to three means objectives included in the Means-Ends Network (see [Figure 4.1.](#)), each of which ODNR-DOW personnel proposed was insensitive to different DMPs. While maximizing the recruitment, retention and reactivation of deer hunters is certainly important, both ODNR-DOW and OSU personnel argued that the following societal trends and administrative constraints must be considered:

1. Declining hunting participation rates overall; and
2. The apparent disconnect between the size of the deer population and the number of hunters.

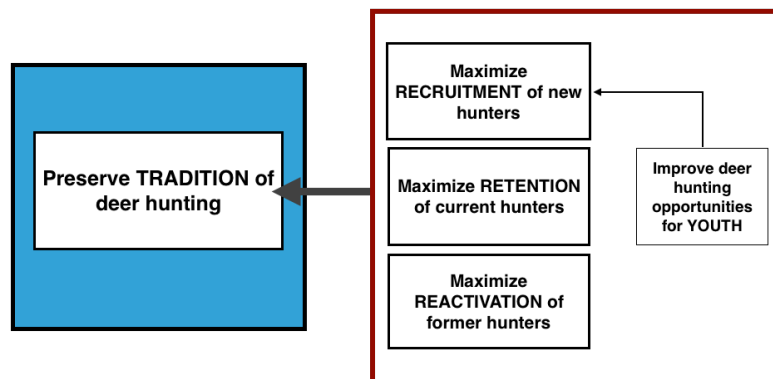


Figure 4.1. A Fundamental Objective of Deer Management? Preserving the Tradition of Deer Hunting.

4.1.3. Identifying Performance Metrics for the Six Fundamental Objectives

Following stakeholders' review of the summary document and approval of the current Means-Ends Network, stakeholders were asked to begin devising performance metrics to measure the six fundamental objectives. The OSU facilitator reviewed the five SDM steps, the procedure for identifying metrics, the types of metrics commonly used (i.e., natural, proxy and constructed) and attributes of quality metrics (i.e., clear, reliable, possible, consistent, concise, complete and communicable)—see [1] for more on developing good performance metrics.

Stakeholders were then split into small groups and spent the rest of the afternoon generating measures. Groups were asked to consider the following as they identified potential metrics for the first fundamental objective: *Maximize hunting opportunities*:

1. The group's rationale for selecting a measure,
2. The source of information for each measure, or *who* will do the measuring,
3. The amount of time, money and personnel required to collect data
4. The uncertainty associated with the measure, and
5. Whether a measure required an additional means objective be identified.

Box. 4.1. Considerations for potential performance metrics.

At the conclusion of the first day's group activities, the participants broke for a BBQ dinner provided at the Cherry Valley Lodge.

4.2. Day Two

The second day began with a light breakfast, followed by continued small- and large-group discussion of potential measures. The OSU facilitator reminded the stakeholders of the difference between objectives, measures, and options, i.e., the first is something valuable you

wish to work toward achieving, the second is a way of measuring how well you're doing regarding achievement of that thing, and the third is a plan or strategy for achieving it.

After reviewing metrics generated for the first fundamental objective, groups were tasked with generating metrics for the second and third objective, i.e., *Minimize the negative impacts of deer* and *Improve the relationship between ODNR-DOW personnel, hunter and the non-hunting public*, and then reporting those metrics to the large group. Next, small groups generated metrics for the remaining three fundamental objectives. In a final exercise, small groups returned to the first objective and worked through potential measures one last time.

4.3. Performance Metrics

25 performance metrics were identified over the course of the two-day workshop. They are listed below.

1 Overall number of hunters	15 Percentage of Division staff positions currently filled
2 Mean age of hunting-license purchasers	16 Huntability habitat (public/private) (in acres) per hunter
3 Number and type of community events attended	17 Number of family members hunting, measured by analyzing addresses of hunters
4 Days afield	18 Percentage of apprentice licenses that transition to adult license
5 Total acres of public land available for hunting	19 Number of Division social media contacts, measured by analyzing 'friends, followers and impressions' on Facebook, Twitter & Division websites
6 Production landowner satisfaction, measured using NAS survey	20 Number of first-time hunting license purchases
7 Hunter satisfaction & attitude/overall hunting experience, measured using NAS survey	21 Number of Landowner permits
8 Hunter success; number of bucks seen/harvested	22 Number and type of Vehicle collisions
9 Perceived quality of opportunity	23 Number of formal complaints received by Division & SWCD
10 Deer condition	24 Number of informal complaints received by Division & SWCD
11 Deer health	25 Number and type of permissions to hunt on private land
12 Crop damage, measured currently using nuisance permits (as a proxy)	
13 Number of complaints that lead to issued permits, i.e., perceived damages	
14 Number of regulations/pages of regulations (digest)	

Box. 4.2. Initial Performance Metrics

4.4. Restructuring Objectives and Metrics

At the conclusion of Workshop #2, ODNR-DOW and OSU personnel met to discuss both the proposed performance metrics and the existing fundamental objectives. Two concerns had been identified. First, with respect to the metrics, due to both budgetary and human resource constraints, collecting significant amounts of additional data would be difficult for ODNR-DOW wildlife biologists to achieve. And second, with respect to both the metrics and objectives, there were concerns that many were not truly independent, meaning they overlapped with each other, i.e., they were redundant.

To remedy both concerns, a few adjustments were proposed and would be presented to the stakeholders for their review both via email between workshops and at the beginning of Workshop #3. These adjustments, primarily in terminology, were intended to make the work of selecting performance metrics, as well as reducing the number of metrics necessary—and thus the eventual evaluation of plans and strategies—more straightforward.

Four changes to the structure of the fundamental objectives were proposed (see **Figure 4.2.**) and are identified below:

1. (old) *Improve relationship between ODNR-DOW, hunters and non-hunting public* → (becomes) ***Improve Communication.***
2. (old) *Minimize negative impacts of deer* → (becomes) ***Minimize landowner dissatisfaction.***
3. (old) *Maximize deer hunting opportunities and Preserve tradition of deer hunting* → (becomes) ***Minimize hunter dissatisfaction.***
4. We then capture *Improve the balance between hunter, farmer, landowner—and other stakeholder--satisfaction* **via the difference** between (new) *Minimize landowner dissatisfaction* and (new) *Minimize hunter dissatisfaction*.

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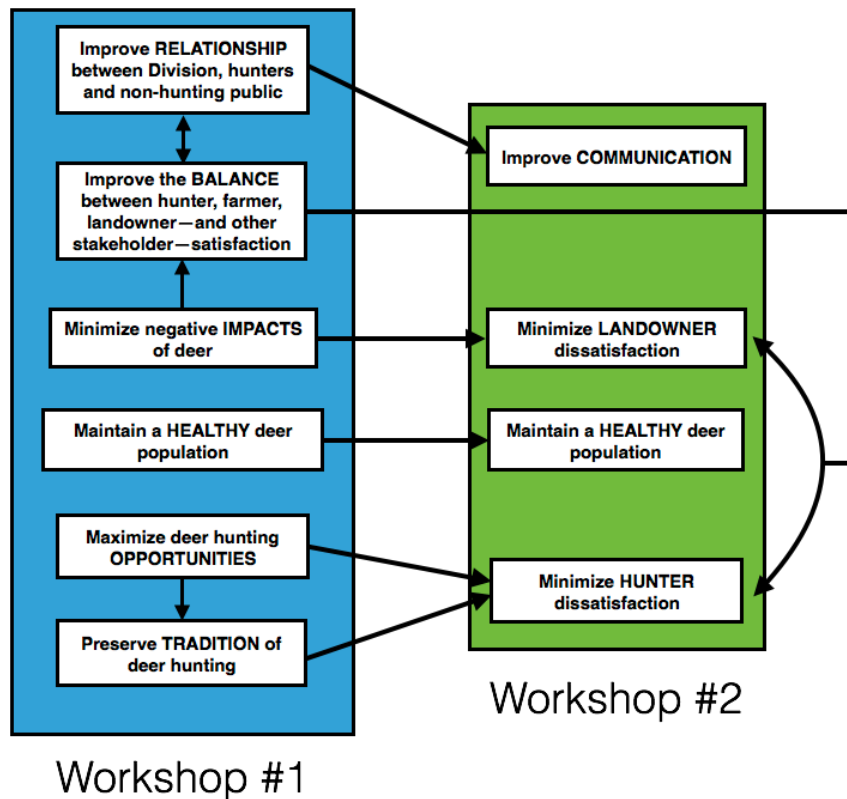


Figure 4.2. Proposed Restructuring of Fundamental Objectives

The proposed changes were intended to make measurement more straightforward. For example, simply measuring landowner and hunter dissatisfaction may capture three of the former objectives and two of the new objectives, and capturing dissatisfaction is something the ODNR-DOW *already does* via their annual deer hunter survey and periodic (3-5 yr) goal-setting (hunters and farmers) survey.

Additionally, changing *relationship* to *communication* was proposed because some hunters and landowners may feel they have a great relationship with the ODNR-DOW—or the opposite, but that relationship may have little to do with how they view deer hunting or deer as a nuisance on their property. Instead, improving how the ODNR-DOW and constituents communicate is what's most important. Indeed, one of the goals of this DSEP was to improve the *public input* process, specifically as that process relates to the annual regulation cycle.

