

Developing a Comprehensive Hunting Access Plan for Montana Fish, Wildlife, & Parks

A Case Study from the Structured Decision Making Workshop

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Decision Problem

As the state agency responsible for managing Montana's public wildlife resources, Montana Fish, Wildlife, & Parks (FWP) has statutory authority to fund and implement private land and public land hunting access programs (MCA 87-1-265-268). However, FWP owns or controls less than .05% of the land in Montana. Nearly two-thirds of Montana's 93 million acres are privately owned, with the remainder owned and managed by other federal, state, or tribal entities. Public access for the purpose of hunting is critical to effective management of wildlife populations and distribution, the public's enjoyment of public wildlife resources, hunter recruitment and retention, and resolution of private land-wildlife conflict issues. Over the past 20+ years, FWP has implemented a variety of programs designed to address the needs of Montana landowners and hunters regarding effective hunting access and sustainable wildlife management. But hunter access options are limited, and changing hunter and landowner cultures have impacted traditional values. FWP may not have enough incentives for landowners to maintain or increase no-fee hunting access opportunities in the state. Oftentimes, landowners and hunters have competing interests, with landowners controlling access to land where public wildlife resides, hunters wanting to have access to hunt the public wildlife, and FWP being charged with managing public wildlife for the benefit of current and future generations. Montana's state legislature passes laws and approves FWP budgets on a biennial basis. FWP has a five-member citizen commission with authority to enact rules that may affect FWP hunting access programs. Hunters and landowners can wield considerable influence with state legislators, FWP commissioners, and FWP leadership regarding FWP programs and efforts

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involving hunting access in Montana. The problem is that FWP has no Comprehensive Hunting Access Plan that can be updated periodically to help guide the agency in identifying specific goals, specific actions, and programmatic tools to allocate resources to ensure measurable success in addressing, managing, and resolving hunting access issues.

Background

Legal, regulatory, and political context

FWP has legal authority to develop and implement programs that provide landowner assistance to promote public hunting access, as well as programs that provide landowner assistance to enhance wildlife habitat with either a requirement or encouragement to promote public hunting access as a condition for enrollment. The Montana state legislature meets biennially, and approves state agency budgets, to include program-specific budgets, during that same timeframe. The FWP Commission, a 5-member citizen commission, meets monthly and has rule-making or decision authority for some hunting access program administrative rules and other FWP actions related to hunting access program activities. The FWP Commission and FWP will allocate resources annually and over the long-term to maintain or enhance public hunting access to private and public lands. FWP mandate and mission are to manage Montana's public wildlife resources for the benefit of current and future generations of Montana citizens, while private landowners control hunting access to and through private lands. These contrasting perspectives and the difficulty in obtaining accurate and reliable private land access data embody a fundamental conflict between public use of resources held in trust by the State and individual private property rights.

Ecological context

By law, FWP is required to manage ungulate wildlife populations at or below management unit population objectives. This is critical for effective wildlife management to reduce the potential for wildlife disease issues, impacts to private landowners' property, and impacts to wildlife habitat on both private and public land. The presence of brucellosis at varying levels in herds of elk in the Greater Yellowstone area of Montana poses health risks to Montana livestock, and many elk herd districts are currently at or above population management objectives because inadequate public hunting access exists to reduce herd numbers. From a larger perspective, the only effective tool available to manage ungulate game animal numbers at population level objectives is public hunting, and without adequate public hunting access opportunities, hunter numbers can be expected to dwindle as fewer new hunters are recruited and fewer current hunters continue to hunt in the face of diminished or inadequate public hunting opportunities.

Decision Structure

Problem Statement

The need to develop a Montana Comprehensive Plan for Hunting Access was at the core of the case study the team brought to the training workshop.

The team settled upon the following problem statement: *Hunter access options beyond the existing Block Management Program are limited. Changing hunter and landowner cultures have impacted traditional values. FWP does not currently have enough incentives for*

landowners to provide access beyond the existing Block Management Program. Current tools are not adequate to meet hunter, landowner, and FWP management desires for no-fee public access and ungulate game animal population management.”

