

NAWMP Revision



*North American Waterfowl
Management Plan*

*Plan nord-américain de
gestion de la sauvagine*

*Plan de Manejo de Aves
Acuáticas de Norteamérica*

Consultation Workshop

February 26, 2010

Sacramento, CA

*Fred A. Johnson, U.S. Geological Survey
G. Scott Boomer, U.S. Fish & Wildlife Service*

Dave Case, D. J. Case & Associates

and members of the NAWMP Revision Steering Committee



Workshop agenda

- Yesterday:

- Introduction
 - The Revision Vision
 - Taking a SDM approach
- Break-out groups to:
 - Discuss the nature of the decision problem
 - Identify fundamental & means objectives for waterfowl management
 - Identify some measurable attributes
- Group discussion; opportunity for individual input

- Today:

- Introduction to objectives hierarchies
- Break-out groups to:
 - Construct an objectives hierarchy
 - Identify strategic actions to achieve objectives
- Group presentations; synthesis

Evaluating Objectives...

- 1. Promote a conservation ethic in the general public
- 2. Maximize waterfowl harvest
- 3. Maximize hunter satisfaction
- 4. Promote non-consumptive uses of waterfowl
- 5. Maintain landscapes capable of sustaining waterfowl populations in perpetuity
- 6. Increase the understanding of ecological mechanisms driving changes in waterfowl abundance and waterfowl landscapes
- 7. Expand the sources and amount of funding for waterfowl conservation activities
- 8. Perpetuate the tradition of waterfowling
- 9. Minimize harvest of under-abundant waterfowl species
- 10. Minimize loss and degradation of wetlands and associated uplands
- 11. Provide more public hunting opportunities
- 12. Minimize the detrimental effects of over-abundant populations (e.g. depredation, habitat destruction)
- 13. Maintain/establish regulations that are simple and will lead to high compliance rates among hunters
- 14. Maintain healthy waterfowl populations as part of the North American fauna
- 15. Maximize ecological goods and services derived from wetlands and associated uplands managed for waterfowl
- 16. Increase public support for waterfowl conservation
- 17. Increase waterfowl hunter participation
- 18. Ensure that no species of waterfowl falls below population levels necessary for long-term viability.
- 19. Increase and improve duck breeding habitat
- 20. Ensure cooperation among jurisdictions (state, flyway, partners, etc.).
- 21. Increase and improve duck wintering habitat
- 22. Maximize the efficiency and effectiveness of the infrastructure and funding for waterfowl conservation
- 23. Provide maximum hunting opportunity.
- 24. Maintain the social license to hunt
- 25. Increase duck recruitment
- 26. Increase and improve duck migration habitat
- 27. Reduce mortality from disease and contaminants
- 28. Maintain a broad fall and winter distribution of waterfowl
- 29. Establish the infrastructure needed to ensure coherence in waterfowl management
- 30. Formalize the institutions needed to incorporate human dimensions into waterfowl management decisions
- 31. Increase hunter education and communications efforts

Evaluating Objectives

- **Objective Hierarchies:**
 - Group similar objectives along a gradient from fundamental to means
 - Graphically display the conceptual linkages between means objectives and fundamental objectives
 - Provide a context to develop measurable attributes
 - Provide a context to develop management actions or alternatives

Goal

**Fundamental
Objective**

**Fundamental
Objective**

**Fundamental
Objective**

Goal

Fundamental Objective

Fundamental Objective

Fundamental Objective

Means Objective

Means Objective

Means Objective

Means Objective

Means Objective

Means Objective

Means Objective

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Goal

Fundamental Objective

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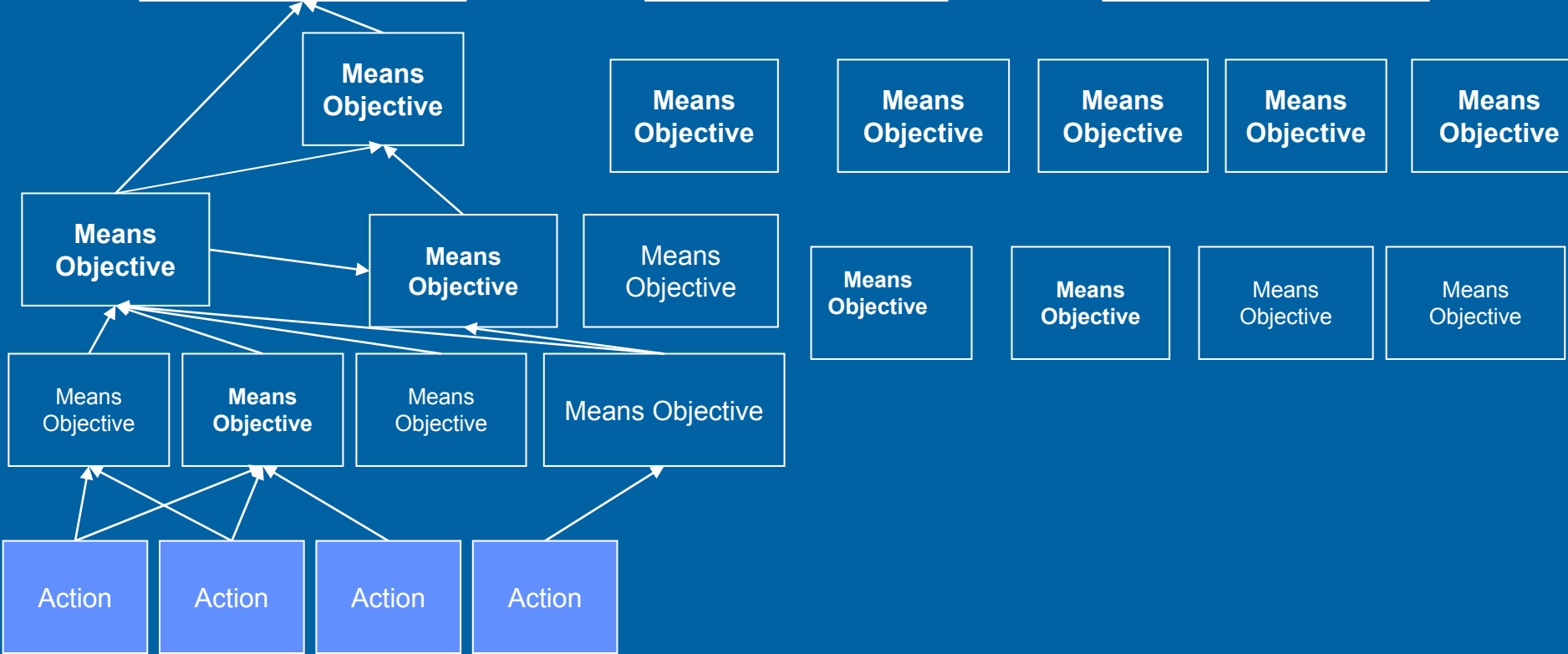
Means Objective

