



The North American Waterfowl Management Plan

- A Model for Conservation -

The Future of Waterfowl



Round 2 Workshop
Presentation 1



The NAWMP

A new model for conservation (for '86)

- Landscape-scale effort – “Joint Ventures”
- Partnerships and leveraging resources
- Numerical population objectives
- Implied goal of sustaining sport hunting
- Regulatory elements



The NAWMP

Lack of clarity over...

- “Average environmental conditions”
- Role of harvest in achieving population objectives
- Hunter retention, participation, success
- Explicit goals for non-consumptive users



The NAWMP Updates: 1994, 1998, 2004

- Expanded partnerships (incl. Mexico)
- Habitat goals and geography expanded
- Biodiversity, landscape-level conservation, ecological services themes
- Advocated for stronger science foundation and adaptive management
- Call for a “progress assessment”



The NAWMP Assessment – 2007

- Comprehensive review noted many successes
- Key needs:
 - Tracking accomplishments and landscape change
 - Clear and robust accountability framework
 - Review population and habitat objectives
 - Increase attention to agriculture & water policy
 - Improve monitoring & assessment; revitalize NSST
 - Greater linkage among NAWMP parts
 - Integrating harvest, habitat and stakeholders; complementary “Joint Task Group” created



Linking Harvest, Habitat and Stakeholders – The “Joint Task Group” Report

“Yield curve approach” - theoretical coherence between harvest and habitat goals (incl. NAWMP)

Other recommendations...

- Focus more science on reducing key uncertainties
- Convene human dimensions working group
 - ✓ Assess stakeholder values
 - ✓ Develop approach for explicitly incorporating HD information into management decisions
- Convene a waterfowl management policy summit:
“Future of Waterfowl Management Workshop”



Messages from “Future of Waterfowl Management” Workshop (2008)

1. Resources dedicated to conservation not optimally allocated
 - Too much time spent setting annual regulations
 - Need better monitoring and evaluation
2. Federal/state/provincial activities to conserve waterfowl & habitats have declined
3. Too few resources directed towards understanding waterfowl hunters
4. Federal agencies less attentive to waterfowl science & monitoring/ evaluating



Messages from “Future of Waterfowl Management Workshop”

Low Success:

- Complementary & coherent goals for harvest and habitat management
- Understanding & incorporating hunter expectations and satisfaction
- Simplifying waterfowl regulations
- Setting and revising population using a clear process
- Rallying support of non-hunters



Messages from “Future of Waterfowl Management” Workshop (2008)

Proposed Actions:

- ✓ A group or venue be created to continue the work of the Human Dimensions Working Group. (94% agreed or strongly agreed).
- ✓ The NAWMP update should be used to develop more coherent goals for waterfowl harvest and habitat management. (88% agreed or strongly agreed).



NAWMP Revision: Results of Round I Consultations





Purpose of R-1 Workshops

- Solicit responses to the NAWMP Revision “Purpose Statement” and seek input on a “Problem Statement”
- Identify fundamental and means objectives for waterfowl management
- Discuss alternative, broad-scale (high level) strategies for achieving objectives
- Identify actions and measurable attributes associated with objectives
- Inform the management community about the NAWMP revision and engage them as participants in the process



NAWMP Revision: R-1 Consultations

Workshops:

- Portland – Dec 1-2, 2009
- Memphis – Jan 27-28, 2010
- Edmonton – Feb 1-2, 2010
- Ottawa – Feb 16-17, 2010
- Sacramento – Feb 25-26, 2010
- Milwaukee – Mar 22, 2010

Additional input:

- Mexico
- Flyways
- Ducks Unlimited, Delta Waterfowl
- Website messages from individuals



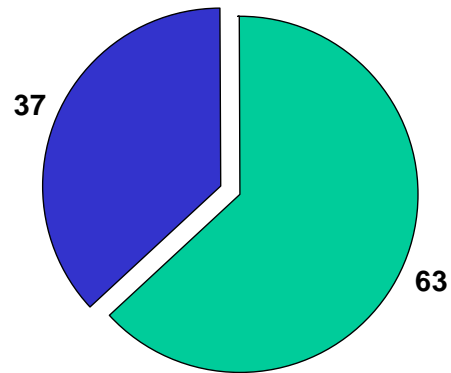
Invited Participants – the “waterfowl management community”

- Plan Committee, Revision Steering Committee
- NAWMP Science Support Team
- Adaptive Harvest Management working group
- Human Dimensions working group
- N.A. Wetlands Conservation Council and Staff
- Federal, state, provincial governments
- Joint Ventures (Habitat & Species)
- Flyway Councils and Technical Committees
- NGOs – DU, CA Waterfowl, Delta, WMI, others
- Minneapolis waterfowl “Summit” participants



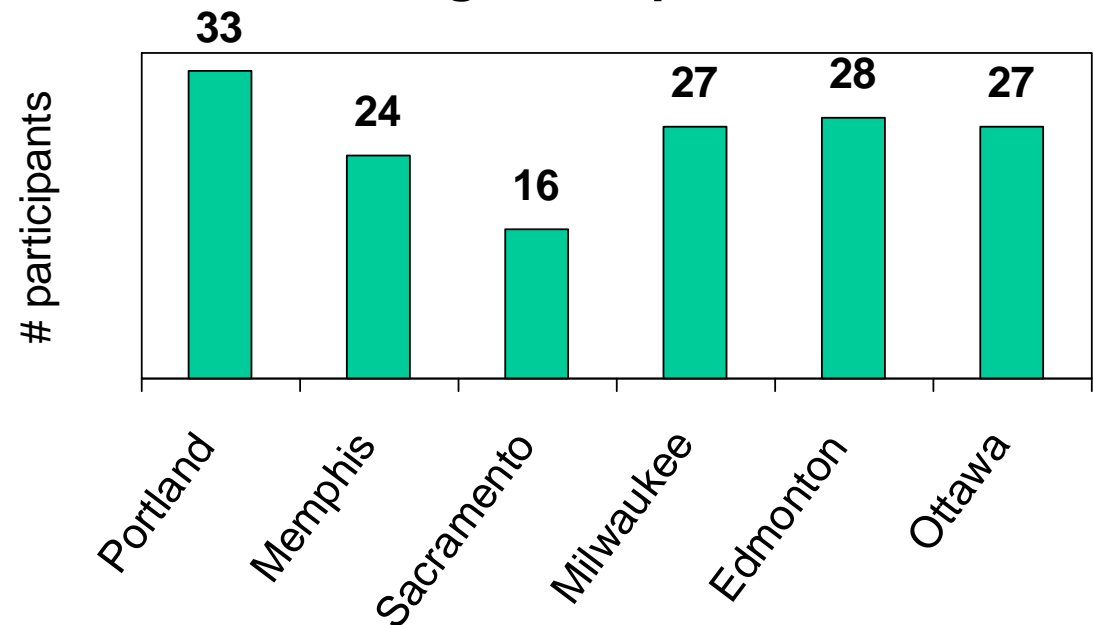
R-1 Workshop Participants

Country of Residence (%)