With regard to preserving the *tradition* of deer hunting, it takes hunters to make more hunters and positive hunting experiences to keep hunters. Positive experiences lead to less hunter dissatisfaction, and thus that measure, hunter dissatisfaction, actually captures *tradition* quite well.

4.4.1. Reality vs. Perception

At certain points in the workshops, technical data—often in the form of charts or graphs presented by the ODNR-DOW, conflicted with hunters or landowners’ perceptions. The first example of this conflict included data describing the influence, or lack of influence, of deer numbers on hunter numbers. ODNR-DOW data shows a near perfect negative correlation between deer population size and the number of hunters. Put differently, this data demonstrates that even as deer populations have increased over the long-term, hunter numbers have consistently *decreased*. Such data contradict the argument that increasing the number of deer on the landscape would solve the problem of declining hunter participation.

A second area of confusion, if not conflict, regards the methods by which researchers gather information about hunters and landowners’ preferences or Ohio residents’ preferences more generally. In a presentation made during Workshop #5, Jeremy Bruskotter discussed both myths regarding and best practices for conducting survey research. In that presentation, Bruskotter identified that the actual number of respondents necessary to assess a population’s preferences or (dis)satisfaction is actually far lower than most expect. At the same time, while many argue that the ODNR-DOW needs to collect more data, survey participation rates in general—and here in Ohio—have declined considerably, meaning sending more surveys is not likely to result in more or better data.

As a result of both these conflicts, the new metrics and objectives focused on measuring both hunters’ and landowners’ *perceptions*, i.e., dissatisfaction, using *existing surveys*, rather than by collecting additional data about tangible, technical impacts (crop damage) or opportunities (such as number of deer seen, days afield, hunter success, etc.). The new characterization provides both stakeholders and decision-makers a more effective and efficient means of investigating tradeoffs.

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5.0. Workshop #3: Developing sensible, creative and substantially different options and strategies

Workshop #3 began at 1pm on November 16th, 2017 and concluded at noon on November 17th. The goal of this workshop was to generate options, or strategies, that would perform well across the fundamental objectives characterized by stakeholders during Workshops #1 & #2. Additionally, it was intended that these strategies would be assessable using the performance metrics identified during Workshop #2 or else new performance metrics would need to be identified.

Workshop #3 would be structured differently than the two workshops prior. Instead of continuous small-group breakout sessions, the first day would consist mostly of presentations by ODNR-DOW personnel with time for discussion and questions, and small-group breakout activities would return on Day Two.

5.1. Day One

5.1.1. Review of Restructured Objectives and Metrics

The revised structure of objectives was presented to the stakeholders via an introductory presentation by the OSU facilitator. This presentation introduced the original list of 25 performance measures generated at Workshop #2 and eliminated one-by-one those measures that were redundant or could be more easily and accurately represented using hunter or landowner dissatisfaction. Following the presentation, a short discussion took place regarding the ODNR-DOW's rationale, specifically addressing the need to maintain balance between hunters' and landowners' (dis)satisfaction. Stakeholders did not oppose the restructured objectives or performance measures.

5.1.2. ODNR-DOW Presentations

Day One comprised mostly of seven presentations made by ODNR-DOW's wildlife biologists. These presentations described first ODNR-DOW's goal-setting process, followed by an array of harvest management options that the ODNR-DOW had been studying or were currently being used or developed in different states. These options focused specifically on minimizing landowner and hunter dissatisfaction. The presentations are listed below and are available at ODNR-DOW's website: <http://wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/deer-stakeholder-process>

1. ODNR-DOW's Goal-setting Process
2. Deer Management Units (DMUs)
3. A Deer Management Assistance Program (DMAP)
4. Antlerless Permit Allocations
5. Free Landowner Deer Permits
6. Separate Regulations for Public Lands

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7. Strategies used in Other States, including: ‘Earn a buck,’ Conditional seasons, Season-specific bag limits, Season-specific licenses, Permit bundles, and Antler-point restrictions.

Box. 5.1. ODNR-DOW Presentations

Time for questions and discussion was allotted to stakeholders following each strategy presentation. Discussion of these strategies also continued over dinner.

5.2 Day Two

Day Two of the workshop began with an hour-long, full-group discussion in which ODNR-DOW personnel from Communication, R3 (Recruitment, Retention and Reactivation), and Marketing made short statements about their work and responsibilities. These statements were followed by questions from stakeholders and discussion of potential strategies for improving communication and preserving tradition. For Workshop #4, requests were made by multiple stakeholders to again have a similarly diverse set of ODNR-DOW personnel in attendance, as stakeholders appreciated the opportunity to discuss ideas and hear additional perspectives.

Following the full-group session, participants engaged in two small-group breakout activities, the first focusing on generating their own strategies for improving communication and preserving the tradition of deer hunting. Participants were provided a worksheet that listed the performance measures previously identified for each objective and space for identifying strategies and why participants preferred them. The second small-group breakout activity focused on stakeholders building a “toolbox” of options or strategies that the ODNR-DOW could deploy to improve harvest management.

5.2.1. Improving Communication and Preserving Tradition

5.2.1.1. Options for Improving Communication

Stakeholders identified two strategies for improving communication, listed below:

1. Develop a **Deer Stakeholder Advisory Committee (DSAC)** to be composed of diverse stakeholders that meets (at least) once annually with ODNR-DOW personnel. Such a committee would be similar to yet expand upon the current DSEP group (see [Section 7.5](#) for more on this DSAC).
2. Increase the number of and resources for ODNR-DOW personnel attending and collecting data at **Sportsperson Banquets and Shows**.
 - Possible shows include the LOOS, IX Center, Deer & Turkey Exp, Farm Science Review, State Fair, NE Ohio Sportshow, OBA Banquet, and Ohio Farm Bureau.

5.2.1.2. Options for Preserving Tradition of Deer Hunting

Stakeholders identified two strategies for preserving tradition, listed below:

1. Incorporate deer hunting, along with fishing, trapping, archery and trap shooting, into **K- 12 education and varsity sports**. It was argued that the resources, particularly

financial resources, already exist for doing so; however, buy-in remains low in certain counties.

2. Target ODNR-DOW efforts, particularly regarding **social media, at youth, female and minority hunters, and small game hunting.**⁷

5.2.2. Building a Toolbox of Harvest Management Options

The second breakout activity focused on stakeholders building a “toolbox” of strategies that the ODNR-DOW could deploy to manage deer. It focused principally on discussing and prioritizing the harvest management options presented on Day One, but also allowed participants to identify their own options.

Participants were provided a worksheet in which they could list their favorite options, in order, and identify *why* they preferred each option—participants were also urged to write down or ask questions about each option. Participants were urged to consider the fundamental objectives they had identified while considering the strategies and how exactly they might go about measuring achievement of these strategies with regard to the objectives. Participants worked in small groups, which were intended to inspire discussion, but were responsible for turning into the facilitator their own individual worksheet.

It was stressed that participants’ specific preferences would not be shared publicly by the Division or the facilitator and were only meant to provide a leaping-off point for further discussion in later workshops. Trends were however identified along with commonly identified likes and dislikes regarding each option. All are listed below.

1. Regarding **DMUs**, there was strong support for further investigating their use.
 - a. Likes: Appreciates habitat boundaries as opposed to political boundaries; Allows for micro-managing deer populations.
2. Regarding a **DMAp**, there was strong support for further investigating its use, but with some workshop participants in opposition.
 - a. Likes: Allows for micro-managing deer populations; Fosters better relations with landowners; Better response to unique circumstances.
 - b. Dislikes: Could be abused; Requires staff and increased record-keeping.
3. Regarding **Outfitter Licenses**, a harvest management option identified by the stakeholders, there was moderate support for further investigating its use.
 - a. Likes: Generates revenue (for potential improvements to public lands habitat); Improves accountability.

⁷ While this option is listed as a means of preserving tradition, it obviously also contributes to improving communication.

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4. Regarding **Anterless Permit Allocations**, there was moderate support for further investigating its use, but with some workshop participants in opposition.
 - a. Likes: Data-driven; Flexible: Allows for more precise management.
 - b. Dislikes: Confusion about implementation; Concerns about getting permit for desired location.
 5. Regarding **Free Landowner Permits**, there was moderate support for further investigating their use, but with some workshop participants in opposition.
 - a. Likes: Better accountability for considerable portion of harvest.
 - b. Dislikes: Likely strong resistance from landowners to implementation; Restrictions on property rights.
 6. Regarding **“Earn a buck”** program, there was strong opposition to further investigating its use.

An important note, it was decided by stakeholders that identifying strategies for and determining how current and proposed strategies would perform with respect to managing and *maintaining a healthy deer population*—the group’s last fundamental objective—would be addressed at Workshop #4.

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6.0 Workshop #4: Engaging tradeoffs between options and stakeholders' values

Workshop #4 began at 1pm on February 15th, 2018 and concluded at 1pm on February 16th. Participants discussed and revised fundamental objectives as well as evaluated options for achieving those objectives, both in small group discussions and in discussion with ODNR-DOW Personnel.