Goal

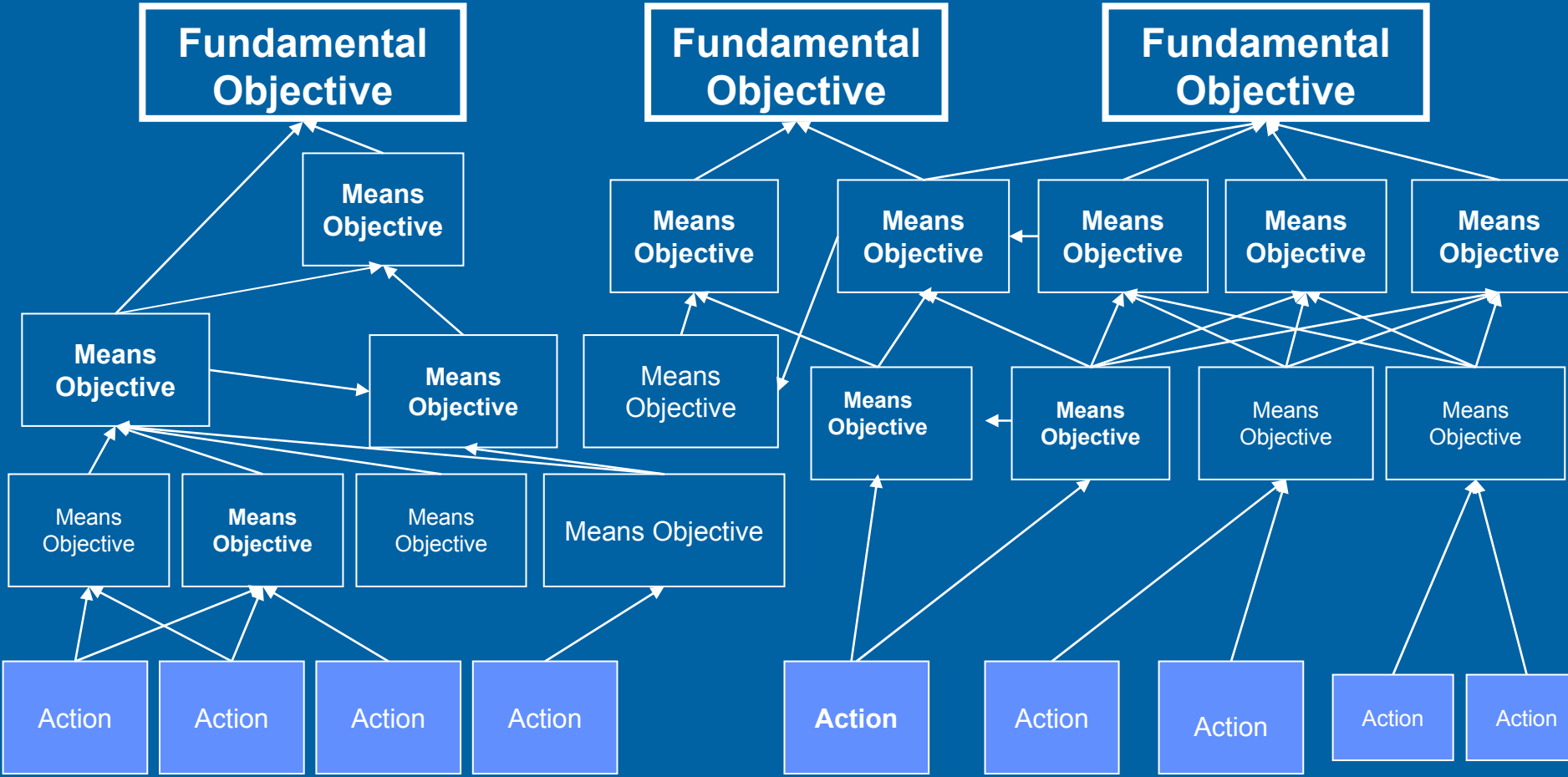
Fundamental Objective

Fundamental Objective

Fundamental Objective



Goal



Mgmt Program 1
• Continental
• Regional
• Local

Mgmt Program 2
• Continental
• Regional
• Local

Mgmt Program 3
• Continental
• Regional
• Local



Objectives Hierarchy: key points

- Ensures that the views of stakeholders are considered and documented
- Organizes the complexities of the waterfowl management enterprise
- Illustrates the linkages between means and fundamental objectives
- Explicitly recognizes how multiple management programs/institutions, through their actions, can affect the same means and fundamental objectives