■ US ■ Canada

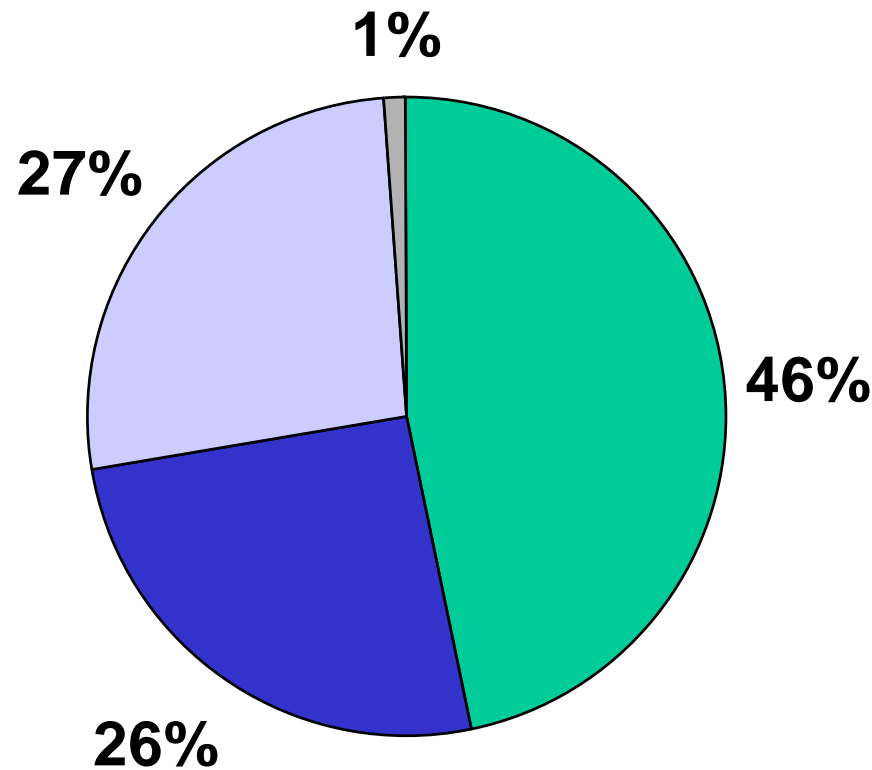
Meeting Participation





R-1 Workshop Participants

Primary Employment Affiliation



 Fed agency

 NGO

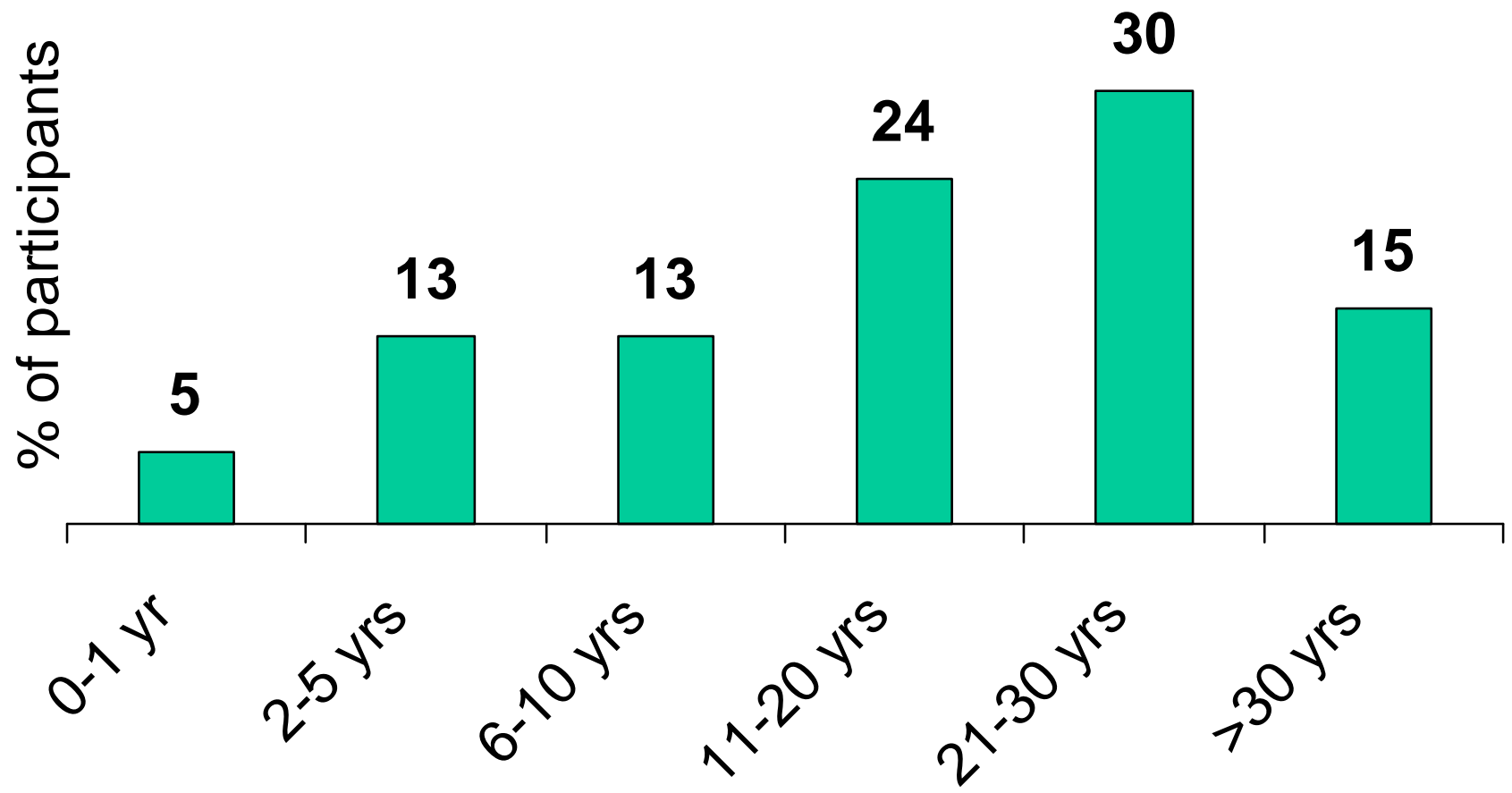
 State/Prov agency

 University



R-1 Workshop Participants

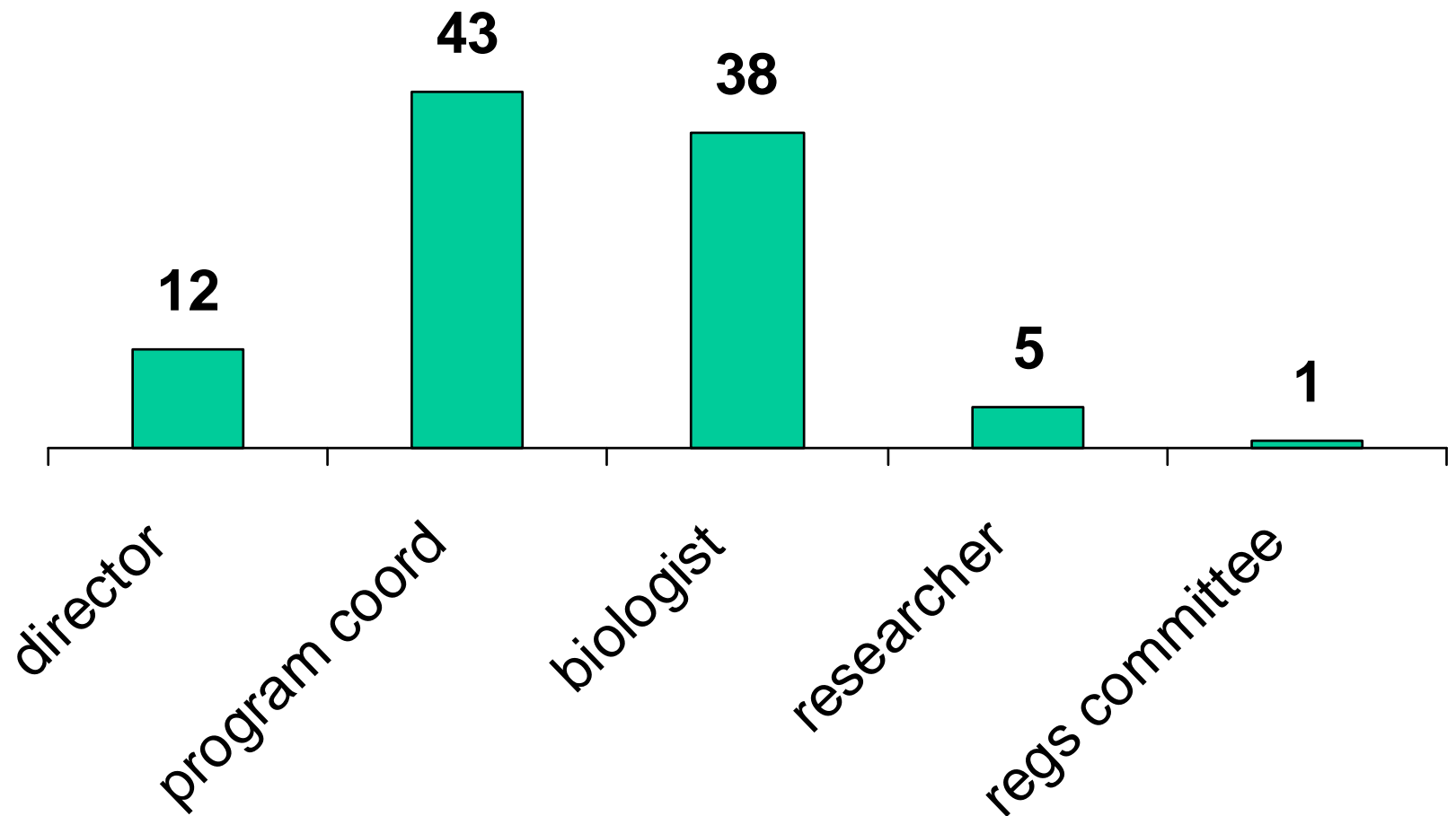
Years in waterfowl management





R-1 Workshop Participants

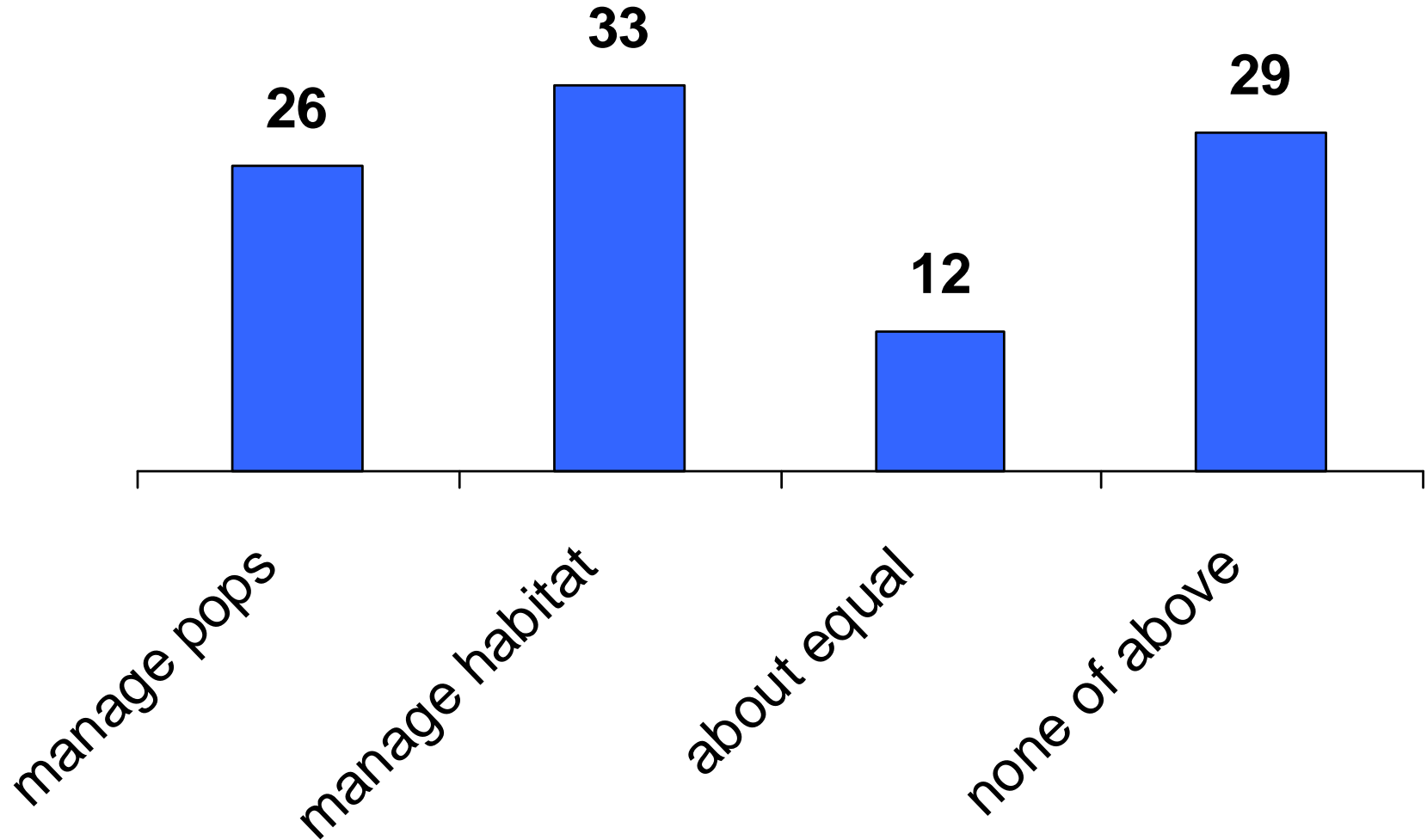
Waterfowl Management Hat (%)