6.1. Day One

Thursday began with an opportunity for stakeholders to review the results from the previous workshop. Stakeholders first reviewed a revised Means-Ends Network, which is pictured below, slightly modified (see [Figure 6.1](#)) to improve its clarity. This network now features a scale to represent balancing hunter and landowner dissatisfaction and the means objectives have been moved to flow more clearly and intuitively; *no means or fundamental objectives have been added to or removed from the actual network reviewed in Workshop #4.*

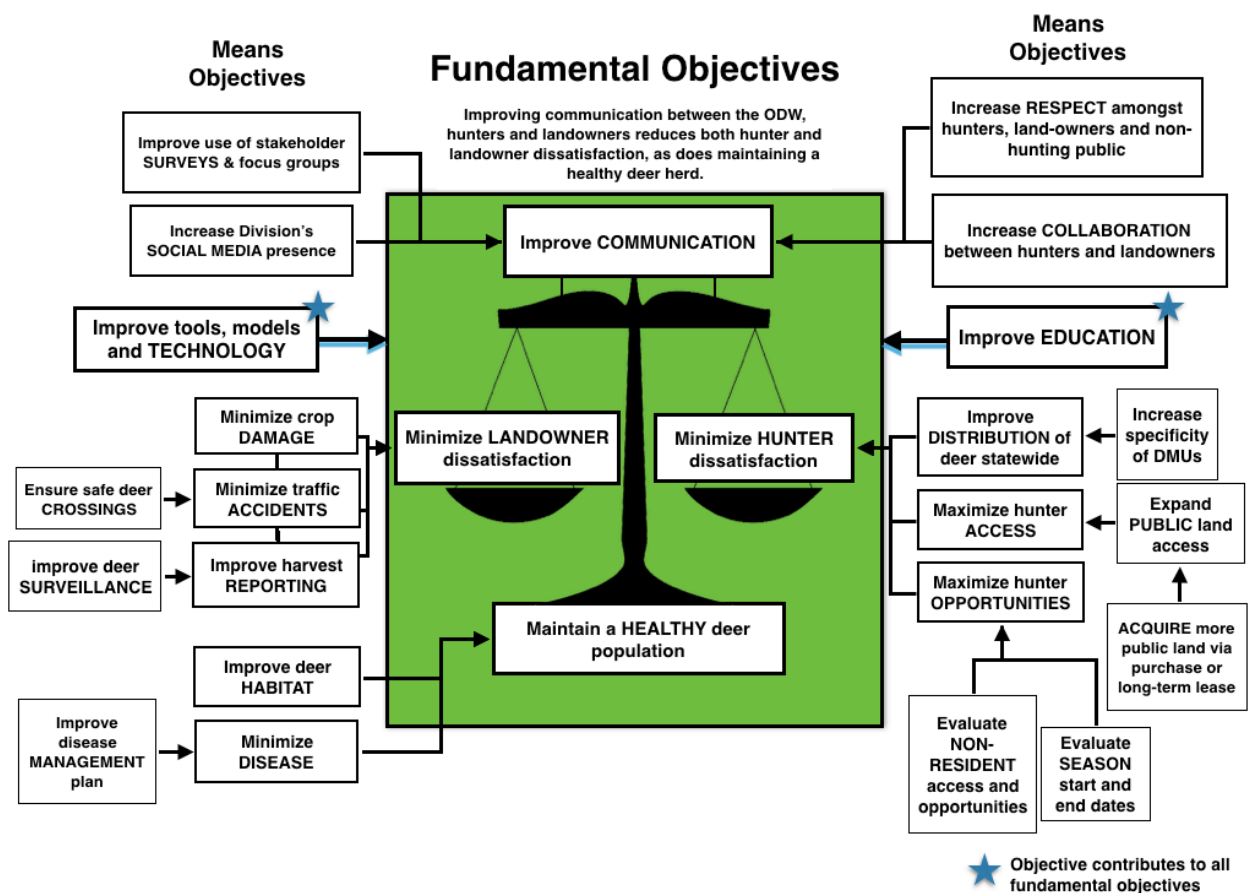


Figure 6.1. Revised Means-Ends Network.

Additionally, the facilitator demonstrated how the harvest management options presented by the ODNR-DOW and discussed at Workshop #3 “fit” into this network, using the image below (see [Figure 6.2.](#)).⁸

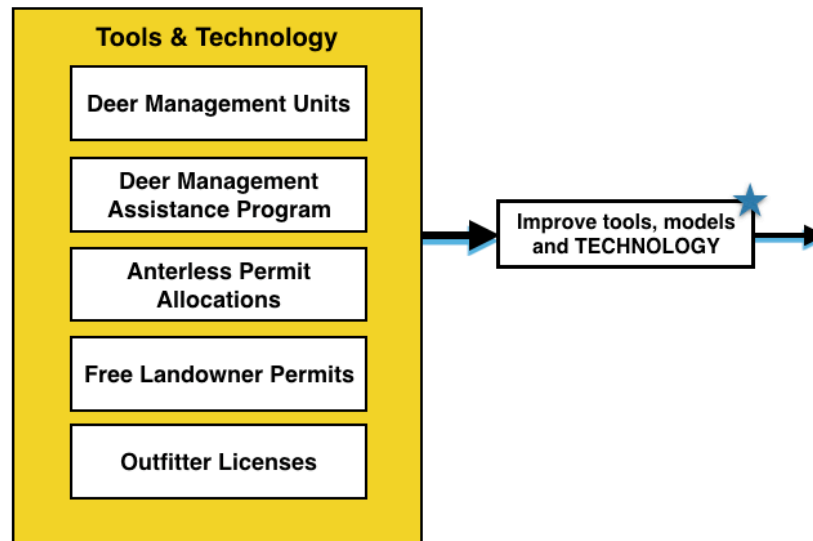


Figure 6.2. Harvest Management Options as Improvements to “Tools, models and technology”

Stakeholders also reviewed each of the options listed in [Figure 6.2.](#) as well as the four fundamental objectives using a provided worksheet in small groups. That worksheet asked individuals to examine each option and objective and list:

1. Their Likes and dislikes,
2. Remaining concerns,
3. Topics or aspects requiring more information, and
4. Preliminary levels of support.

Following this review process, ODNR-DOW personnel gave two presentations. The first focused on CWD and the second focused on herd conditions and herd health. These presentations are available at ODNR-DOW’s website: <http://wildlife.ohiodnr.gov/species-and-habitats/fish-and-wildlife-research/deer-stakeholder-process>.

6.2. Day Two

Day Two began with breakfast, followed by two presentations made by ODNR-DOW wildlife biologists on:

1. Anterless Permit Allocations, and
2. The Public Input Process.

⁸ This image has also been slightly modified to improve its clarity; not tools have been added to or removed from the box used at Workshop #4.

Following these presentations, additional ODNR-DOW personnel in attendance, including members of ODNR-DOW's communications, marketing and 3R teams, gave brief introductions and discussed their roles with stakeholders. Next was another small-group activity in which stakeholders were instructed to again review options, specifically Anterless Permit Allocations and DMAP, before discussing strategies for improving communication and preserving the tradition of hunting. Stakeholders were advised to discuss possible options with the additional ODNR-DOW personnel in attendance. All options were then presented and deliberated during a full-group discussion.

6.2.1. SEP Evaluation

At the conclusion of Day Two, stakeholders were provided a 50-question evaluation form, which asked stakeholders to assess the following:

1. The overall SEP format and structure,
2. How the SEP contributed to their goals, concerns and understanding of deer management,
3. The amount and type of information covered,
4. The value of each workshop,
5. The value of discussions with regard to specific options, and
6. The most useful and beneficial and least useful and beneficial aspects of the SEP.

Box 6.1. Components of Evaluation Form

The results of this form would be provided to the stakeholders following Workshop #4 and reviewed at the final workshop; they are also described in detail in [Chapter 7.0](#).

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7.0. Workshop #5: Implementing decisions, learning and evaluating the process

The final workshop took place on Friday, May 11th, 2018. As opposed to earlier workshops that each took place over two days, the fifth workshop began and ended on a single day and closed with a celebratory dinner at the Red Oak Pub & Restaurant in Newark, Ohio. Additionally, unlike earlier workshops, nearly all of Workshop #5 took place with no ODNR-DOW personnel present. This was intended to provide stakeholders an opportunity to speak completely freely about the DSEP and deer management more generally. ODNR-DOW personnel, including the Assistant Chief, arrived at 3pm to answer questions, thank the stakeholders and join everybody for dinner.

Workshop #5 was focused on generating concrete recommendations for the ODNR-DOW, defining the DSEP stakeholders' contribution to the DMP, and finally, establishing an adaptive management plan, or a means of monitoring the success of both the DSEP and DMP.

7.1. Lingering Questions

The fifth workshop began with a review of the DSEP's original goals and a step-by-step, i.e., workshop-by-workshop, reminder of how the DSEP was intended to proceed. This review was meant to respond to three "lingering questions" that had arisen over the course of the final workshops, by both ODNR-DOW personnel and the stakeholders. Below we respond to each of these questions.

7.1.1. Q1: Why didn't we just start with a discussion of the options?

The first question involved the timing of both discussions regarding and the presentation of ODNR-DOW's suite of harvest management options. Some stakeholders questioned why the DSEP began with a discussion of values and objectives and did not simply begin with a discussion of options. In response, the facilitator argued that key goals of SDM are identifying the shared objectives of the group and building trust and common understandings amongst both stakeholders, experts *and* decision-makers. Additionally, stakeholders learning about the complexities of deer management and the difficult tradeoffs that must be made by ODNR-DOW biologists and planners were key goals of the DSEP, and had been identified at the outset of the process. Indeed it is the exposure to others' values and objectives and discussion of how you measure performance of potential options that builds trust, common understandings and sheds lights on the difficulties of the planning process. Additionally, merely presenting options and debating their pros and cons denies stakeholders the opportunity to develop their own options and think about how best to achieve their own most important objectives. Often as a result it inhibits stakeholder buy-in. See [Recommendation 2.1](#).