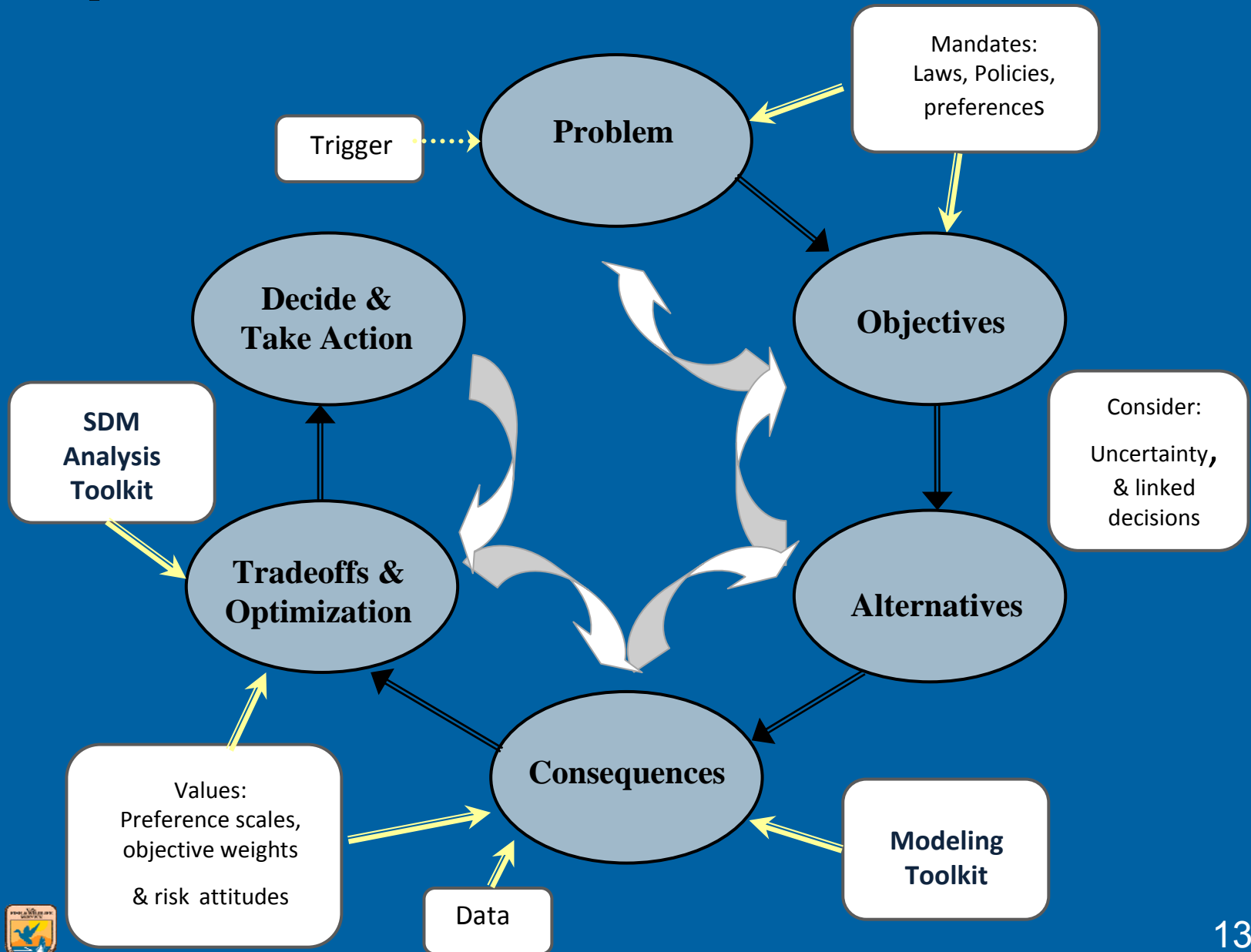
Break-out Groups

- Review list of fundamental and means objectives
- Organize objectives from fundamental to means
- Specify relationships (linkages) between means and fundamental objectives
- List some measurable attributes associated with each objective
- Identify some potential actions to achieve fundamental or means objectives

Break-out Groups

- **Develop a graphical representation of the objectives hierarchy (PowerPoint, white board, or paper)**
- **Be prepared to discuss the key relationships between the fundamental and means objectives**
- **Be prepared to discuss some potential actions to achieve fundamental or means objectives**

SDM process



Some technical details to consider

- Models link actions to outcomes that are relevant to the objectives (consequences); models are required to make predictions.
- The decision context determines the scope of the modeling and guides development.
- The initial modeling framework will have to accommodate a broad set of management alternatives to generate a prototypical consequences table.