Objectives

Team members recognized that access was really a means to achieve fundamental objectives which included 1) Landowner Satisfaction; 2) Hunter Satisfaction; 3) Achieving Wildlife Population Management; and 4) Achieving Hunter Recruitment. (Figure 1) A key part of the initial discussion was an effort to define “access,” which resulted in a definition of “no-fee public access” which meant the public hunter did not pay a fee directly to a landowner. This was critical to the effort, as team members acknowledged that other types of access did and would continue to exist, including various types of guided or fee hunting which belonged most appropriately in the private sector and did not meet the current political or legal standards for public agency administration.

The team then identified a suite of means objectives with measureable attributes for each of the thematic fundamental objectives.

<u>Thematic Areas</u>	<u>Attribute</u>	<u>Direction</u>
Hunter Satisfaction		
<i>Opportunity</i>	<i># properties enrolled</i>	<i>Maximum</i>
<i>Diversity of Access</i>	<i># types available</i>	<i>Maximum</i>
<i>Distribution</i>	<i>#/unit area</i>	<i>Maximum</i>
<i>Acceptability</i>	<i>1 to 100</i>	<i>Maximum</i>
Landowner Satisfaction		
<i>Game Damage</i>	<i># of complaints</i>	<i>Minimum</i>
<i>Hunter Impacts</i>	<i># landowners allowing access</i>	<i>Maximum</i>
<i>Benefits – tangible</i>	<i>compensation/services</i>	<i>Maximum</i>
<i>Benefits – intangible</i>	<i>Human Dimensions survey 1-100</i>	<i>Maximum</i>
<i>Acceptability</i>	<i>1 to 100</i>	<i>Maximum</i>
Wildlife Management Objectives		
<i>Achieve population obj.</i>	<i>% hunting districts at objective</i>	<i>Maximum</i>
Hunter Recruitment		
<i>Recruit new hunters</i>	<i># new license sales</i>	<i>Maximum</i>

Alternative actions

Subsequently, the team developed a set of alternative actions that might be used to help achieve four fundamental objectives.

These alternative actions included:

- a) New incentive programs or ideas;
- b) Improving existing Block Management Hunting Access Program;
- c) Increased responsiveness by FWP to landowner issues;

- d) Education and outreach;
- e) Combination of a and b;
- f) Combination of a, b, and c;
- g) Combination of a, b, c, and d;
- h) Maintaining status quo;

The team spent some time in separate groups brainstorming what some specific activities in each of these alternative actions might be, and then as a group compared and consolidated those ideas into suites of actions.

Brainstorm ideas for suites of activities under alternative actions included the following:

1. How to improve existing Block Management Hunting Access Program
 - *Improve administrative consistency (aggregate BMA formulas, long-term contracts);*
 - *Increase program size (# landowners, acres, contracts);*
 - *Eliminate restrictions to contract compensation for species/sex/season length (utilize special circumstance agreements for species-specific opportunities/payments);*
 - *Utilize different payments for different BMA Types (Type I versus Type II);*
 - *Utilize different payments depending upon what hunter management services are provided;*
 - *Utilize different payments depending upon what opportunity is provided (quantity versus quality);*
 - *Increase hunter day payment;*
 - *Increase cap beyond current \$12,000 annual cap;*
 - *Develop shared-use BMA (outfitting or fee hunting plus no-fee hunting);*
2. New incentive or program ideas
 - *Cooperative land monitoring program between landowners and FWP;*
 - *Landowner appreciation awards program;*
 - *Hunting access assistance program (maps, signs, permission books, gates, cattleguards);*
 - *Tax incentives;*
 - *License attached to property deed;*
 - *Public access requirement for landowner-sponsored deer license;*
3. Increased responsiveness by FWP to landowners (outreach/education)
 - *Hunter stewardship program (targeting harvest of antlerless animals);*
 - *Landowner profiles featured in FWP publications;*
 - *Social media outreach;*
 - *Recurring marketing campaign targeting landowner relations;*
 - *Access Connections program facilitating connections between hunters and landowners who permit hunting access;*
 - *New landowner program (FWP “welcome wagon packets” for new-to-Montana landowners);*
 - *Landowner-FWP-Sportsman Workshops;*

Predictive model

After establishing an estimated score of the status quo for achieving fundamental objectives, the team developed relative scores ranking the importance of each alternative action relative to achieving the fundamental objectives. The team then utilized a consequence table which allowed them to eliminate dominated alternatives and inconsequential objectives. In fact, only the Status Quo was dominated, leading the team to retain all of the alternative actions and all of the objectives (Table 1).