R-1 Workshop Participants

Spend Most Time On (% participants)





Clarifying the “Problem”

- Losing habitat faster than we are restoring/conserving it
- Losing hunters despite liberal regulations and healthy populations
- Interest in waterfowl conservation in agencies and among the public is waning
- Allocation of resources in waterfowl management is inefficient



Revised Problem Statement

“Although the waterfowl management community is in general agreement on the fundamental objectives of waterfowl management, it has not reached consensus on the means to achieve those objectives, nor the framework necessary for integrating multiple decisions in a way that efficiently allocates resources and coordinates actions.”



Revised Purpose Statement

“The purpose of the Plan is to sustain North America’s waterfowl populations and their habitats at levels that satisfy human desires and perpetuate waterfowl hunting. Plan goals will be accomplished through partnerships guided by sound science”.



Objectives of Waterfowl Mgmt

Started with 31 candidate objectives derived from earlier meetings:

- Patuxent, Mississippi Flyway, DU

Offered starting point for discussions

- Obtain quantitative data via TurningPoint technology

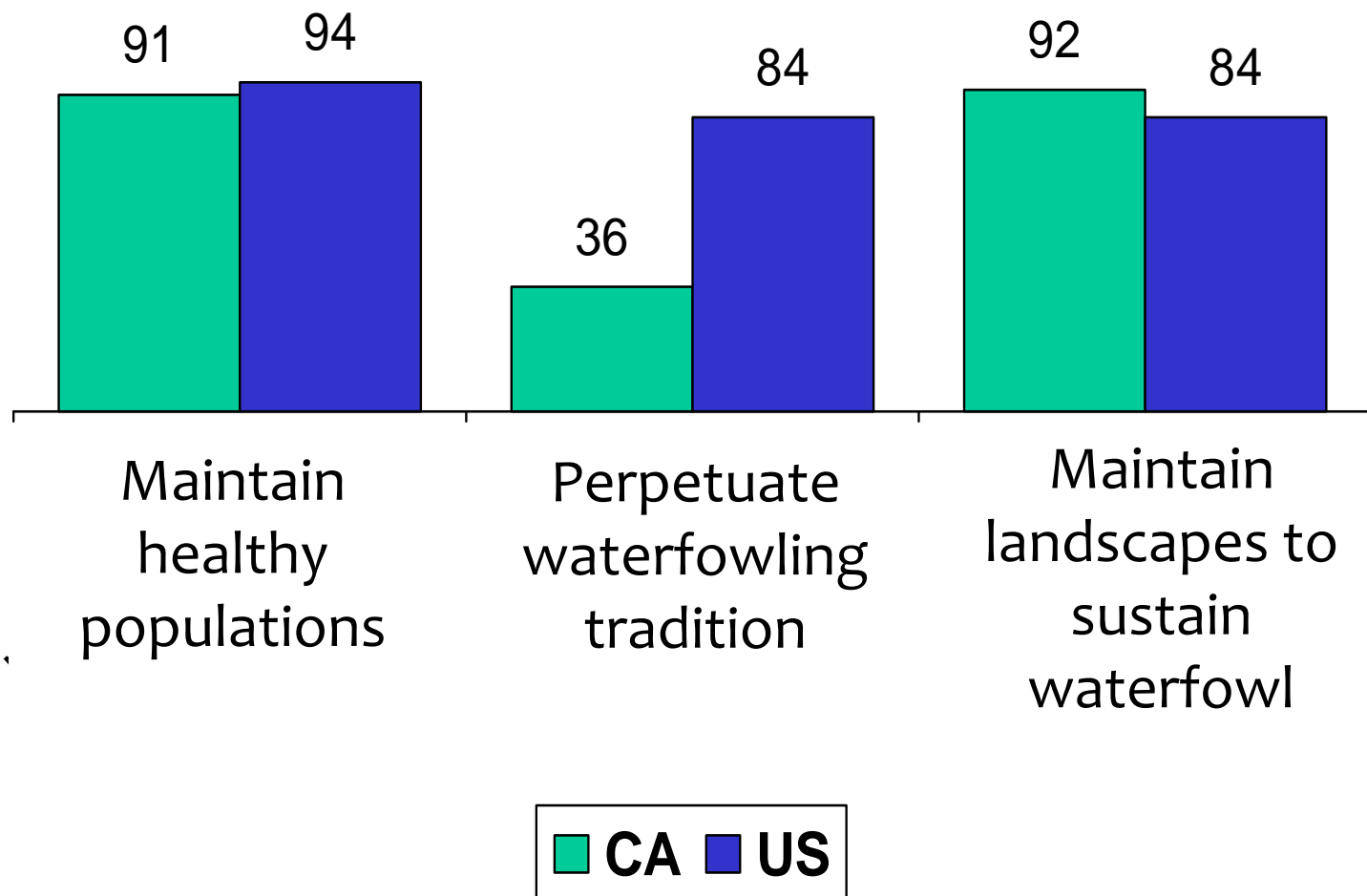
Edits and new objectives encouraged

Edits & additions examined during synthesis



Objectives of Waterfowl Mgmt

Percent of U.S. and Canadian Participants





New or Modified Objectives: Other Users

- Provide more public non-hunting opportunities
- Outreach to non-hunting community
- To provide waterfowl populations adequate to meet the requirements of the waterfowlers, aboriginal peoples and other users
 - Maintain the tradition, societal values, and economic benefits of hunting and other recreational uses of waterfowl
 - Increase support of non-consumptive users for waterfowl conservation
 - Increase non-hunter participation
 - Maximize non-hunting recreational opportunities
 - Maximize non-hunting recreational satisfaction



~14 million people in the U.S. traveled a mile or more from home to view waterfowl in 2006

Chart 8. Types of Birds Observed by Away-From-Home Birders: 2006



* shorebirds, herons, etc.

**pheasants, turkeys, etc.

“Seventy-seven percent reported observing waterfowl, making them the most watched type of bird”

Source: *Birding in the United States: a Demographic and Economic Analysis*



Some Statistics (U.S. only)

	Waterfowl hunters	Birders
Number	1,306,000	47,693,000
Expenditures	\$900 million	\$35.7 billion
Associated jobs	27,618	671,000

Source: *Birding in the United States: a Demographic and Economic Analysis*



Fundamental Objectives of the NAWMP

- Maintain healthy waterfowl populations in North America.
- Conserve landscapes capable of sustaining waterfowl populations.
- Perpetuate waterfowl hunting.
- Sustain opportunities for the public to view and enjoy waterfowl and waterfowl landscapes.



So, Where is The Revision Headed?

Clarification of the “vision” for
integrated waterfowl management...`



What's the Vision of a Revised NAWMP?