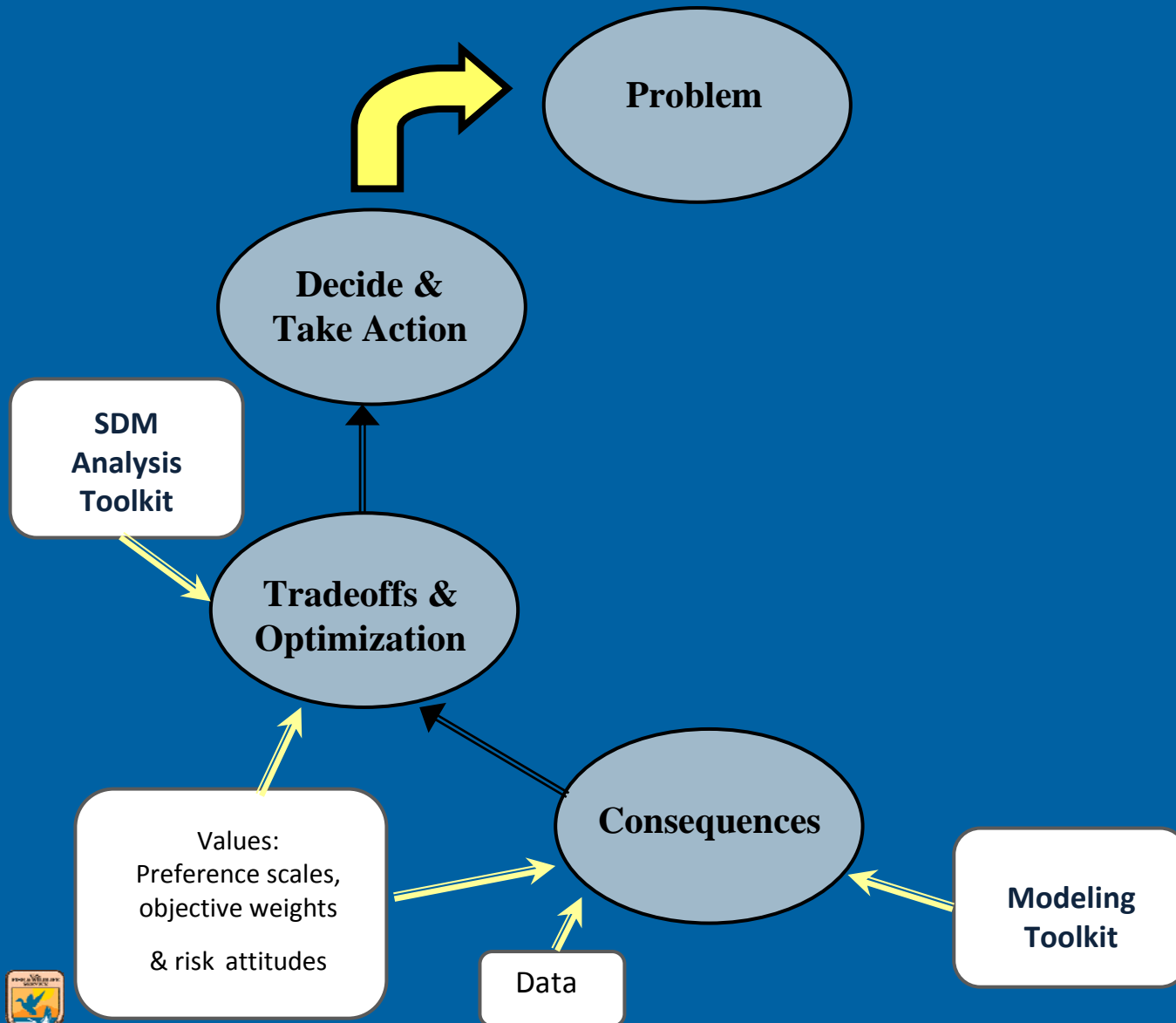
Some expected outcomes from Consultation Workshop

- Objectives hierarchy
- Measurable attributes
- A list of potential actions/alternatives at a very broad scale...