From the suites of activities developed under each alternative action, the team built three portfolios of logical combinations of activities. These portfolios included one based on landowner emphasis, one based on hunter emphasis, and one based on a win-win emphasis with activities common to both landowner and hunter emphasis. The team built a set of three portfolios based on current funding, and another set of portfolios based on a projected 20% increase in funding.

Team members developed ranking for objectives, and assigned relative scores to the importance of each objective in accordance with rank (Table 2), developing new consequence tables to allow for comparison between pre-weighted and weighted scoring of portfolio alternatives (Tables 3,4,5).

Decision Analysis

By applying a simple multi-attribute ranking technique to the data, the team compared scores based on equal weighting of fundamental objectives to scores based on swing weightings and determined which actions might be most likely to help achieve objectives.

For this exercise, it appeared that portfolios of actions and activities that addressed both the needs of hunters and the needs of landowners were most likely to score highest.

While some of the objectives may need more in the way of actual data to help develop more meaningful measurable attributes, the scores reflected in the consequence tables clearly indicated that there could be significant improvements achieved within existing programs without requirements for significant increases in funding.

Developing a wider array of alternative actions based upon more feedback from larger constituencies of hunters and landowners will help in the development of an actual Comprehensive Hunting Access Plan.

Uncertainty

It is recognized that some actions affecting hunting access that are beyond the control of FWP can and will occur. But by developing a comprehensive plan that is based on clearly-defined objectives and using a structured process for making decisions, the agency can adapt to changes in a thoughtful manner.

Much uncertainty currently exists regarding some of the key data necessary for development of a Comprehensive Hunting Access Plan. Some of that uncertainty exists due to a lack of data, including reliable data regarding how much access of what kind currently exists, and how satisfied hunters and landowners are with existing access. There may be a need to utilize human dimensions surveys or other fact-gathering tools to assemble some of this data that is key to development of a viable comprehensive plan.

Another area of uncertainty resides in the amount and type of agency resources available to dedicate to the issue of hunting access on an annual or semi-annual basis. Part of this uncertainty is due to biennial legislative approval of agency budgets. On a larger scale, part of the uncertainty depends upon the numbers of hunting licenses people buy, and the subsequent amounts of revenue available for the state Fish, Wildlife & Parks agency budgets.

Discussion

Value of decision structuring

While the issues related to hunting access are largely social issues, and the development of a Comprehensive Hunting Access Plan might initially seem better suited to traditional conflict resolution processes, the value of using Structured Decision Making concepts is that it helps ensure that clear-cut fundamental objectives are developed as a foundation for subsequent development and evaluation of alternative action means objectives. This can help improve upon the patterns of the past whereby decisions were made and actions taken without metrics to measure the potential outcomes against defined objectives. In an arena where competing interests of landowners, hunters, and FWP are sometimes in conflict with each other, a comprehensive plan that is based upon fundamental objectives agreed upon by all interests can help serve as an effective road map to help steer the agency down a difficult path, with adjustments made based upon informed actual decisions and subsequent monitoring to determine effects of changes on ability to achieve objectives.

Further development required

The inclusion of two non-agency-affiliated citizens in the team FWP assembled to participate in this training reinforced the value and need for subsequent inclusion of non-agency-affiliated citizens representing key constituency groups in the process of developing an actual Comprehensive Hunting Access Plan. Having input and insight from those perspectives, as well as awareness in those groups of the value in and process of Structured Decision Making, will be critical to the overall potential for success of the plan.

There is considerable work that needs done to gather data essential to making informed decisions relevant to a comprehensive hunting access plan, and also a need to identify and assemble informed individuals to participate in the process. Very little data currently exists to provide any meaningful measure of how much access of what type is currently available on Montana's many millions of acres of private land, other than the 10% of those lands that are enrolled in FWP's Block Management Program, and the 10% of those lands that are enrolled in licensed outfitter operations plans. Also lacking is good human dimensions data measuring how satisfied Montana hunters and landowners are with current hunting access options, and what kinds of access they may wish to see in the future.