7.1.2. Q2: Why did the ODNR-DOW Personnel present options they'd already prepared ahead of time?

The second question involved concerns identified by *both* stakeholders and ODNR-DOW personnel regarding the options presented by ODNR-DOW wildlife biologists at Workshop #3. While most of these options were ultimately supported by stakeholders, both they *and* ODNR-DOW personnel were concerned that the DSEP may appear to outsiders as a

procedure merely intended to “rubber stamp” support for each option. This could not be further from the truth. The DSEP was purposely structured—at the urging of OSU’s Bessette and Bruskotter—to allow stakeholders to generate their own options, and stakeholders were provided multiple opportunities across Workshops 3 and 4 to do so. And stakeholders *did* generate their own options, including pursuing outfitter licenses, establishing a DSAC, and pursuing more aggressive social media campaigns targeting minority, youth and female hunters.

And yet, it must be acknowledged that deer management is an extremely complex process. Despite our stakeholders being experienced hunters and landowners, it is entirely typical—and recommended—that experts be consulted to help develop natural resource and wildlife plans. In this case, those experts happened to be ODNR-DOW wildlife biologists with decades of experience. Additionally, the management options these experts presented had each been deployed in neighboring states to varying degrees of success. To not present these options would deny stakeholders an opportunity to review their merits and evaluate the degree to which they may achieve Ohio stakeholders’ fundamental objectives.

7.1.3. Q3: How will this process actually inform the writing of the 10-year DMP?

The third question, which focused on the stakeholders’ contribution to the DMP, was again one identified by *both* the stakeholders in attendance *and* ODNR-DOW personnel. It should be noted that the wildlife biologists involved in this DSEP were at every moment aware of and concerned about not misleading stakeholders about those stakeholders’ role in developing the DMP. Despite these concerns, it is important to recognize that this DSEP was not intended to draft specific lines of text for the DMP, but was instead focused on identifying stakeholders’ values, concerns and objectives, generating options, evaluating those options with regard to stakeholders’ objectives, and identifying options that performed consistently well across those objectives. These goals were identified at the outset of the DSEP and restated consistently throughout (see [Chapter 3.0](#)).

It should be noted that the stakeholders in attendance achieved these goals admirably. This SEP led to clear and concrete recommendations to which the ODNR-DOW can and should adhere. They are listed throughout this report and below in [Chapter 9.0](#).

7.2. Evaluation Results

Below are select results from the evaluation forms distributed at the conclusion of Workshop #4. It is important to note that some of these reports, particularly the first two graphs (see [Figure 7.1](#).) provide a summary of stakeholders’ support *in principle* as some stakeholders stipulated that their support (or opposition) relied on additional clarification and/or justification provided by ODNR-DOW. Even so, [Figure 7.1](#) demonstrates that across the six harvest management options and additional four strategies targeting communication and tradition, high levels of support exist.

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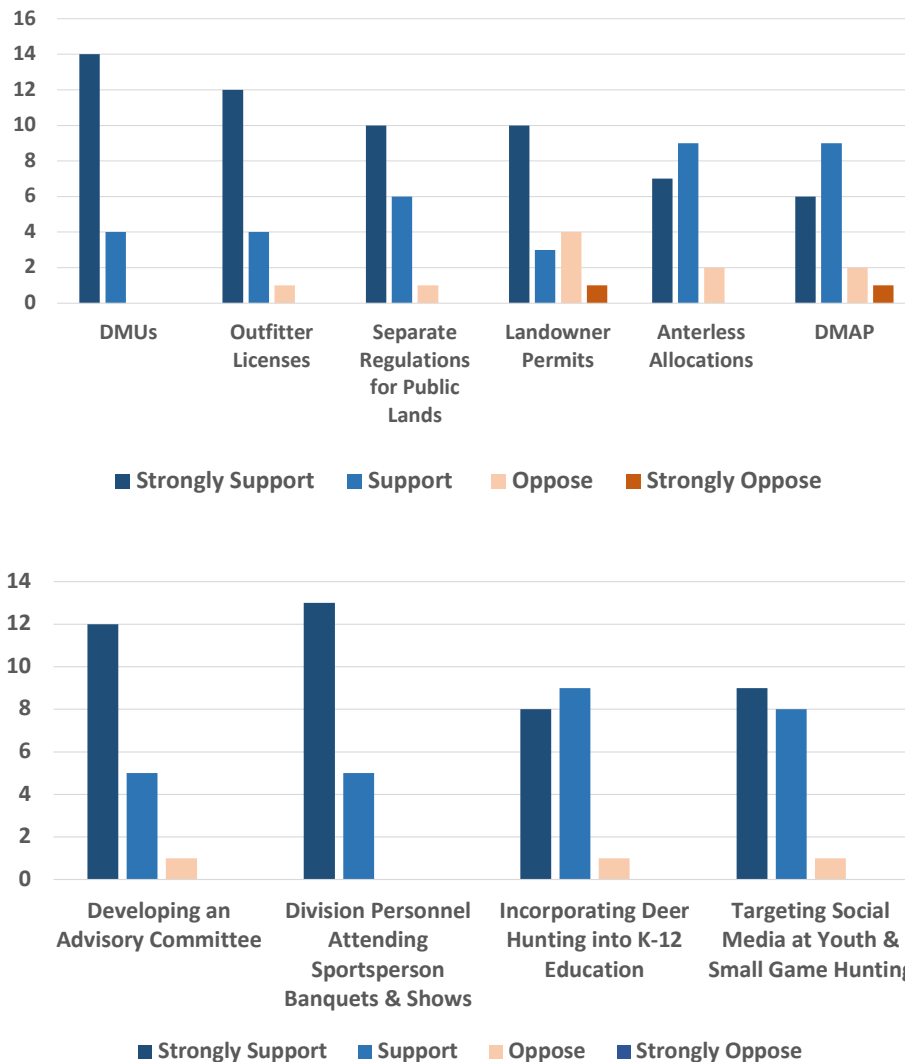


Figure 7.1. Support for Options. Number of stakeholders who provided support in principle for, or opposition to, each option. **ODNR-DOW is represented by the word “Division” in these figures and those that follow.

Stakeholders also had an opportunity to rank the four revised fundamental objectives along with the initial fundamental objective, *Preserve tradition (of deer hunting)*; see [Figure 7.2.](#) below. Note that minimizing hunter dissatisfaction, maintaining healthy deer and minimizing landowner dissatisfaction are all ranked similarly, while improving communication and preserving tradition were ranked fourth and fifth highest, respectively.

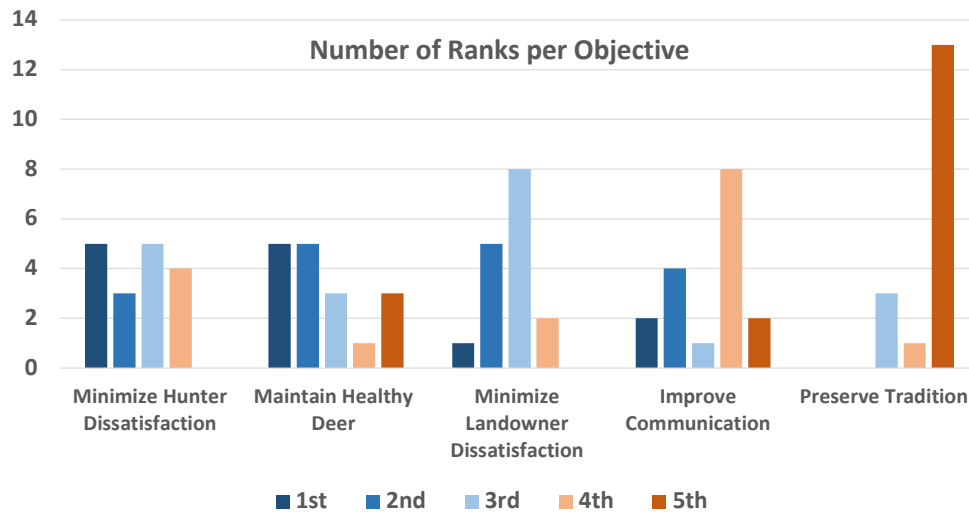


Figure 7.2. Ranking of Objectives: Objectives were ranked by each stakeholder. Graph represents the number of 1st, 2nd, 3rd, 4th, and 5th place ranks each objective received. No objective received a majority of 1st place ranks.

The next two figures, [Figures 7.3.](#) and [7.4.](#) show the degree to which stakeholders agreed or disagreed with the following statements regarding the DSEP. Again, most stakeholders tended to review the DSEP positively and agreed that the ODNR-DOW communicated clearly and would address their concerns and suggestions.