- Highlight the challenges of change and the imperative of adaptation for future success

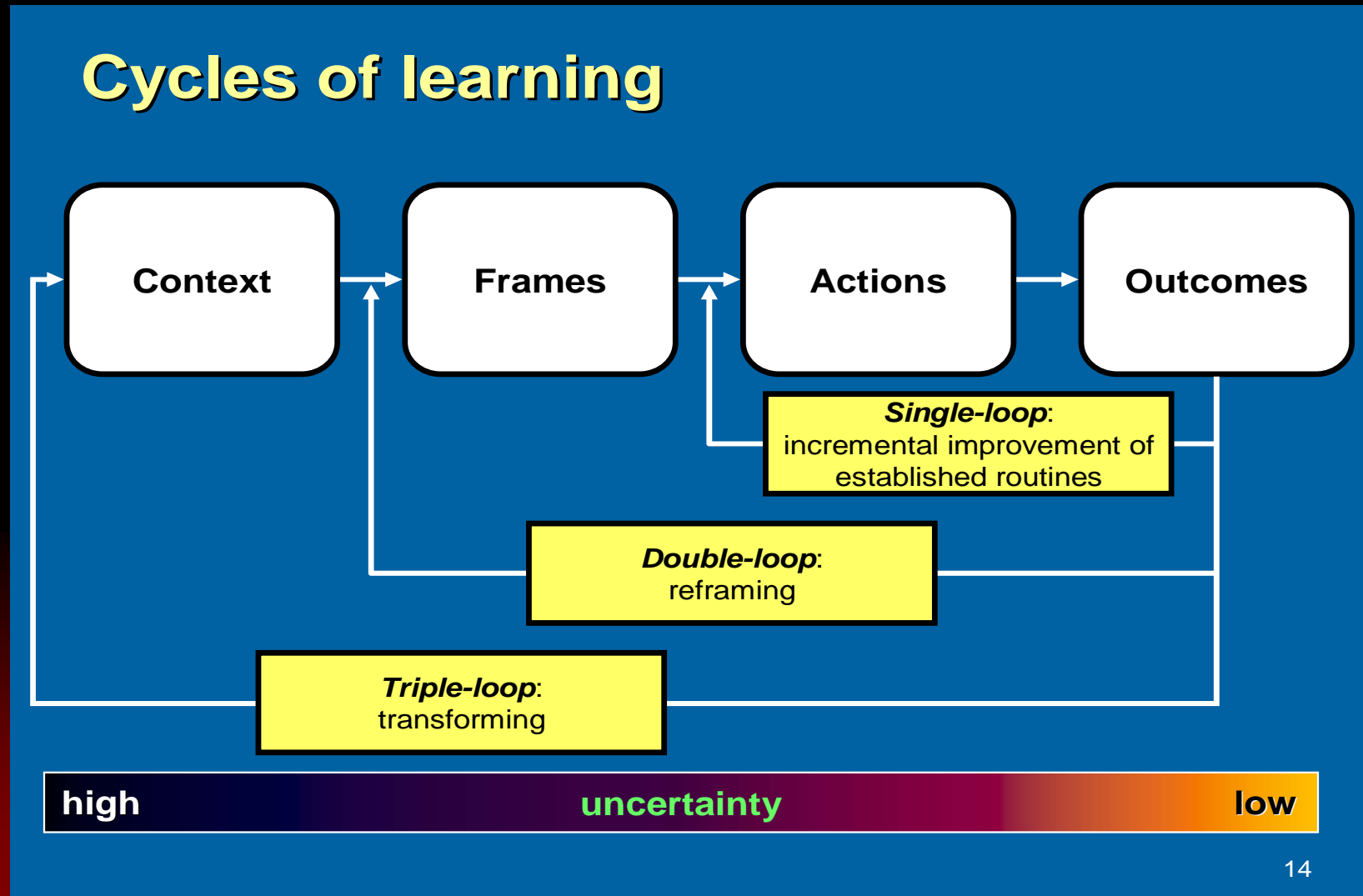


The Challenge of Change and Adaptation

- Changes emerging since the mid-1980s
 - Social change (hunters, urbanization, population diversity)
 - Ecological (loss/modification of habitats, shifting system dynamics)
 - Physical/Climate (climate primarily with associated impacts)
 - Technological (internet, communication)
- Need for resilience and adaptability
- Learning will be critical



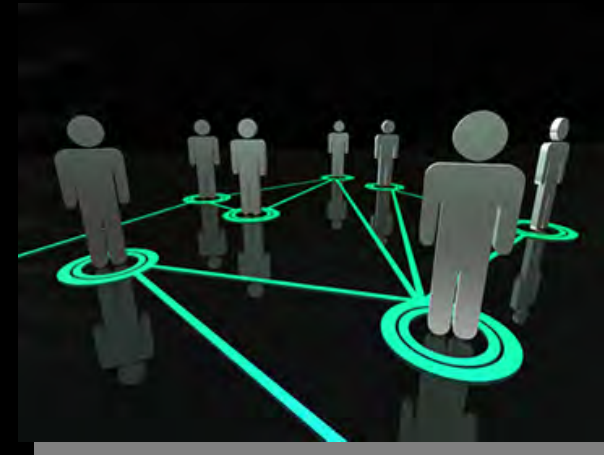
Fig. 1. Cycles of learning from Pahl-Wostl (2009). Time steps and scale of impact typically diminish from left to right.





Cycles of Learning

- Single-loop learning
Are we doing things right?
- Double-loop learning
Are we doing the right things?
- Triple-loop learning
Do we have the governance and institutions right?





Examples from waterfowl management

- Single loop: are we doing things right?
 - Passive adaptive harvest management – improving model-based predictions
 - LOTS of habitat management examples (e.g., planted cover or moist soil management options)



Examples from waterfowl management

- Double loop: are we doing the right things?
 - This program vs. that program? (e.g., PHJV Assessment)
 - Coherence between harvest and habitat management goals
 - Multi-stock management options



Examples from waterfowl management

- Triple loop: do we have the governance right?
 - Stakeholders – who are they? how will their interests be represented and served?
 - Relationship of waterfowl mgmt to broader conservation enterprise
 - Adequacy and effectiveness of waterfowl programs & institutions



What's the Vision of a Revised NAWMP?

- Highlight the challenges of change and the imperative of adaptation for future success
- Waterfowl Management must be:
Relevant – Effective – Efficient –
Adaptable



What's the Vision of a Revised NAWMP?

- Highlight the challenges of change and the imperative of adaptation for future success
- Waterfowl Management must be:
Relevant – Effective – Efficient –
Adaptable
- Strengthened consensus on future directions for waterfowl management



What's the Vision of a Revised NAWMP?

An integrated approach that considers habitat, populations, and human desires in objective setting, decision-making and resource allocation

A better focus on the things that matter most to the efficient achievement of renewed NAWMP goals



What's the Vision of a Revised NAWMP?

Set in motion changes that will establish an integrated system of waterfowl conservation featuring:

- Explicit and coherent objectives to guide habitat, harvest and human-dimension programs
- Means for coordinated actions to realize those objectives.



Five Critical Elements

1. A set of widely supported objectives
2. A working conceptual framework that allows managers to balance tradeoffs among objectives
3. Goals that are linked and coherent across scales
4. Managers using linked decision frameworks to efficiently allocate resources to achieve those objectives
5. Institutional and cultural support to enable such integrated management actions



Integration of waterfowl management also will require...

- Hard thinking about means objectives and system drivers
- Dealing with current uncertainties (e.g., causal relationships); obtaining new information in the long term to address them
- A willingness to adapt and change as new information comes to light
- A high degree of explicitness and transparency
- Time to work through these issues



What is Achievable in the Near Term?

- NAWMP has always been a high-level strategic guidance document... that won't change
- Other institutions have important roles to play in the evolution of waterfowl management
- Many important details remain to be worked out – an “Action Plan”
- As in 1986, how far and how fast we go will depend upon our collective will



Moving Forward

Within the 2012 Revision:

- Achieve broad consensus on goals and objectives of waterfowl conservation
- Articulate, at a conceptual level, the desired future state of waterfowl management as an integrated enterprise
- Develop momentum needed to establish and fully implement such a framework (Action Plan)
- Identify key functional linkages among objectives and commit to testing these through adaptive management or directed research



Moving Forward

Immediately following the 2012 Revision:

Within the next 2 years...

- ***Establish quantifiable objectives*** for population and habitat conservation, harvest opportunity, and user participation... with acknowledged tradeoffs among them
- ***Implement a general integrated framework*** for making linked harvest, habitat, and user management decisions
- ***Implement monitoring and evaluation programs*** to track progress toward objectives and reduce uncertainties about key functional linkages among goals



Moving Forward

Every 5 years thereafter, review and assess...

- Progress towards objectives
- External factors affecting NAWMP outcomes
- Progress in understanding functional linkages among objectives
- Commitments to monitoring and assessment
- Institutional processes for integration, and their effectiveness, efficiency, and responsiveness to change

At about 10-year intervals, review appropriateness of objectives themselves, governance structures, etc.



Moving Forward

Relevant – Effective – Efficient – Adaptable



Goals of this workshop

- ✓ Summarize Round 1 workshop results & provide update on the NAWMP Plan Revision process
 - Clarify the “fundamental” objectives and associated measurable attributes
 - Seek input on values associated with the “fundamental” objectives



Goals of this workshop

- Discuss how best to formulate new objectives in the Plan Revision
- Initiate discussion of institutions and processes that will facilitate integrated waterfowl management
- To provide any other feedback to the NAWMP Plan Committee as they move forward with the Revision.



Why do these things?

Clarity is important!

- What do we want to accomplish?

Why do we value objectives?

- For their own sake, or because they help accomplish another objective?

Numerical objectives have been at the heart of NAWMP.

- How should these be established, and why?

Limited resources for monitoring.

- What are the most meaningful, measurable attributes?

Our institutions and processes must foster coherence for greater efficiency and to enable adaptation.

- Are we ready?



Questions?



Clarifying “Fundamental” Objectives





Clarifying the Fundamental Objectives

What do we really mean by...

Maintain healthy waterfowl populations
in North America

- What's "healthy"? Just numbers? Some demographic rate?
- Do distributions matter?
- What do we consider "in harmony" with their ecosystems?



Clarifying the Fundamental Objectives

What do we really mean by...

Conserve landscapes capable of
sustaining waterfowl populations

- What is meant by “conserve”?
- What is meant by “sustaining”?
- What does this imply about “net change”?
- What constitutes “landscapes”?



Clarifying the Fundamental Objectives

What do we really mean by...