Prototyping process

The value of the rapid prototyping process for this workshop was that it helped guide team members through the SDM learning process in a timely and efficient manner. The product was a “straw dog” example of what might be a process that could be used in development of an actual Comprehensive Hunting Access Plan.

The pressure associated with completion of the training with a deliverable product helped demonstrate the pressures and potential roadblocks that can and most likely will occur during actual planning processes. But the various tools demonstrated and utilized during this training also identified potential ways to work through similar events in actual planning situations, with the SDM focus always based on processes used to make informed decisions.

Recommendations

The development and adoption of a Comprehensive Hunting Access Plan that can be updated and adapted periodically should be accomplished in a manner that allows for clear articulation of a problem statement, fundamental objectives, and measurable attributes that can be used to evaluate proposed actions. Those fundamental objectives should seek to balance the needs of hunters, landowners, and FWP, and the plan should be structured in such a way that it can be adapted to changing conditions that may affect hunting access. The plan should be able to serve as a blueprint for legislators, FWP commissioners, FWP staff, and hunter and landowner constituents regarding what FWP is doing or may plan to do regarding hunting access programs and related activities.

A first step in developing a Comprehensive Hunting Access Plan should be appointment of a group of FWP staff members who have adequate knowledge of FWP hunting access programs and hunting access issues, who will work with a coach trained in SDM processes to develop a Comprehensive Hunting Access Plan. Essential data relevant to the project must be assembled, and a timeline developed which will allow for plan adoption by early autumn, 2012, prior to the start of the 2013 legislative session. A process for gaining input from non-agency-affiliated citizens representing the perspectives of landowners and hunters must be incorporated into plan development activities.

Tables

Fundamental Objective	Attrib.	Dir.	SQ	Alternatives							
				Alt. Incen.	Imp. BM	Resp.	Ed/Out.	1&2	1,2&3	All	
Wild. Pop. Goal	0 - 100	min	38.7	29.4	32.5	34.1	39.3	26.3	23.4	21.5	
Landowner Rel/part.	1 to 10	max	5	6.9	6.2	6.9	6.5	7.3	7.6	8.25	
Hunter Relationships	1 to 10	max	4.7	6.4	5.9	4	6.4	7.0	7.2	7.6	
Hunter Recruitment	25 - 100	max	25	29.8	28	25.1	29.7	27.1	29.1	31.4	

TABLE 1

New Consequence Table

Consequence Table		Portfolio Alternatives						
Objectives	Min/Max	SQ	LO	SPRT	WW	LO+	SPRT+	WW+
HS: Opportunity	Max	1300	1559	1529	1548	1769	1725	1881
HS: Diversity of Access	Max	3.00	3.28	3.44	3.56	3.84	3.58	3.96
HS: Distribution	Max	40	52.3	47.5	50.6	59.1	56.63	64.13
HS: Acceptability	Max	85	85.9	88.0	87.0	88.3	88.75	88.13
LS: Game Damage	Min	2	2	1.75	1.63	1.63	1.5	1.13
LS: Hunter Impacts	Max	2	2.88	2.75	2.75	2.88	2.75	3
LS: Benefits Tangible	Max	50	60	57.9	58.8	68.1	63.75	69.38
LS: Benefits Intangible	Max	40	50.6	50.3	49.1	58.1	59.38	61.88
LS: Acceptability	Max	50	61.6	57.1	58.5	65	62.88	66.875
WM: Achieve Population Obj.	Max	50	55.4	53.9	56	61.3	63.13	64.625
HR: Recruit New Hunters	Max	2	2.13	2.13	2.38	2.69	2.81	2.81