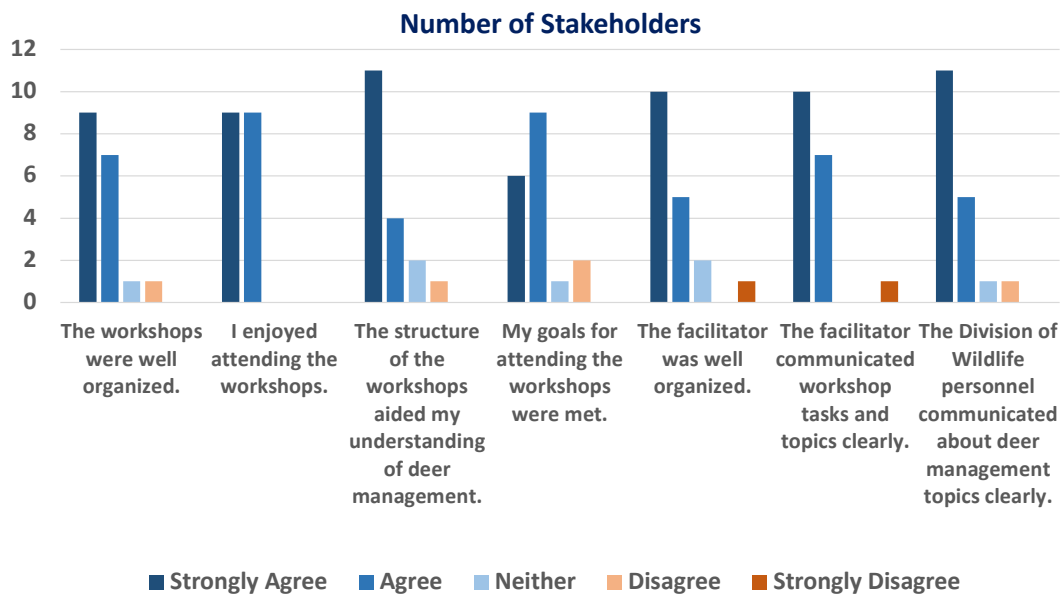


Figure 7.3. Evaluation of DSEP Structure, Facilitator and ODNR-DOW

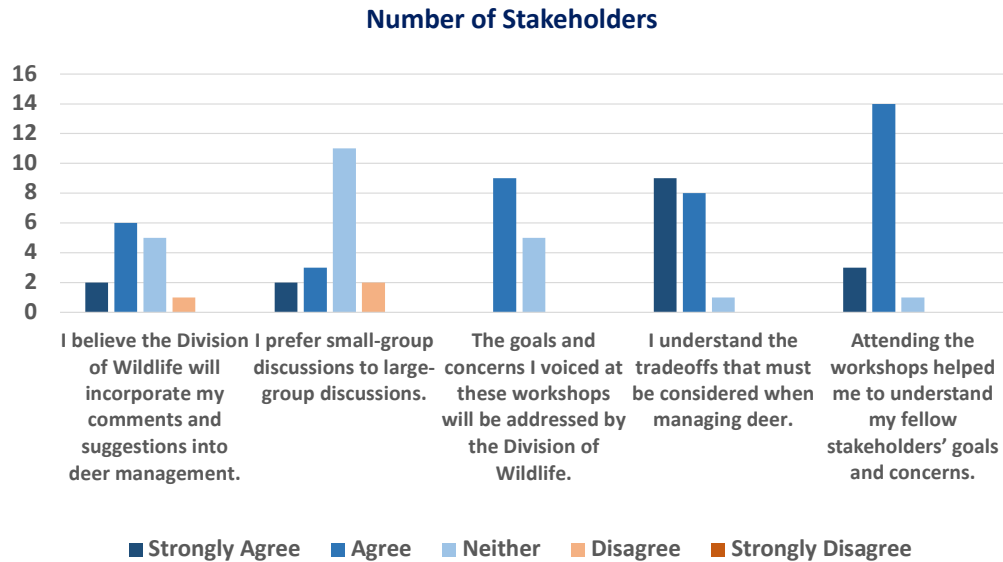


Figure 7.4. Evaluation of DSEP Structure, Facilitator and ODNR-DOW

The final figure, **Figure 7.5.**, shows stakeholders' self-reported mean level of understanding at the beginning of the workshops and after Workshop #4 (on a scale of 0 = *Not at all* to 1 = *A great deal*), with regard to the harvest management options, DMUs, DMAP, Antlerless Allocations, Landowner Permits, along with CWD and the complexities and difficulties of deer management.

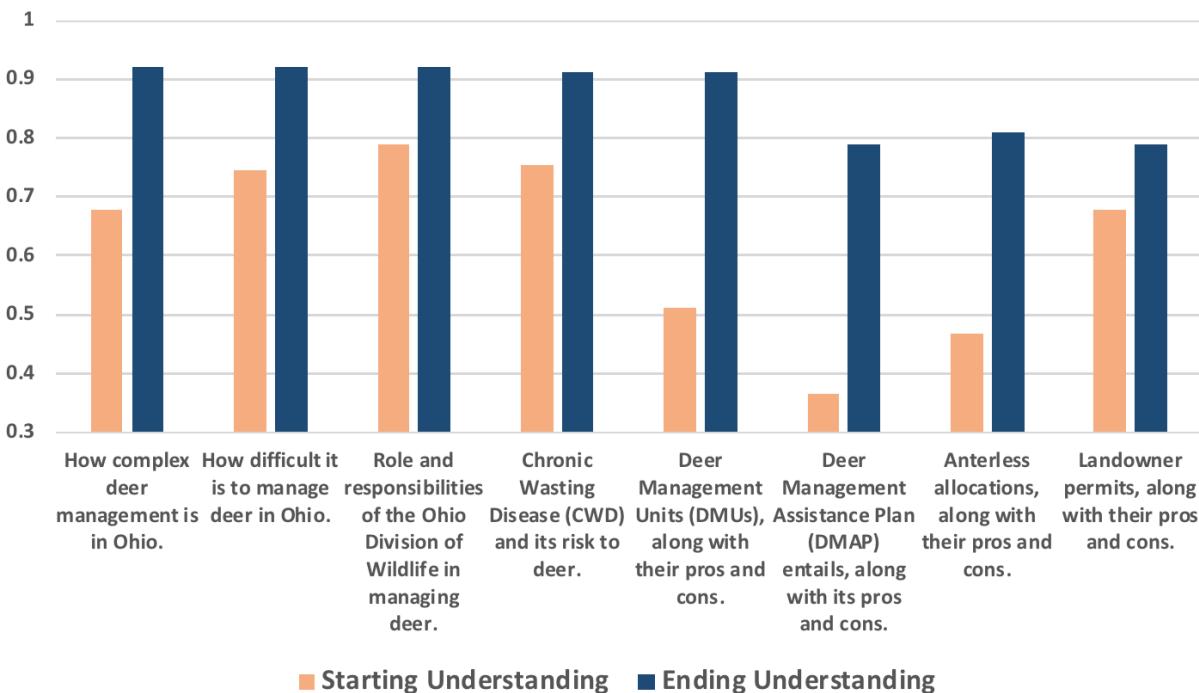


Figure 7.5. Beginning and Ending Understanding, as self-reported, by Stakeholders.

Note that the greatest increases in understanding occurred with regard to the harvest management options: DMAP, DMUs, and Anterless Permit Allocations, as well as regarding the complexities of deer management. At the same time, ending understanding of the options: DMAP, Anterless Permit Allocations and Landowner permits, was lower than other items, suggesting that the ODNR-DOW be careful to explain these options when or if they are deployed. As such,

****RECOMMENDATION 7.1:** Due to the lack of existing knowledge and potential for misunderstandings, we recommend that the ODNR-DOW take care to clearly explain processes for enacting and ultimately any policy decisions and/or regulations regarding establishment of a DMAP, Anterless Permit Allocations associated with DMUs, and Landowner Permits**

Finally, the evaluation forms asked stakeholders to provide written responses regarding the most beneficial aspect of the DSEP, the DSEP's most and least useful activities, and aspects of the DSEP most requiring attention or improvement. The responses to these items varied considerably; however, some themes emerged and are summarized below:

1. Stakeholders greatly valued both the opportunity to hear from diverse viewpoints and to engage in discussion with a variety of individuals, perhaps most importantly ODNR-DOW personnel.
2. Stakeholders were split, however, on the relative usefulness (or lack of) regarding small and large-group discussions. As such,

****RECOMMENDATION 7.2:** Since no particular method generated a majority of support, we recommend that future stakeholder engagement processes incorporate *both* small-group and large-group discussions.**

3. Stakeholders found the characterization of performance measures, i.e., Workshop 2, to be the most difficult and least useful activity.⁹
4. Finally, one stakeholder suggested that each participant make a small presentation at the beginning of the DSEP regarding the stakeholder group he or she represents. We agree; as such,

****RECOMMENDATION 7.3:** We recommend that future DSEPs allow for invited participants to briefly present on the key values, concerns, questions and objectives *of their particular stakeholder group*.**

7.3. Final Prioritization and Portfolio Exercises

Following a full-group discussion of the evaluation results, stakeholders were invited to participate in one final exercise focused on prioritizing the fundamental objectives as well as the

⁹ Why Step 2, or Workshop #2, is useful was taken up previously; for reference, see Recommendation 4.1. This step is critical in developing common understandings between stakeholders and decision-makers, and introduces stakeholders to the complexities of natural resource and wildlife management decisions.

management options. These exercises asked stakeholders to first provide “importance weights” for each objective (out of 100 total), and then assess the degree to which they thought each management option would be successful in achieving their most important objectives. Stakeholders were also asked to build a *portfolio* of options, which would include all of the options they supported the ODNR-DOW pursuing. The results of these exercises are below.