Perpetuate waterfowl hunting

- At what level?
- Hunter numbers? Success? Days afield? Satisfaction?
- What type of hunter (multiple motivations)?



Clarifying the Fundamental Objectives

What do we really mean by...

Sustain opportunities for the public to view and enjoy waterfowl and waterfowl landscapes

- At what level?
- Viewer numbers? Success? Days afield? Satisfaction?
- Target a certain demographic?
- Or is it \$\$ or influence in affecting conservation policy?



Valuing the Objectives





Valuing “Fundamental” Objectives

- How important are each of the objectives?
- Should they all be “valued” the same?
- Base responses on personal beliefs about the waterfowl management enterprise as it exists today.



Valuing Objectives

Healthy
Populations

Conserve
Landscapes

Waterfowl
Hunting

Viewing &
Enjoyment



Valuing Objectives

Healthy Populations

25

Conserve Landscapes

25

How important is each objective?
Allocate 100 points of “value”
among the four objectives

Waterfowl Hunting

25

Viewing & Enjoyment

25



Valuing Objectives

Healthy Populations

30

Conserve Landscapes

40

How important is each objective?
Allocate 100 points of “value”
among the four objectives

Waterfowl Hunting

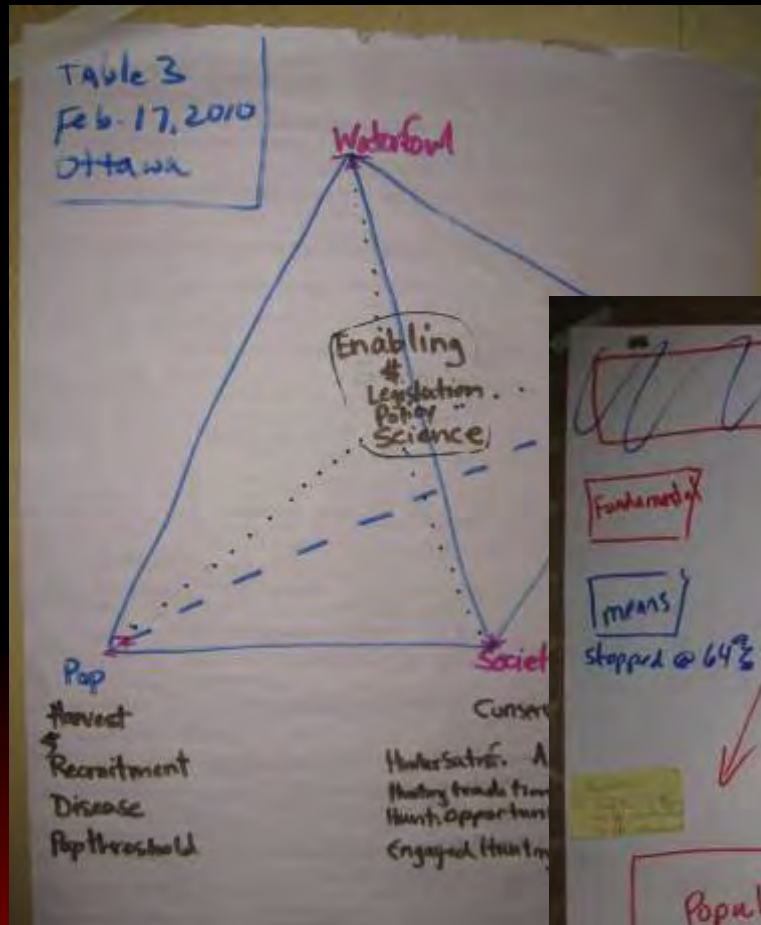
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Viewing & Enjoyment

10



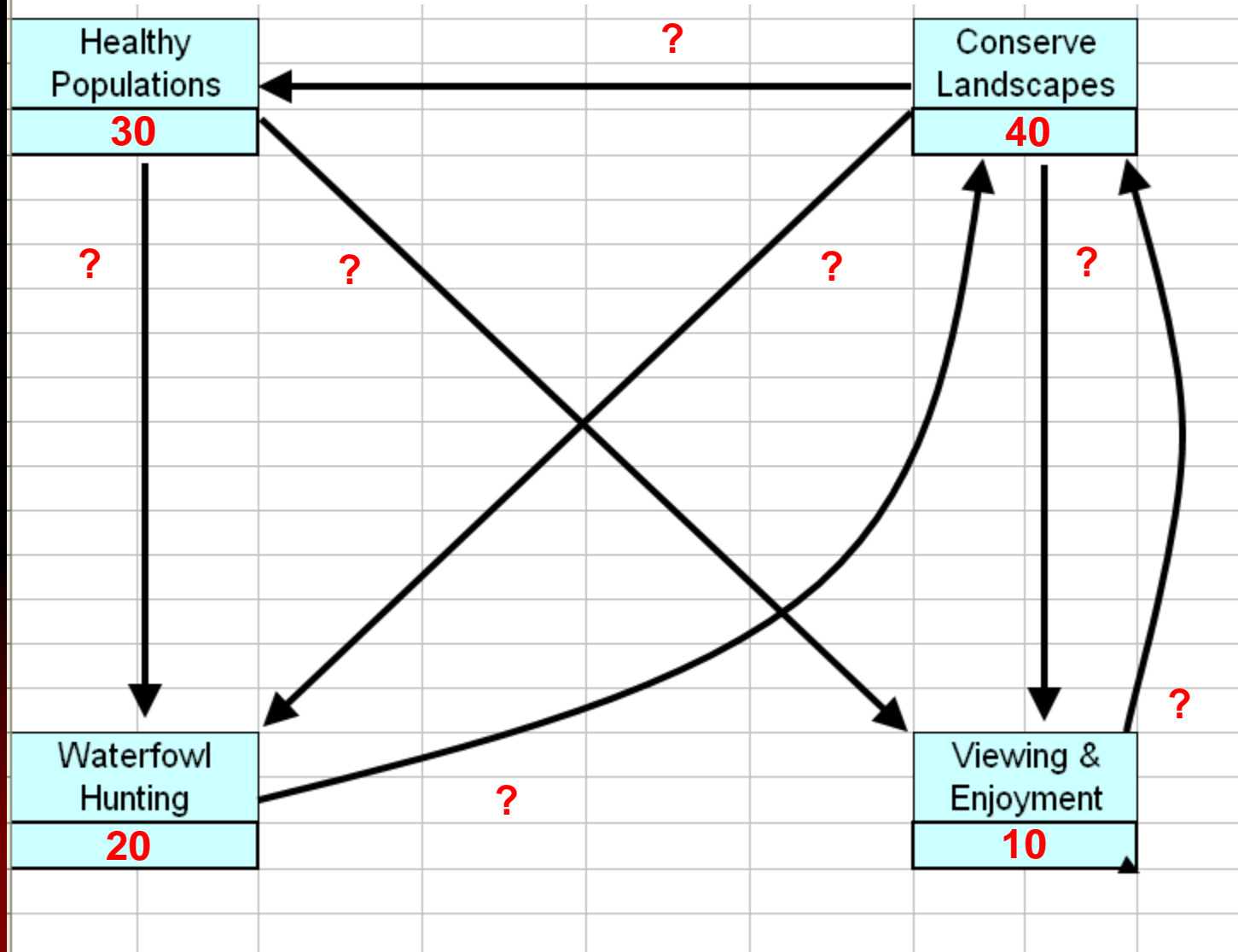
How significant are the linkages among objectives?





Valuing Objectives

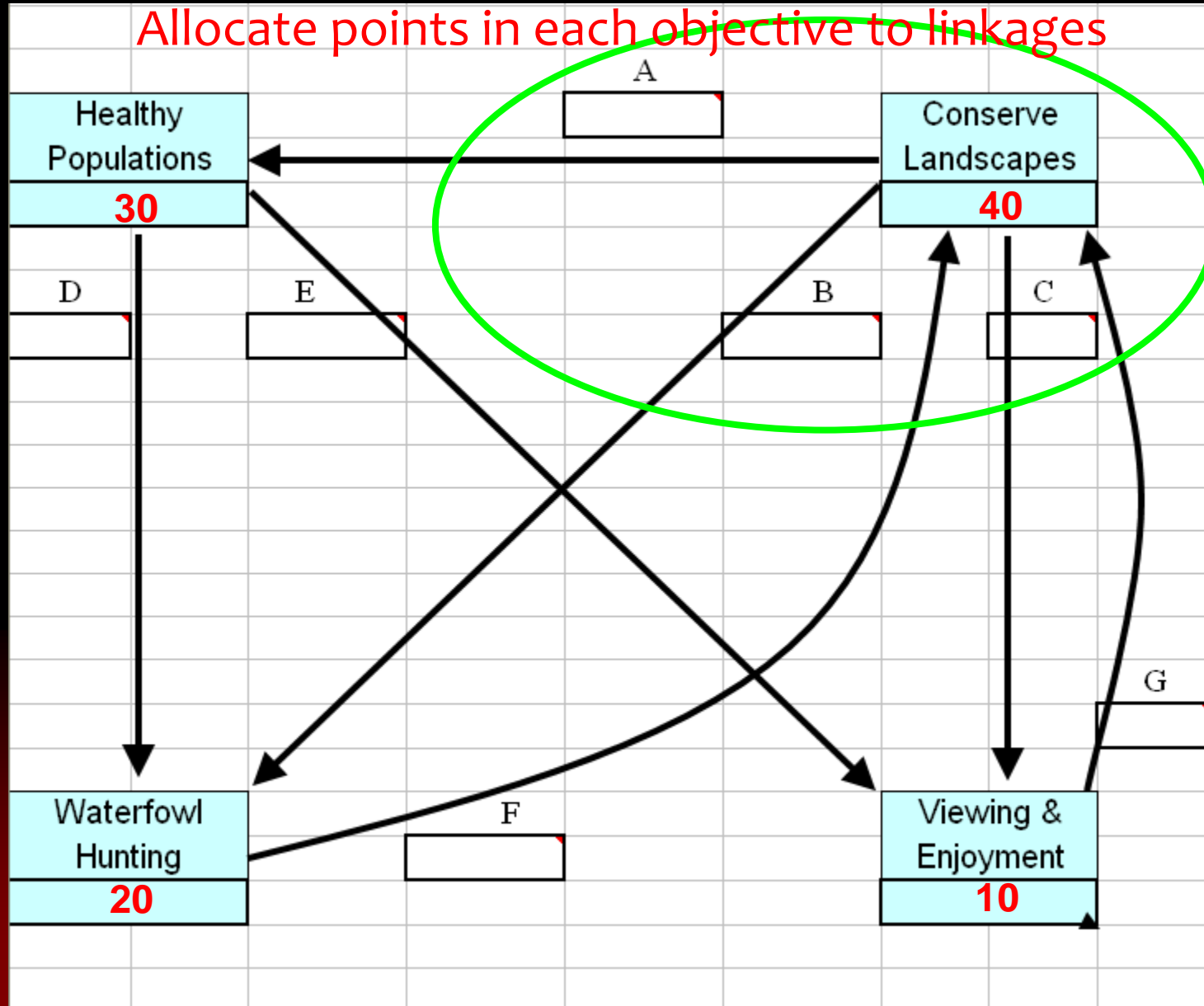
Assume the arrows represent key linkages.
How much value do you assign to these?