Table 2

Alternative Scores Pre-Weighting

WEIGHTED SCORES		Portfolio Alternatives						
Objectives	Weight	SQ	LO	SPRT	WW	LO+	SPRT+	WW+
HS: Opportunity	1.000	0	0.445783	0.394148	0.42685	0.807229	0.731497	1
HS: Diversity of Access	1.000	0	0.291667	0.458333	0.583333	0.875	0.604167	1
HS: Distribution	1.000	0	0.509739	0.310816	0.439287	0.791546	0.689184	1
HS: Acceptability	1.000	0	0.24	0.8	0.533333	0.88	1	0.834667
LS: Game Damage	1.000	0	0	0.287356	0.425287	0.425287	0.574713	1
LS: Hunter Impacts	1.000	0	0.88	0.75	0.75	0.88	0.75	1
LS: Benefits Tangible	1.000	0	0.515996	0.407637	0.454076	0.933953	0.709494	1
LS: Benefits Intangible	1.000	0	0.484461	0.47075	0.415905	0.827239	0.88574	1
LS: Acceptability	1.000	0	0.687407	0.420741	0.503704	0.888889	0.763259	1
WM: Achieve Population Obj.	1.000	0	0.369231	0.266667	0.410256	0.77265	0.897778	1
HR: Recruit New Hunters	1.000	0	0.160494	0.160494	0.469136	0.851852	1	1
Sum of Weights (for all objectives)	11							
Sum of weighted scores (for each alternative)		0	4.584777	4.726942	5.411169	8.933644	8.605832	10.83467
Final Score (sum of weighted scores/sum of weights)		0	0.416798	0.429722	0.491924	0.812149	0.782348	0.98497

Table 3

Alternative Scores - Weighted

WEIGHTED SCORES		Portfolio Alternatives						
Objectives	Weight	SQ	LO	SPRT	WW	LO+	SPRT+	WW+
HS: Opportunity	0.131	0	0.058196	0.051455	0.055725	0.105382	0.095496	0.130548
HS: Diversity of Access	0.085	0	0.02475	0.038893	0.0495	0.074249	0.051267	0.084856
HS: Distribution	0.106	0	0.053902	0.032867	0.046452	0.083701	0.072877	0.105744
HS: Acceptability	0.089	0	0.021305	0.071018	0.047346	0.07812	0.088773	0.074096
LS: Game Damage	0.065	0	0	0.018757	0.02776	0.02776	0.037514	0.065274
LS: Hunter Impacts	0.117	0	0.103394	0.08812	0.08812	0.103394	0.08812	0.117493
LS: Benefits Tangible	0.093	0	0.047827	0.037784	0.042088	0.086567	0.065763	0.092689
LS: Benefits Intangible	0.085	0	0.04111	0.039946	0.035292	0.070197	0.075161	0.084856
LS: Acceptability	0.072	0	0.049357	0.03021	0.036167	0.063824	0.054803	0.071802
WM: Achieve Population Obj.	0.103	0	0.03808	0.027502	0.042311	0.079686	0.092591	0.103133
HR: Recruit New Hunters	0.055	0	0.0088	0.0088	0.025723	0.046707	0.05483	0.05483
Sum of Weights (for all objectives)	1							
Sum of weighted scores (for each alternative)		0	0.446721	0.445352	0.496483	0.819588	0.777195	0.985323
Final Score (sum of weighted scores/sum of weights)		0	0.446721	0.445352	0.496483	0.819588	0.777195	0.985323