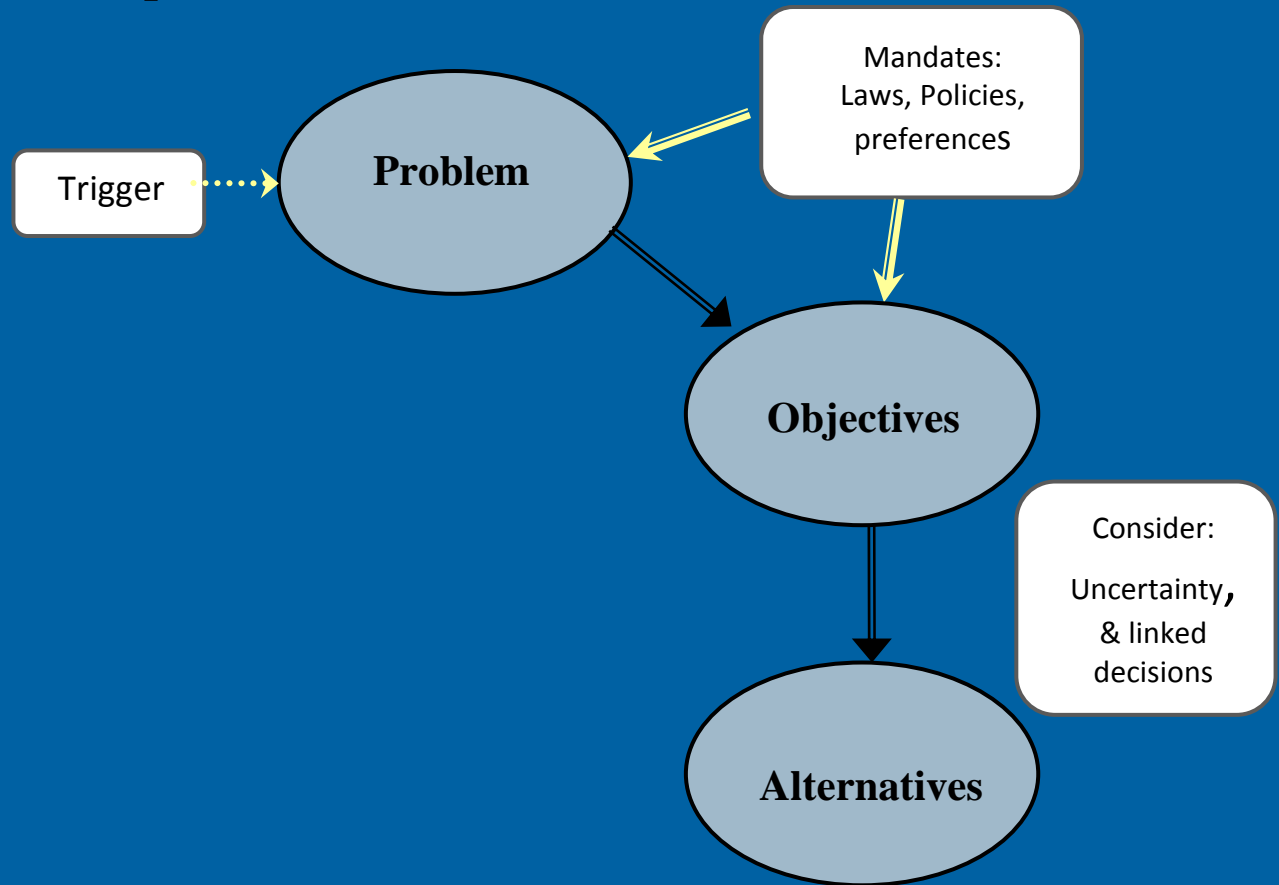
Break-out groups



Consultation process II



Consultation process I



Integrated Waterfowl Management

Waterfowling Tradition

Healthy Populations

Habitat G & S

Retention

$N \leq K$

Max K

Wetlands Uplands

H2O Quality

C Seq.