Valuing Objectives

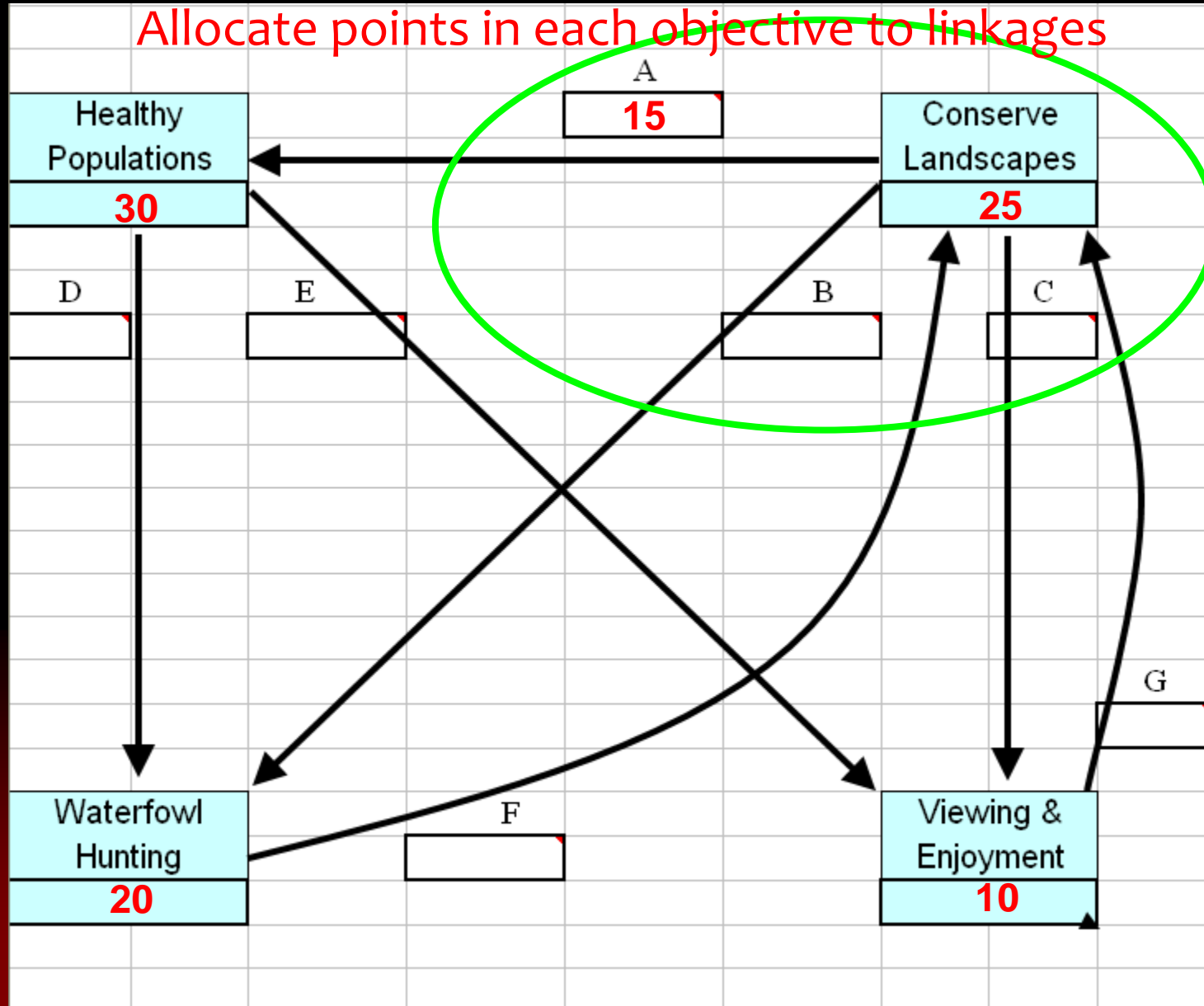
Allocate points in each objective to linkages





Valuing Objectives

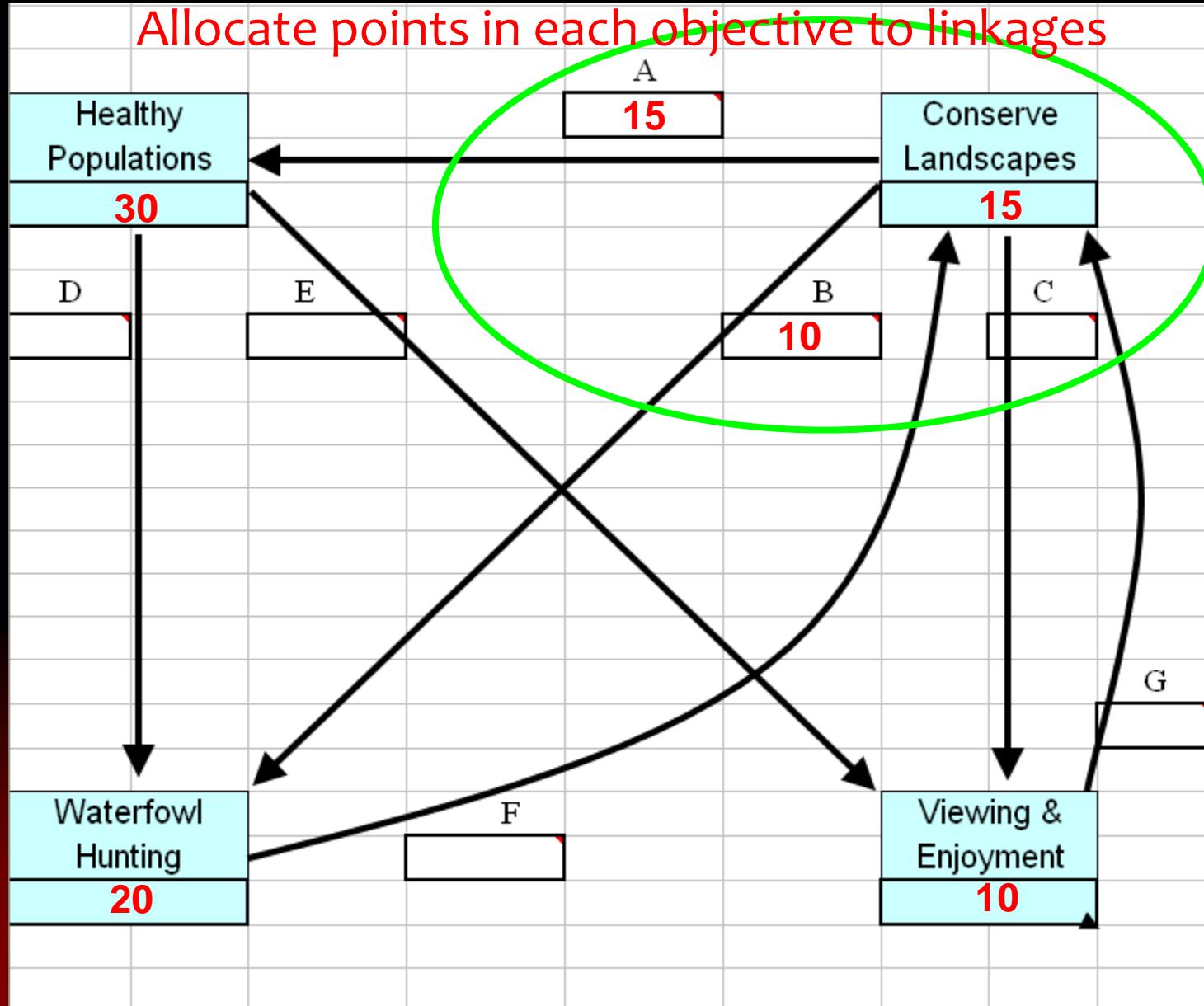
Allocate points in each objective to linkages