7.3.1. Importance of Fundamental Objectives

Figure 7.6. shows the mean importance weights provided by the fifteen stakeholders in attendance at Workshop #5. These weights show that while all four of the fundamental objectives are indeed important, maintaining healthy deer may be the *most important* objective to stakeholders.

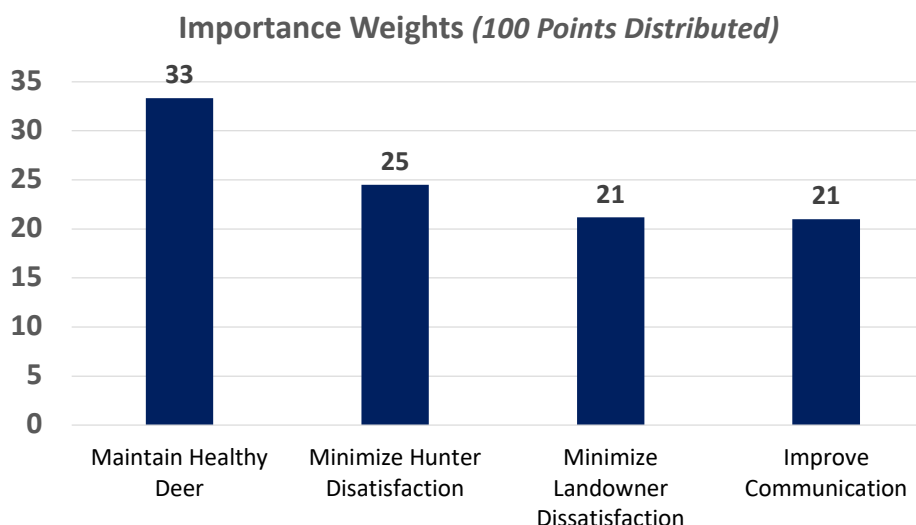


Figure 7.6. Importance of Fundamental Objectives (Out of 100 points total)

7.3.2. Options included in Stakeholders’ Portfolios

Figure 7.7. shows how many stakeholders, out of the 15 in attendance, incorporated each option into their deer management portfolio. Again, it should be noted that some stakeholders included options on the condition that additional clarification would be provided by the ODNR-DOW.¹⁰ Still, the following results are illustrative of what is widespread support in principle for DMUs, forming a DSAC, and pursuing Outfitter licenses, Anterless permit allocations, ODNR-DOW (or Division) personnel attending sportshows, and Targeting social media campaigns at youth, minority and female hunters.

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¹⁰ See Footnote 5 on Page 10.

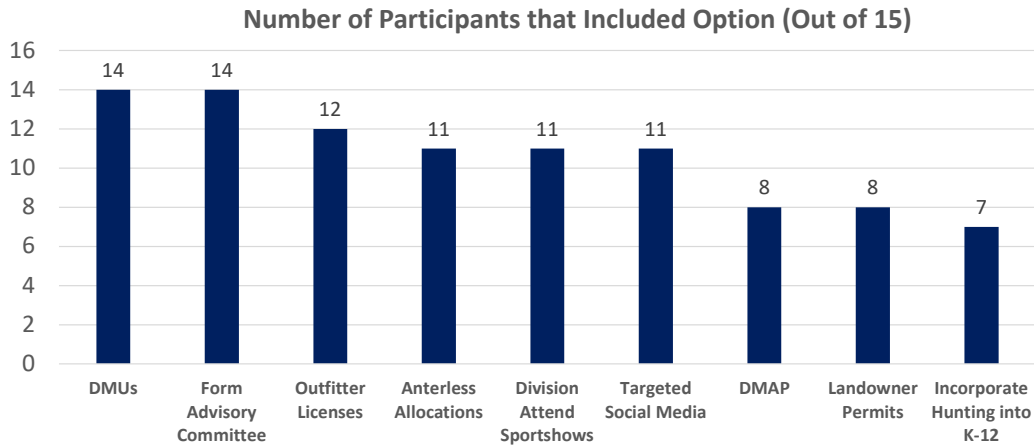


Figure 7.7. Number of Stakeholders Including Each Option in their Portfolio

7.3.3. Effectiveness of Options in Achieving Fundamental Objectives

Stakeholders were also asked to predict the success of each option in achieving the four fundamental objectives; see [Figure 7.8](#) below. Note that the first three options tend to score well in maintaining healthy deer and minimizing landowner dissatisfaction, while the last four options tend to score well in improving communication and minimizing hunter dissatisfaction.

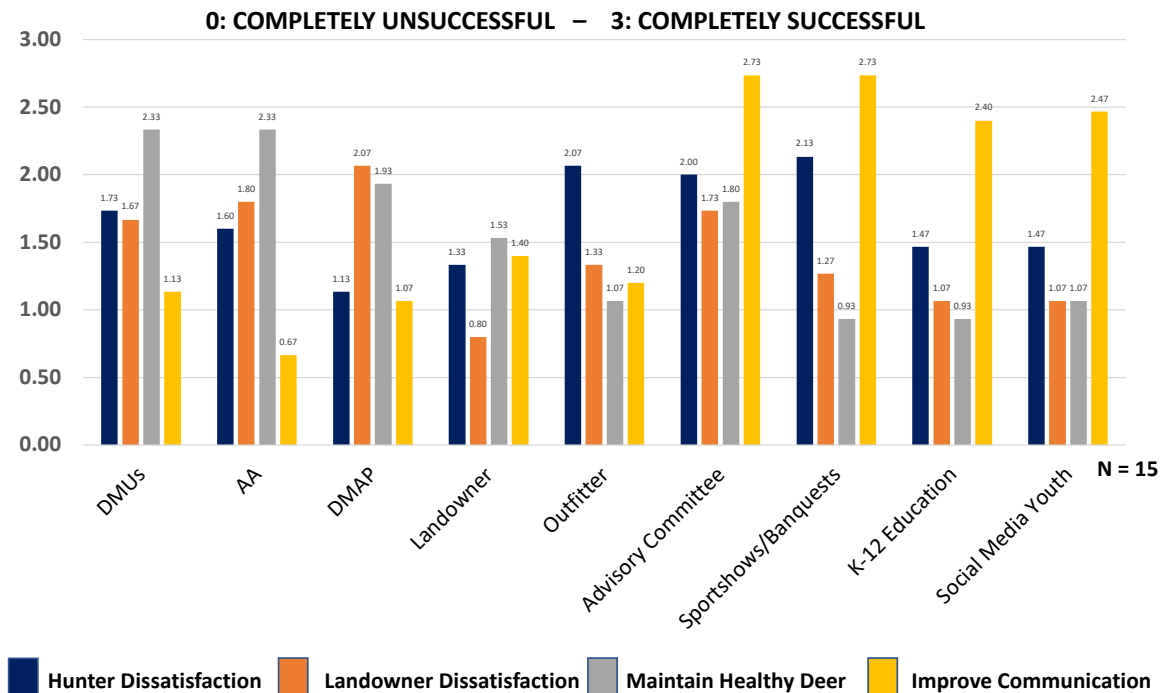


Figure 7.8. Mean Perceived Effectiveness of Each Option in Achieving Each Fundamental Objective.

7.3.4. Effectiveness of Portfolios in Achieving Fundamental Objectives

Stakeholders were also asked to predict the success of their own *portfolio*, comprised of options they selected, in achieving the four fundamental objectives. While each portfolio differed in the options it included, these results (see [Figure 7.9](#)) show that most participants felt that a portfolio would be relatively successful in achieving their fundamental objectives. At the same time, stakeholders felt it was more likely that their portfolio would maintain healthy deer than it would minimize landowner dissatisfaction. It must be noted that the differences in these two mean responses and all the responses reported in this report are not statistically significant—due to the small sample size.

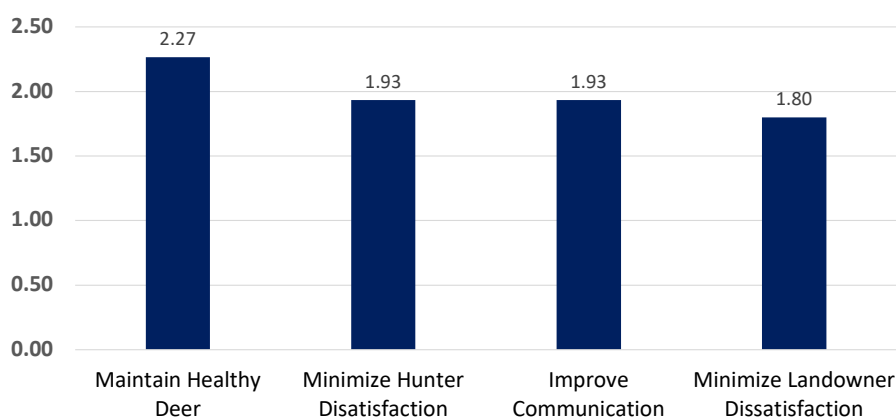


Figure 7.9. Perceived Success of Portfolio in Achieving Each Objective. (3 = Completely successful; 0 = Completely unsuccessful)

7.3.5. Portfolios versus Individual Options in Achieving Fundamental Objectives

The following four figures ([Figures 7.10.—7.13.](#)) demonstrate the individual options stakeholders predicted would perform best with regard to each fundamental objective, along with how well they expect a portfolio of options to perform. Options listed on the left of each figure are predicted to perform better than options on the right. Portfolios of options are distinguished from individual options using the color orange.