Satisfaction

Recruitment

Sustainable Harvest

Body Condition

Wetland Quality

Protection

Restoration

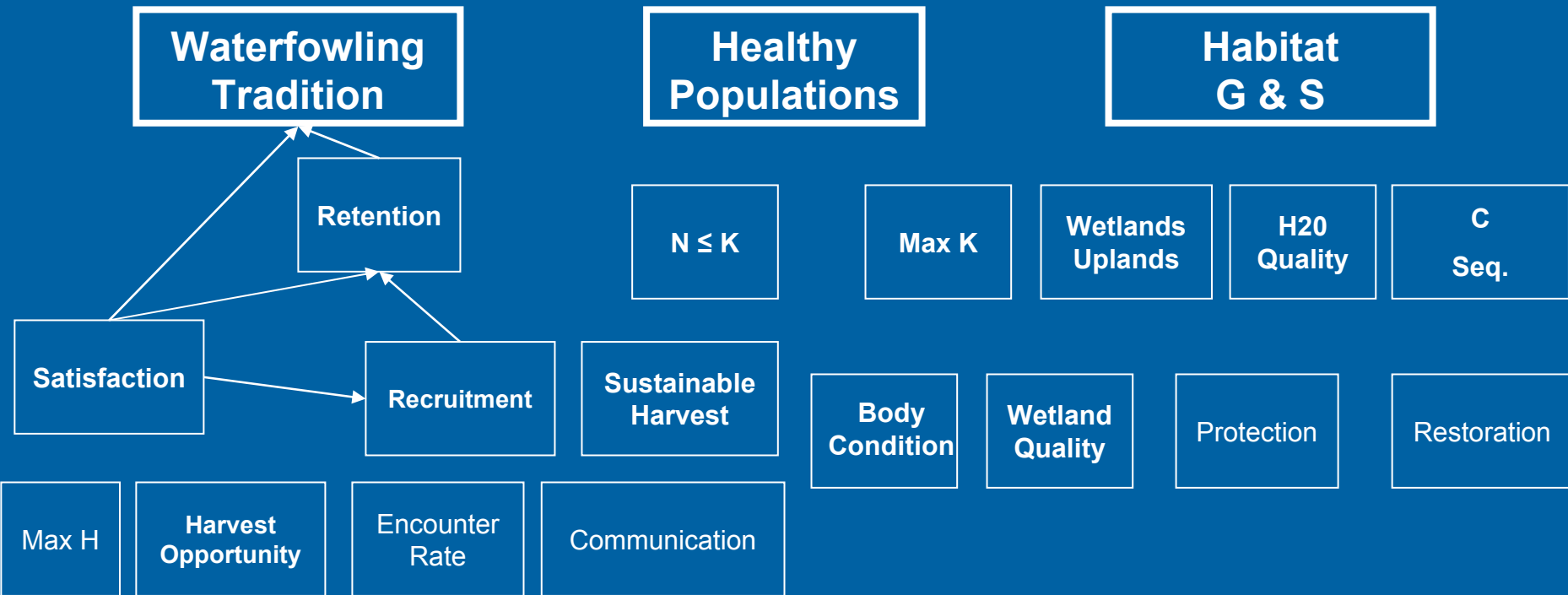
Max H

Harvest Opportunity

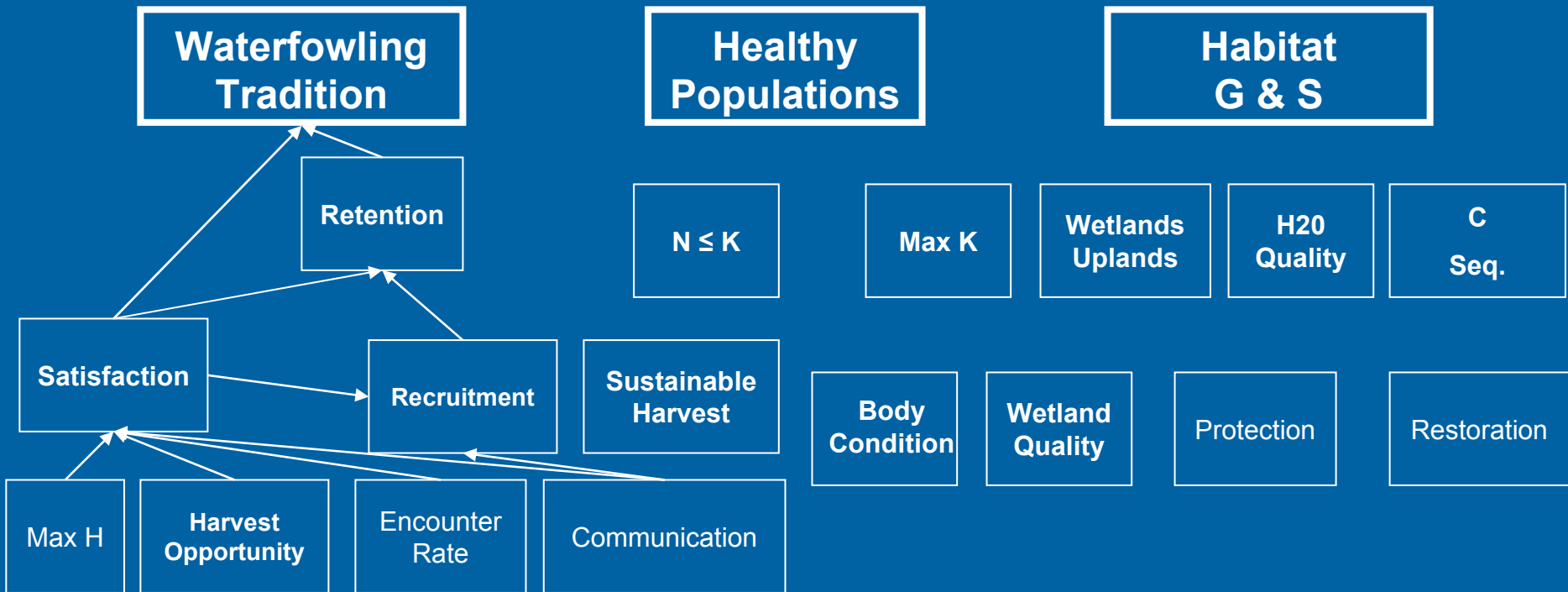
Encounter Rate

Communication

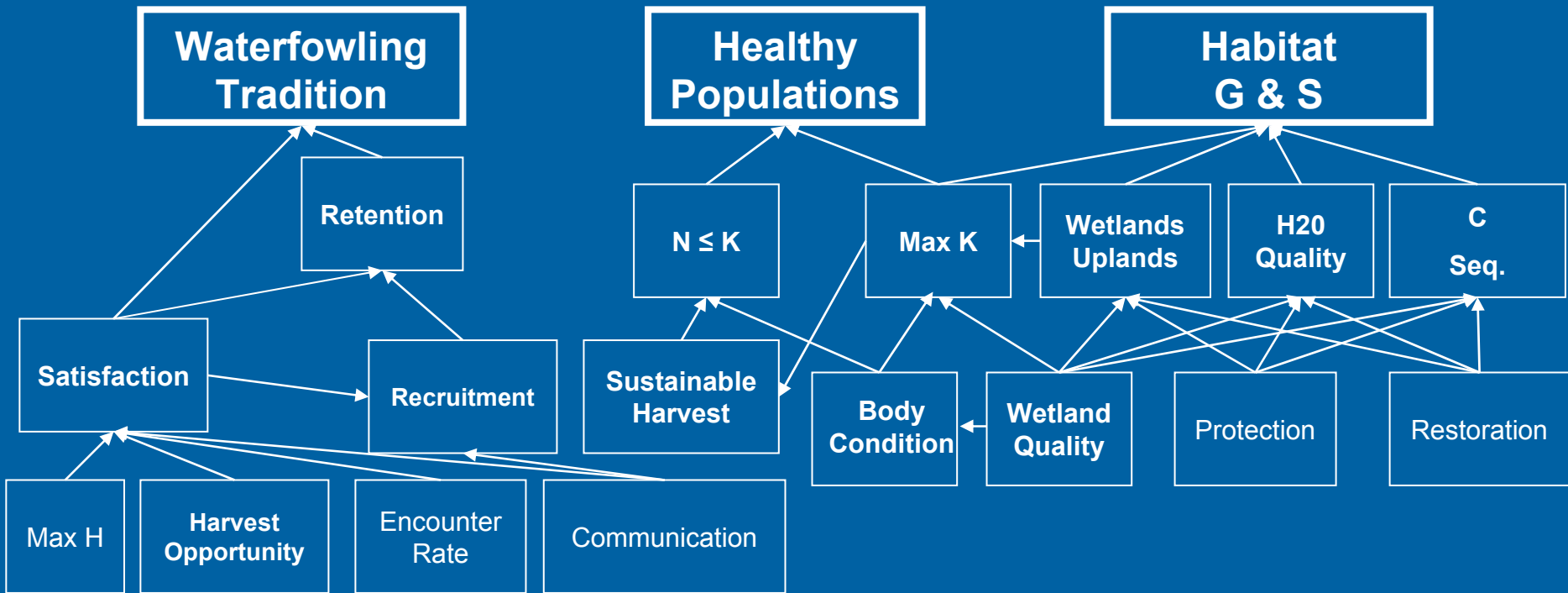
Integrated Waterfowl Management



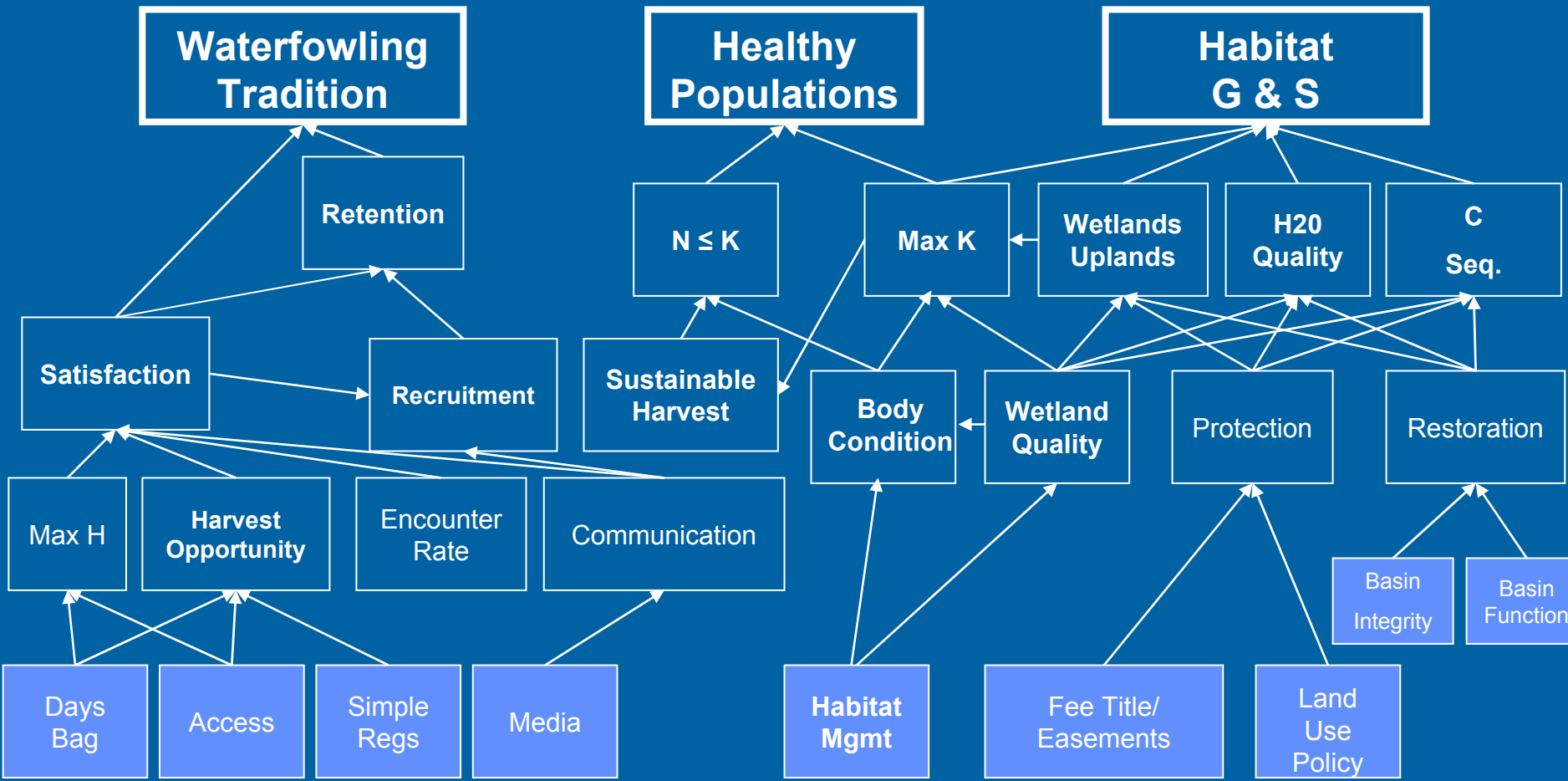
Integrated Waterfowl Management



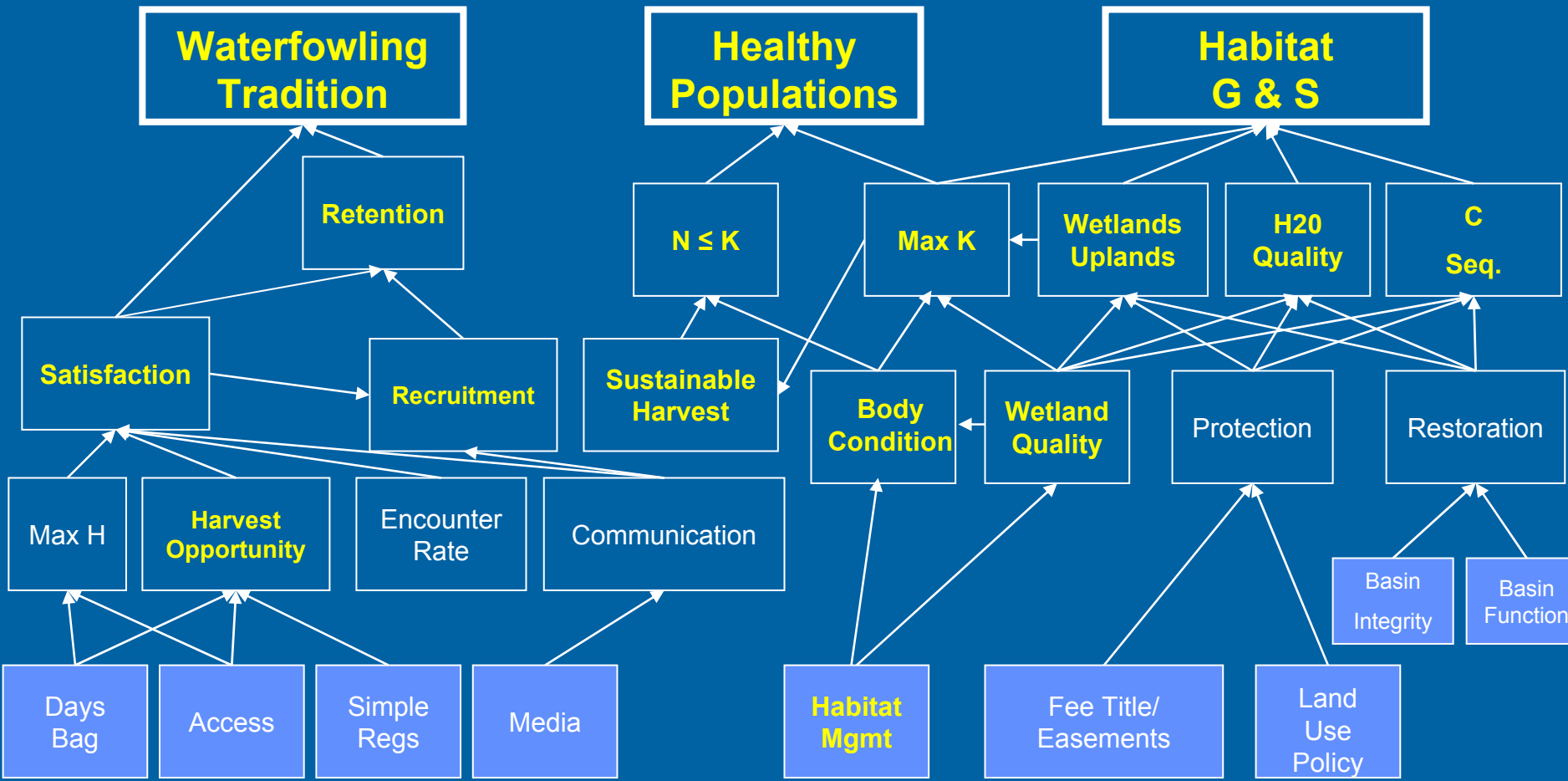