Valuing Objectives

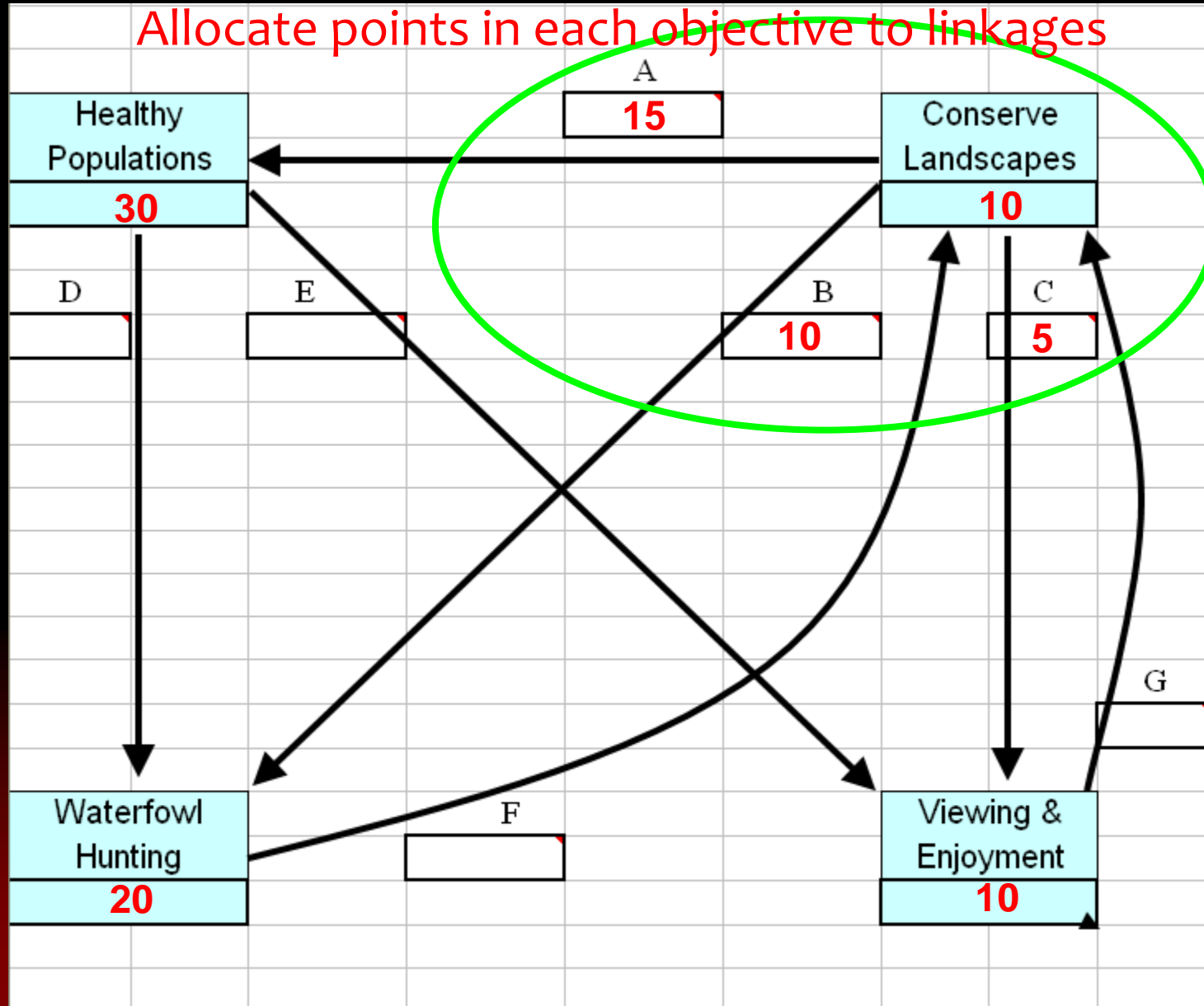
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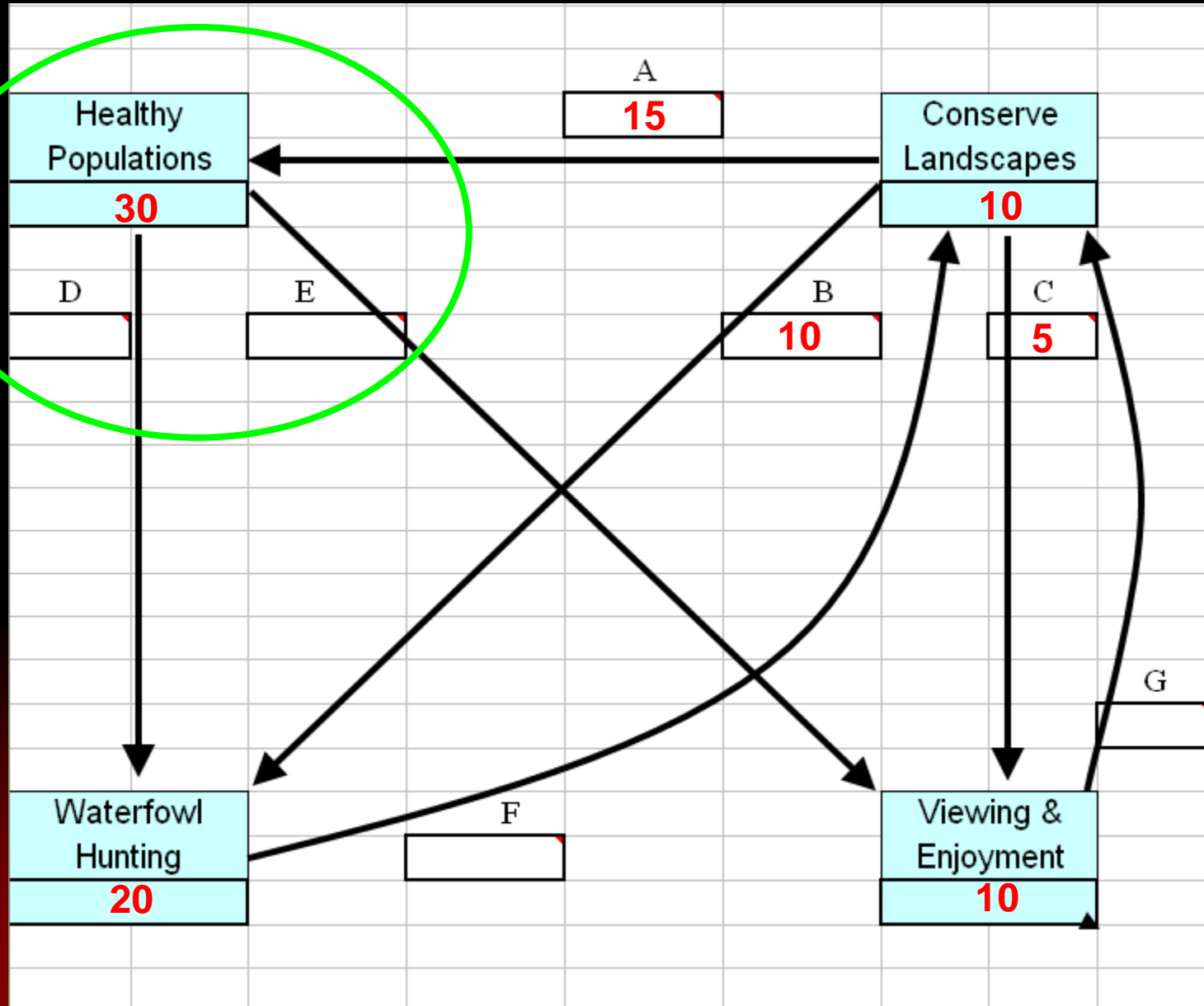
Valuing Objectives