Table 4

Comparison Equal Weights to Swing Weights

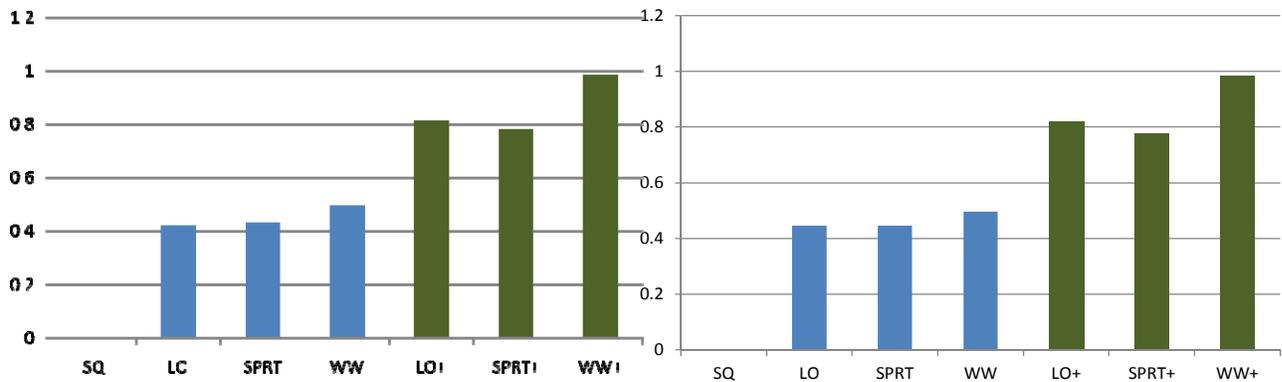


Table 5

Figures

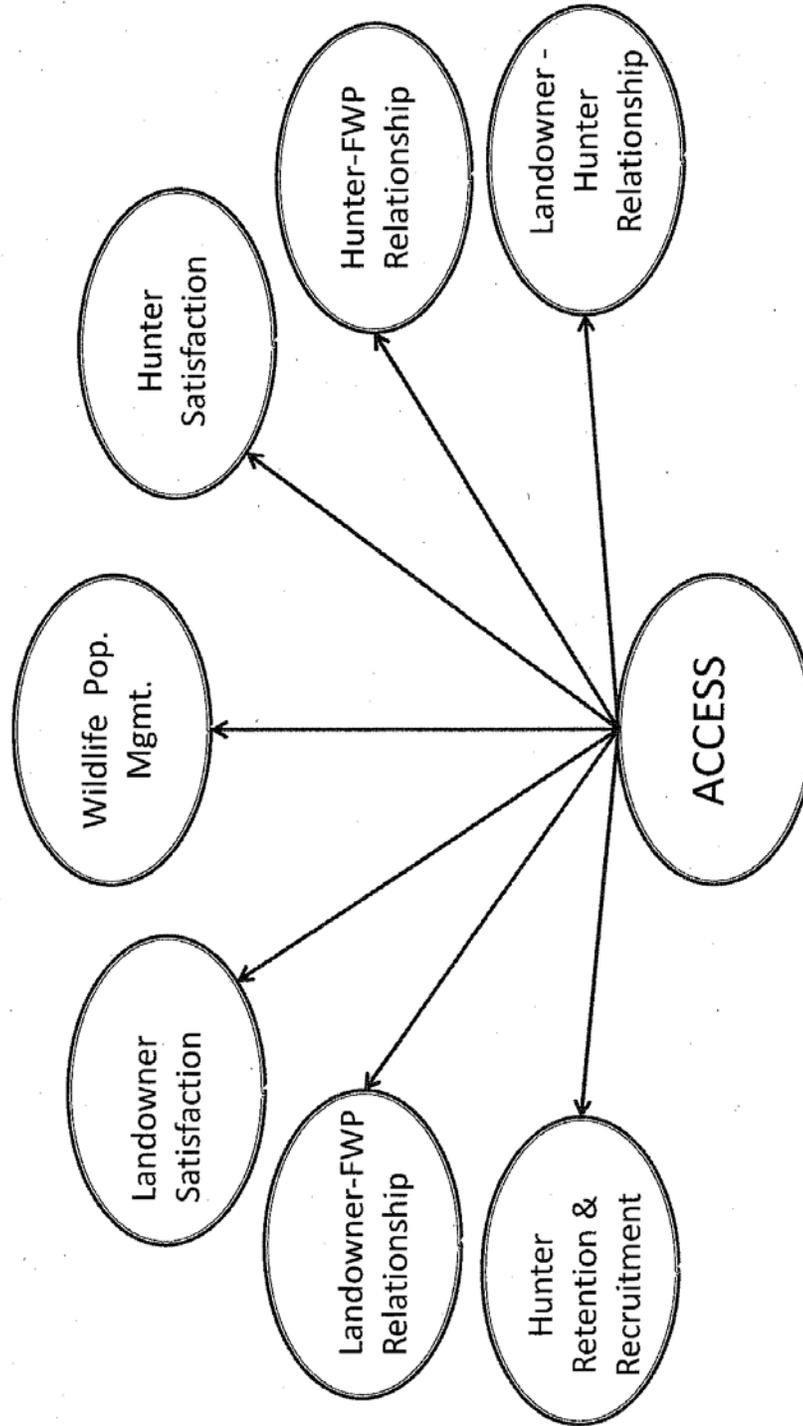


FIGURE 1