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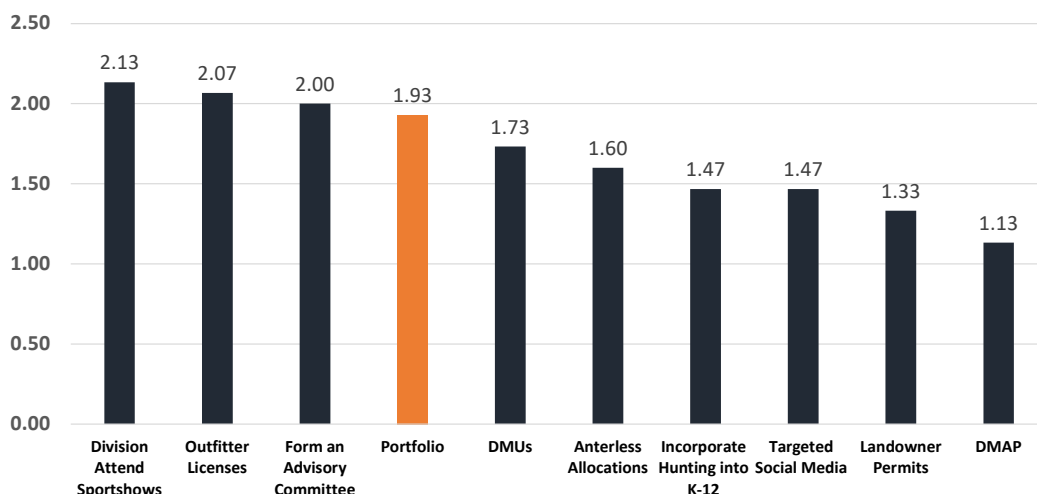


Figure 7.10. Predicted Success of Each Option in Minimizing Hunter Dissatisfaction (3 = Completely successful; 0 = Completely unsuccessful)

With regard to minimizing hunter dissatisfaction ([Figure 7.10.](#)), stakeholders recommended ODNR-DOW personnel attend sportshows, outfitter licensing, and forming a DSAC. DMAP and free landowner permits were expected to perform worst with regarding hunter satisfaction.

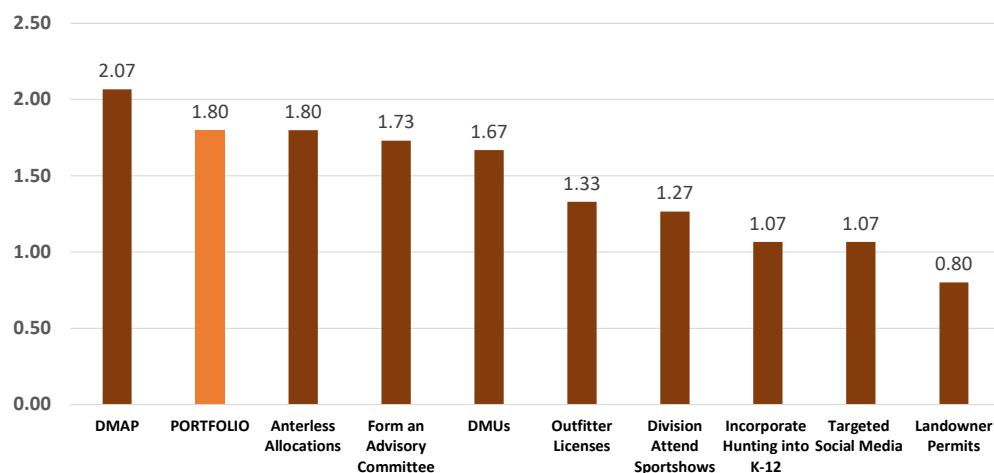


Figure 7.11. Predicted Success of Each Option in Minimizing Landowner Dissatisfaction (3 = Completely successful; 0 = Completely unsuccessful)

With regard to minimizing landowner dissatisfaction ([Figure 7.11.](#)), DMAP, Anterless Permit Allocations and forming a DSAC were expected to perform best, while targeted social media campaigns and free landowner permits were expected to perform worst.

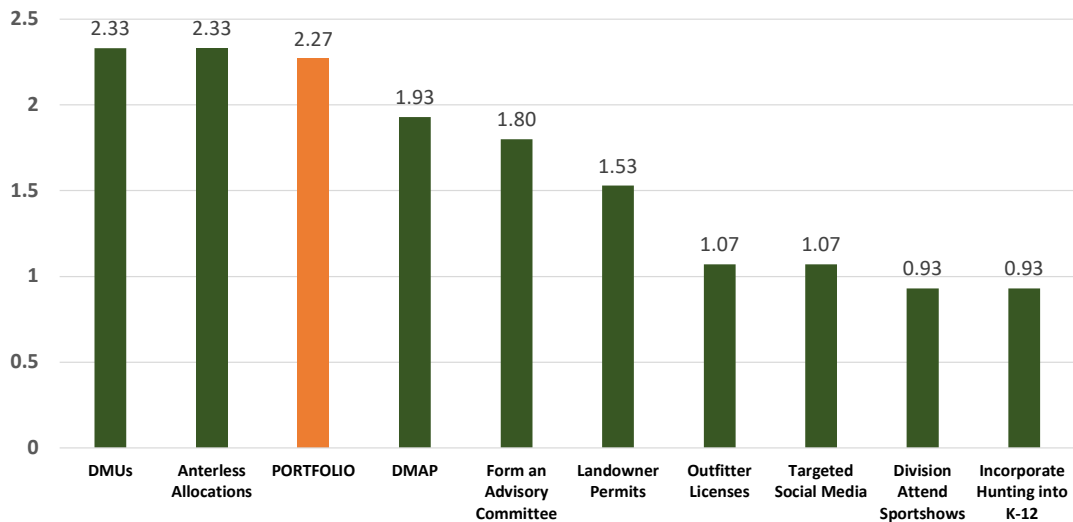


Figure 7.12. Predicted Success of Each Option in Maintaining Healthy Deer (3 = Completely successful; 0 = Completely unsuccessful)

With regard to maintaining healthy deer ([Figure 7.12.](#)), DMUs, Anterless Permit Allocations and DMAP were expected to perform best, while Incorporating hunting into K-12 education and ODNR-DOW attending sportshows were expected to perform worst.

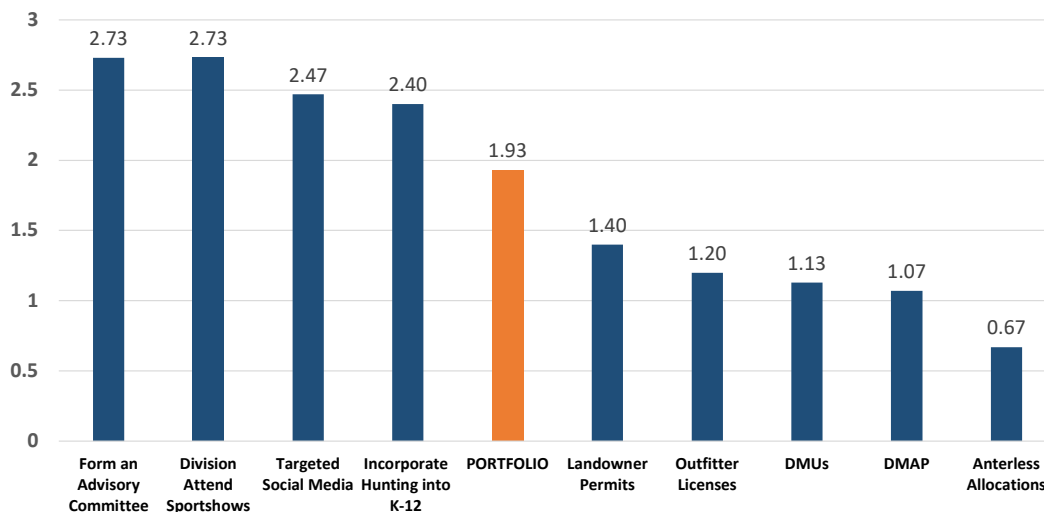


Figure 7.13. Predicted Success of Each Option in Improving Communication (3 = Completely successful; 0 = Completely unsuccessful)

Finally, with regard to improving communication ([Figure 7.13.](#)), forming a DSAC, ODNR-DOW attending sportshows, targeted social media campaigns, and incorporating hunting into K-12 education were expected to perform best, while DMUs, DMAP and Anterless Permit Allocations were expected to perform worst.

7.4. Clarifications and Justifications

As stated in sections previous, some stakeholders requested clarification or additional justification about particular harvest management options moving forward. Addressing each of these points is critical to a successful deployment of any option discussed below. As such,

****RECOMMENDATION 7.4:** We recommend that the ODNR-DOW respond to each of the requests for clarification and justification identified in this report.**

****Responses from ODNR-DOW are provided below.****

Requests include:

1. Regarding **DMUs**:

1-A. How will DMU boundaries be defined?

***Per ODNR-DOW, a 3 year post-doctoral research project has already identified DMUs using rigorous scientific and statistical processes. Boundaries would be major roads and rivers.*

1-B. How will DMU regulations be communicated to the public?

