Grand Rapids - Definitions Clarification and Measureable Attributes

Developing a fundamental-objectives hierarchy (in contrast to the mean-ends hierarchies discussed during Round I): In a fundamental-objectives hierarchy the fudamental objectives are defined by the lower-level objectives directly "below" it. The lower-level objectives should be mutually exclusive and collectively should provide an exhaustive characterization of the fundamental objectives. This contrasts with a means-ends hierarchy (or network) in which the relationship between adjacent levels is causal. The fundamental-objectives hierarchy indicates why there is interest in a problem, and the means-ends network suggests how something could be done to improve matters. Value judgements are required to construct fundamental-objectives hierarchies, and judgements about causation are required to constuct mean-ends networks. The lowest level of a fundamental-objectives hiearchy contains measurable attributes, while the lowest-level of a mean-ends network contains actions. (see R. Keeney, 1992, Value-Focused Thinking)

Thus, this exercise is about more fully characterizing the fundamental objectives of waterfowl management. For example, what is it about healthy landscapes that interests us? How would we distinguish a healthy landscape from an unhealthy one? How would we measure those features? The entries here are provided merely to help get you started. They should be revised according to the participants' values.

Fundamental objective	Characterizations	Measurable attributes
Perpetuate Hunting	Maximize hunters consistent with sound stewardship of the resource	License/permit sales;
	Maximize types of waterfowl hunting opportunities	Opinion surveys of public; agencies characterize types and acreage of public areas
	Maximize access opportunities	Acres of private land open for public hunting; acres of public hunting areas;
	A social environment to sustain waterfowl hunting (hunting clubs, societal acceptance)	Public opinion surveys (views about hunting); membership in conservation NGO's; number of existing duck clubs
	Increase learning opportunities (how to/where to)	Number of clubs (4H, etc) that promote hunting; # of mentoring programs to recruit new hunters; number of direct promotions for hunting
	Recruit new hunters and retain existing ones	Direct measure of new participants and dropouts (i.e., HIP); surveys of satisfaction and impediments to participation
Non-consumptive experience	access to the resource	acres/sites public access, developed watchable wildlife products/sites, geographic distribution
	increase active participation	# of proactive viewers, demographics of participants,# trip, $spent, distance traveled
	increase social support	# social media sites, #socially/politically engaged individuals, $ donated to waterfowl conservation organizations by non-hunters, # duck stamps sold to non-hunters,
	increase satisfaction	# fully satisfied participants
	increase public knowledge of ecological values and benefits	public awareness via surveys
	minimize ecological disturbance	habitat/population assessments
Healthy waterfowl populations	sustain genetic diversity within and between species	ratio of genetic markers (different diversity genes); subpopulation stocks (e.g., Canada geese)
	maintain a desirable distribution of waterfowl	human population growth trends; midwinter surveys; breeding population surveys
	maintain levels to sustain harvest	population surveys; harvest surveys; band recovery data; population modeling
	minimize human -waterfowl conflicts	# complaints; bird strikes with aircraft; human dimension survey; beach closures; crop damage

	eliminate waterfowl listed as threatened, endangered, etc.	# of listed species; declining population trends
	reduce the impact of avian diseases	survival rates; disease surveillance (incidence/ detection)
	minimize ecological impacts of overabundant species	habitat/ vegetation surveys; population levels and/or distribution of other species
What is healthy populations really referring to. Depends on the context. Population status and viablility		
Healthy landscapes	Adequate specific non-wetland habitat	acres, quality
	Sufficient areas with low disturbance	
	WINTERING	
	Sufficient and or increased fully functioning wetland complexes	habitat quality measure - food resources, lack of disturbance quality couched in quantity for example we need more low quality versus fewer high quality
	Adequate specific non-wetland habitat	acres, quality
	Sufficient areas with low disturbance	
Anderson	Conserve adequate breeding, migration and wintering habitat to support waterfowl population objectives	Net change in landscape base in key waterfowl areas
	Landscape embodies more than just duck habitat and this objective needs to do that	
	For example, for breeding: (see following)	
	wetland and associated upland habitats protected in key breeding areas (includes both policy and direct actions)	eg. Adequate farm-bill funding for wrp, crp
		wetland protection policies in place for important breeding areas (national, state and protection).
		Healthy funding for FWS habitat programs, state and NGO programs
	Fully supportive public in maintaining the landscape base	Funding; political support for policies; engagement
	Recongnize landscapes as habitats for people too; i.e. the role of habitats in providing places to hunt and otherwise experience wetlands/wildlife/nature	We did not get time to discuss measures for this characterization of the overall objective
	For migration and wintering areas it is:	
	Wetlands, Agrl lands, watershed health, are all issues that impact food resources.(need to revise this)	Distribution and abundance of birds?
	Restoration and protectoin goals in many of these places need to be developed	Distribution and abundance of food resources?
		Water quality indices in important watersheds
	Values related to C, water, intrinsic values,	
	Broader human use values than just duck populations -- didn't resolve this but group clearly wanted to do this. EGS issues, etc..	
	Minimize fragmentation of habitats	Large blocks of continguous habitats

Comments:
Order is important to perception; may not be best to lead with hunting
#4 too narrow; need more about EGS too