Integrated Waterfowl Management



Integrated Waterfowl Management



Integrated Waterfowl Management



Mgmt Program 1

- Continental
- Regional
- Local

Mgmt Program 2

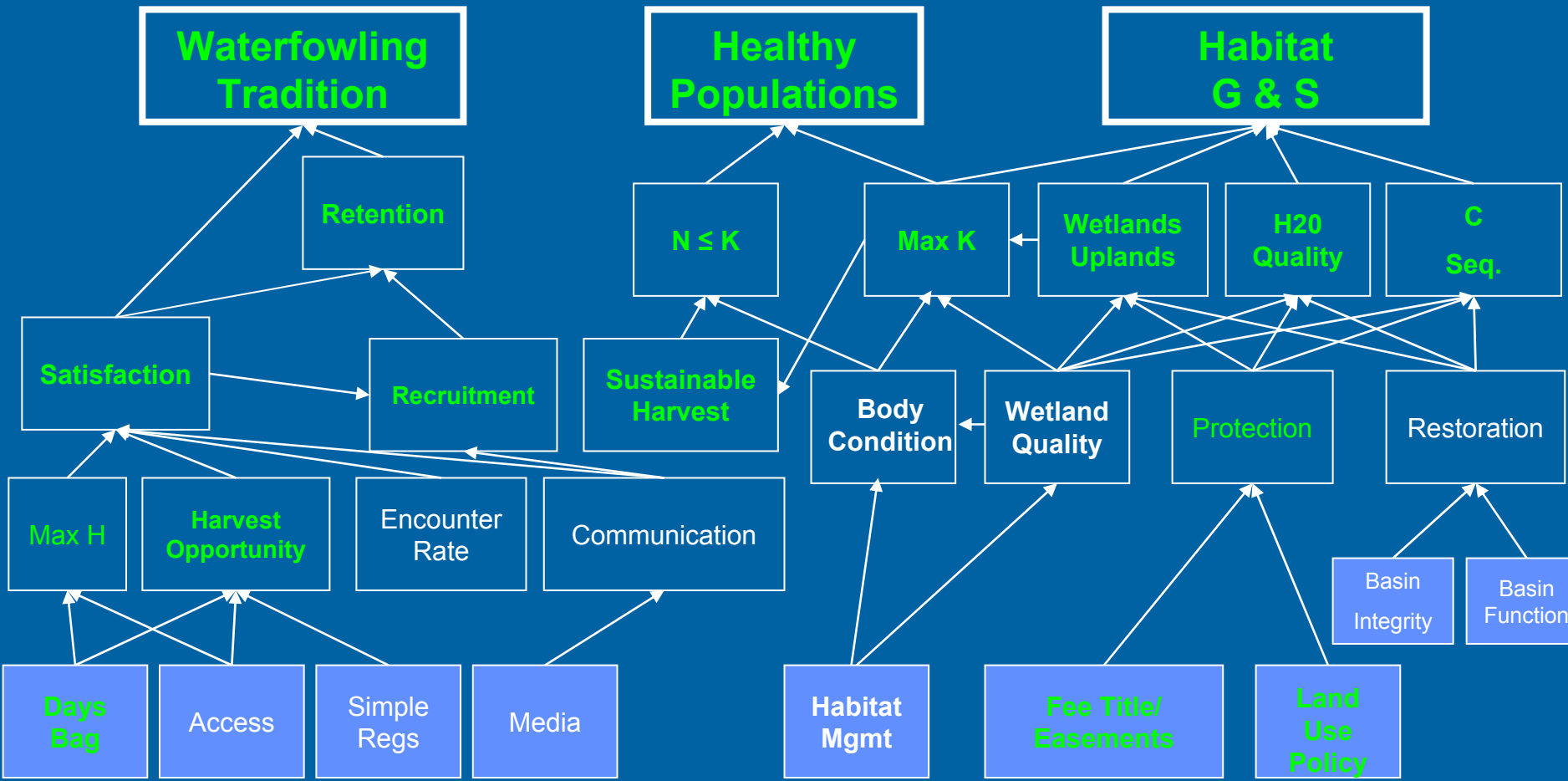
- Continental
- Regional
- Local

Mgmt Program 3

- Continental
- Regional
- Local



Integrated Waterfowl Management



- Mgmt Program 1**
- Continental
 - Regional
 - Local

- Mgmt Program 2**
- Continental
 - Regional
 - Local

- Mgmt Program 3**
- Continental
 - Regional
 - Local



Integrated waterfowl management

Fundamental Objectives	Alternatives			
	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4
Maintain Duck hunting tradition				
Maintain healthy duck populations				
Ecological goods and services				
Max harvest opportunity				
Max hunter satisfaction				

Necedah NWR Impoundments Objectives Hierarchy