***Per ODNR-DOW, all major outlets – the Internet, social media, regulations digest and press releases will be used.*

2. Regarding **Outfitter Licenses**:

2-A. What is the criteria used to identify “Outfitters”?

2-B. What are the likely fees associated with outfitter licenses?

2-C. How will revenue generated be allocated? (Suggestions included providing or maintaining public hunting properties and habitat management.)

2-D. Can certification or training augment or replace licensing?

***The ODNR-DOW has requested DSEP **participants** provide guidance regarding these four questions, as well as address the following: What’s a “guide”? What species should be included? Does money have to change hands for an individual to be considered an outfitter or guide? Perhaps most importantly, why do stakeholders want outfitter licenses? What sorts of information do these licenses provide?*

3. Regarding **Antlerless Permit Allocations**:

3-A. How will either-sex and antlerless permits be allocated and distributed (with regards to DMUs)?

***Per ODNR-DOW, Either-sex permits will be sold over the counter, with a limit of 2. Antlerless permits will be a DMU-specific allotment and distributed via lottery.*

4. Regarding **DMAP**:

4-A: Would the program be voluntary?

4-B: Would damage permits remain available?

***Per ODNR-DOW, yes to both questions.*

5. Regarding **Free Landowner Permits**:

5-A: What is the predicted effectiveness of such permits in improving harvest management?

***Per ODNR-DOW, permits would incorporate landowners into deer management process, e.g., they would become part of the survey pool. Additionally, permits would provide for better understanding of hunting pressure and its distribution across the landscape.*

5-B: How can stakeholders be assured that such permits would remain free into perpetuity?

***Per ODNR-DOW, providing such assurances would be the purview of the state legislature.*

7.5. Adaptive Management: Development of the DSAC

One of the most important elements of SDM is the development of an adaptive management plan, or a systematic approach to monitoring impacts, learning from outcomes, and the adjustment of strategies [15]. Much of the final workshop focused on developing an adaptive management plan in the form of a Deer Stakeholder Advisory Committee, or DSAC, similar to this DSEP. As recommended by the stakeholders in attendance, this DSAC could also be structured similarly to and learn a great deal from the Ohio Department of Agriculture's (ODA) Division of Animal Health Species Specific Advisory Groups, run by Dr. Tony Forshey.¹¹

Stakeholders urged that such a committee—supported by the Ohio Wildlife Council and attended by one of its members—would be crucial in liaising between stakeholders and ODNR-DOW, providing recommendations to ODNR-DOW senior personnel, representing the concerns of diverse stakeholders—including young, female and minority hunters, continuing the important work begun and maintaining the expertise developed at this DSEP. Stakeholders recommended the DSAC be voluntary, self-funded, and meet *at least* once per year to discuss key topics of concern and inform ODNR-DOW regulatory processes.

Stakeholders also urged that the DSAC would continue to assist ODNR-DOW in developing and evaluating the 10-year DMP.

We agree with the stakeholders that developing a DSAC would be beneficial in improving communication between the ODNR-DOW, hunters, and the public. As such,

****RECOMMENDATION 7.5:** We recommend that the ODNR-DOW and DSEP participants work to develop an informal Deer Stakeholder Advisory Committee (DSAC), supported by

¹¹ Dr. Forshey agreed to help advise the DSAC.

the Ohio Wildlife Council, that focuses on improving communication between stakeholders and the ODNR-DOW and facilitates development of the 10-year DMP.

Additionally, we recommend that such a group:

1. Ensures that its membership includes individuals from—or represents—*all potentially affected interests*, i.e., hunters, farmers, landowners, foresters, outfitters, urbanites, as well as young, female and minority hunters;
2. Identifies *specific, explicit roles* for representatives from both the ODNR-DOW and the Ohio Wildlife Council;
3. Meets more than once per year, *preferably quarterly*;
4. Incorporates a neutral facilitator to structure meetings, guide discussion, and present and distribute findings

And most importantly...

5. Ensures that the knowledge and relationships developed during this DSEP are maintained and fostered going forward.**

8.0. Concluding Remarks: Communication is key.

At their outset, these workshops were focused on improving communication between the ODNR-DOW and key stakeholders and identifying a process for incorporating stakeholders' recommendations into the ODNR-DOW's 10-year deer management plan.

Over the course of five workshops, stakeholders not only characterized objectives and evaluated options, but encountered different perspectives and debated competing interests. They learned that they disagree about some things, but they agree about far more. For example, everybody agrees that maintaining a healthy deer herd is critical.

Another thing everybody agreed on is maintaining open lines of communication. We may not agree with everybody in the room or applaud every decision the ODNR-DOW makes, but when we can voice our concerns and listen to the concerns of others, we better *understand* those decisions.

Take Section 7.3.5. for instance. Its results are telling. A majority of our stakeholders were hunters, and when asked how best to minimize hunter dissatisfaction, the group from Workshop #5 rated ODNR-DOW personnel attending sportshows and banquets as the option most likely to be successful. Yet when asked how to minimize landowner dissatisfaction, they rated DMAP as the option most likely to be successful. When asked how to best maintain a healthy deer herd, they rated DMUs, Anterless Permits and DMAP most successful respectively. How can we explain this? Well, it may be that our stakeholders recognize that DMUs, Anterless Permits and DMAP are the most important options to minimize their neighbors' dissatisfaction and maintain a healthy herd. They're also acknowledging that they may not be ecstatic about some of the sacrifices required for those tools to work.

And yet, if they're listened to, if they're provided a chance to voice their concerns and *really be heard*, if they're able to have a meaningful role in the decision-making *process*, then those sacrifices are put in context and become far more palatable.

As such, we cannot stress enough the importance of developing and maintaining a Deer Stakeholder Advisory Committee as described in Section 7.5. Such a committee would be key in not only recognizing but communicating to others that *there is no silver bullet to deer management*. Tradeoffs must be made; some may have to sacrifice a little so others won't have to sacrifice everything.

Finally, and perhaps most importantly, such a group would work to maintain *balance*, or to use ODNR-DOW's own language, to "maximize opportunities for the public to enjoy deer while minimizing human conflicts."

9.0. Facilitators' Recommendations to the ODNR-DOW

RECOMMENDATION 2.1: Despite concerns voiced by some stakeholders regarding both the usefulness of Step Two and the resulting metrics identified, we recommend that the development of performance metrics be repeated in future DSEPs.

RECOMMENDATION 2.2: Despite the added expense of providing participants with dinner, breakfast and hotel accommodations, we strongly recommend the [Afternoon-Evening-Morning] workshop format—as compared to the more typical [Morning-Afternoon] workshop format—in future DSEPs.

RECOMMENDATION 7.1: Due to the lack of existing knowledge and potential for misunderstandings, we recommend that the ODNR-DOW take care to clearly explain processes for enacting and ultimately any policy decisions and/or regulations regarding establishment of a DMAP, Anterless Permit Allocations associated with DMUs, and Landowner Permits

RECOMMENDATION 7.2: Since no particular method generated a majority of support, we recommend that future stakeholder engagement processes incorporate *both* small-group and large-group discussions.

RECOMMENDATION 7.3: We recommend that future DSEPs allow for invited participants to briefly present on the key values, concerns, questions and objectives *of their particular stakeholder group*.

RECOMMENDATION 7.4: We recommend that the ODNR-DOW respond to each of the requests for clarification and justification identified in this report.

RECOMMENDATION 7.5: We recommend that the ODNR-DOW and DSEP participants work to develop an informal Deer Stakeholder Advisory Committee (DSAC), supported by the Ohio Wildlife Council, that focuses on improving communication between stakeholders and the ODNR-DOW and facilitates development of the 10-year DMP.

Additionally, we recommend that such a group:

1. Ensures that its membership includes individuals from—or represents—*all potentially affected interests*, i.e., hunters, farmers, landowners, foresters, outfitters, urbanites, as well as young, female and minority hunters;
2. Identifies *specific, explicit roles* for representatives from both the ODNR-DOW and the Ohio Wildlife Council;
3. Meets more than once per year, *preferably quarterly*;
4. Incorporates a neutral facilitator to structure meetings, guide discussion, and present and distribute findings

And most importantly...

5. Ensures that the knowledge and relationships developed during this DSEP are maintained and fostered going forward.

10.0. Attendees

We would like to thank the following individuals for participating in this important process:

Eric Flynn
Tony Forshey
Matt Gayhart
Stan Gehrt
John Hageman
John Hobbs
Mose Keim
Terry Klick
Bill Knapke
Brent Laner
Joe Logan
Dennis Malloy
Martin McAllister
Lear McCoy
Amy Milam
Matt Misicka
Larry Mitchell
Larry Moore
Mike Rex
James Stafford

Joe Uecker, Senator
Jerry Weingart
Curt Yoder
Gabriel Karns, OSU
Kristina Slagle, OSU
Todd Haines, ODNR-DOW
Scott Hale, ODNR-DOW
Ryan Harris, ODNR-DOW
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Clint McCoy, ODNR-DOW
Mike Miller, ODNR-DOW
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Mike Tonkovich, ODNR-DOW
Kendra Wecker, ODNR-DOW
John Windau, ODNR-DOW
Mark Witt, ODNR-DOW
Tony Zerkle, ODNR-DOW

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