Allocate points in each objective to linkages



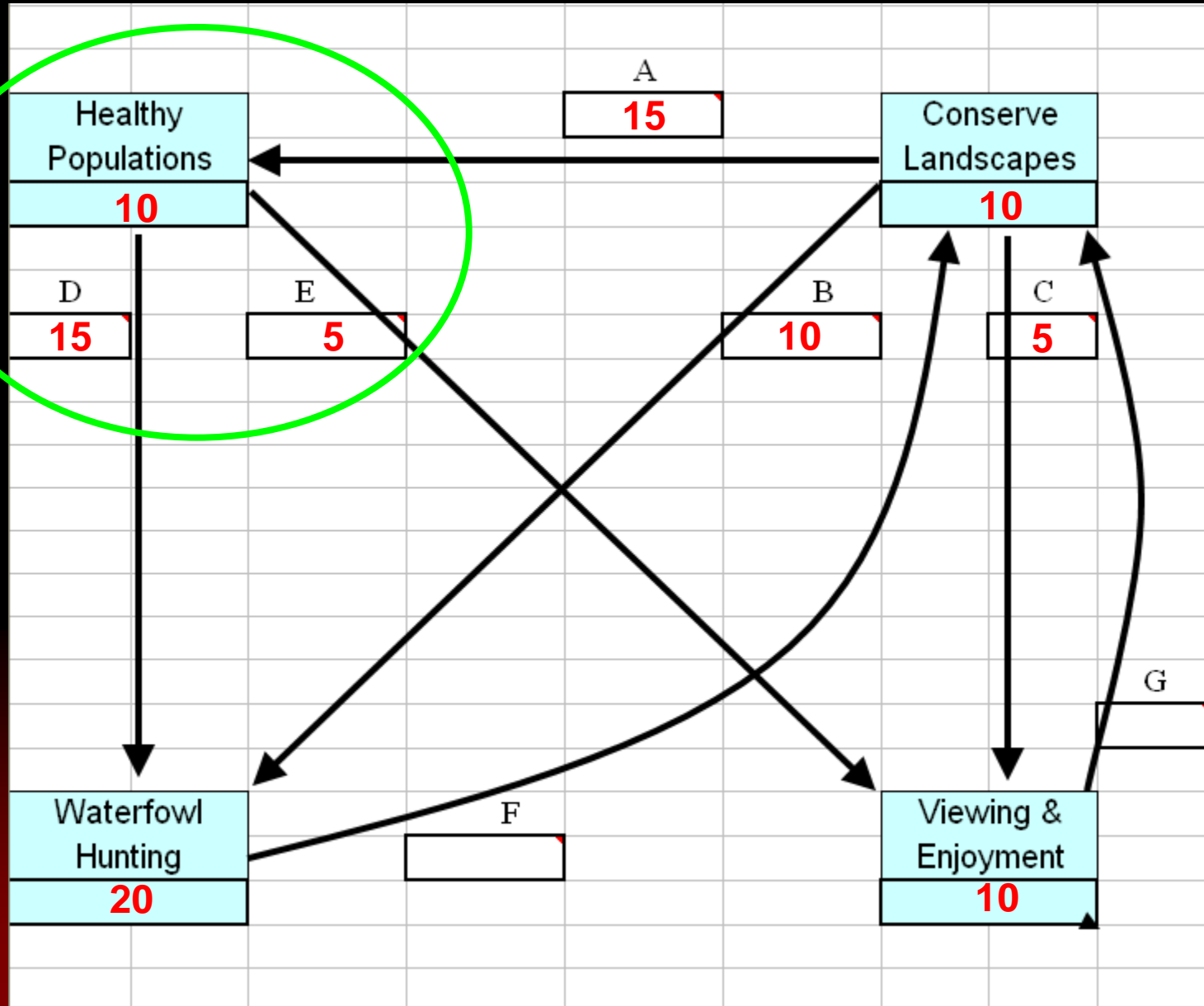


Valuing Objectives



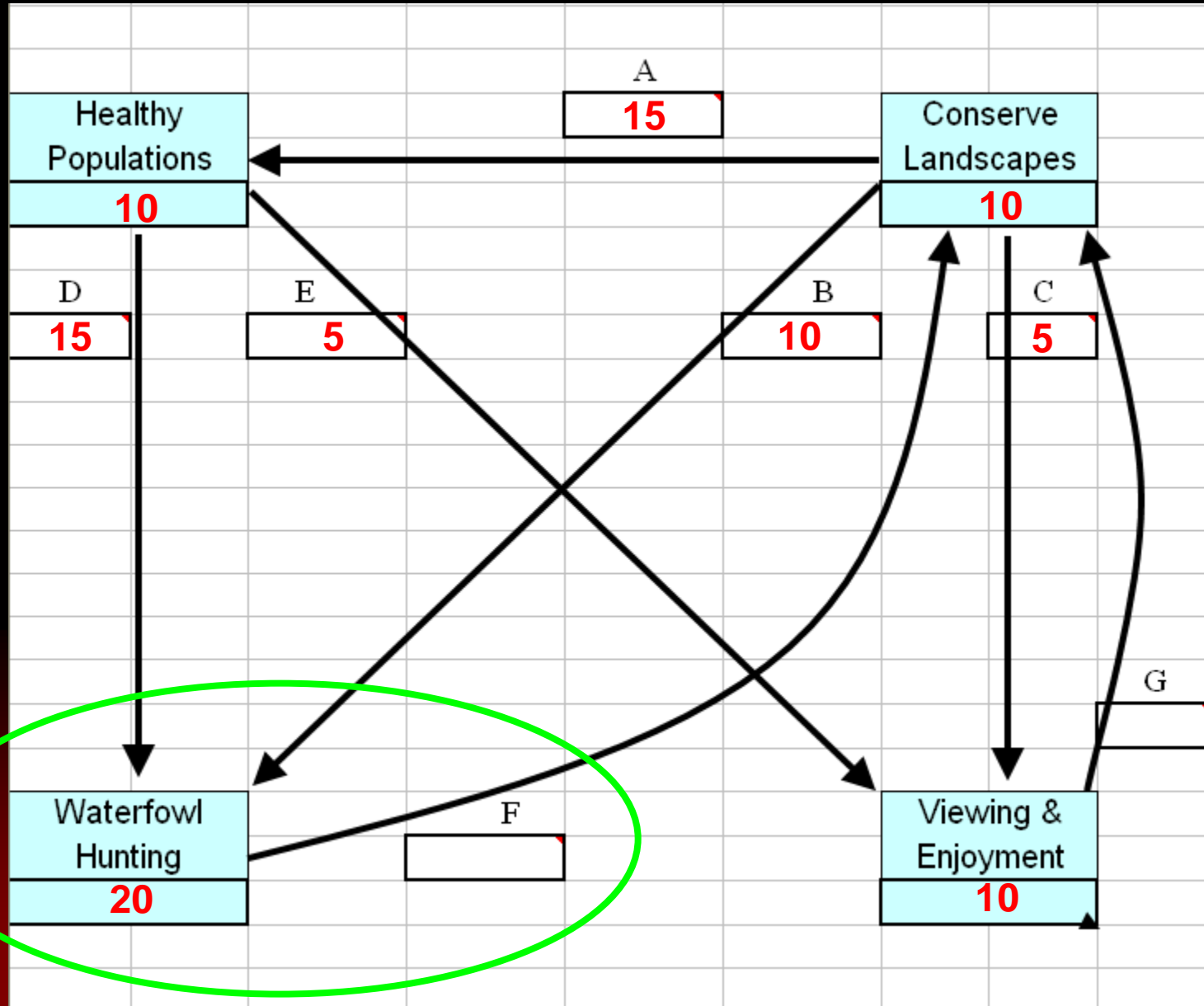


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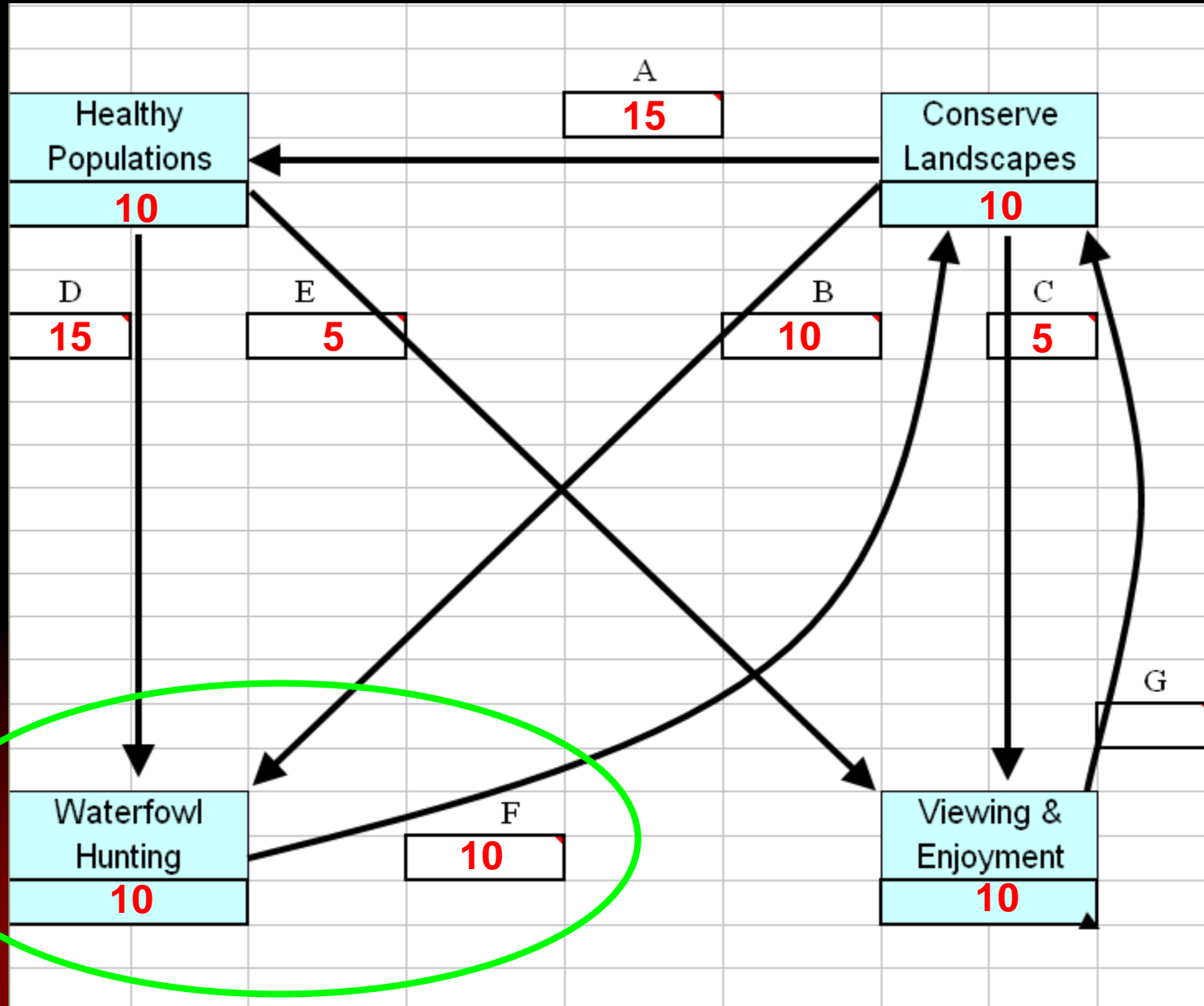


Valuing Objectives



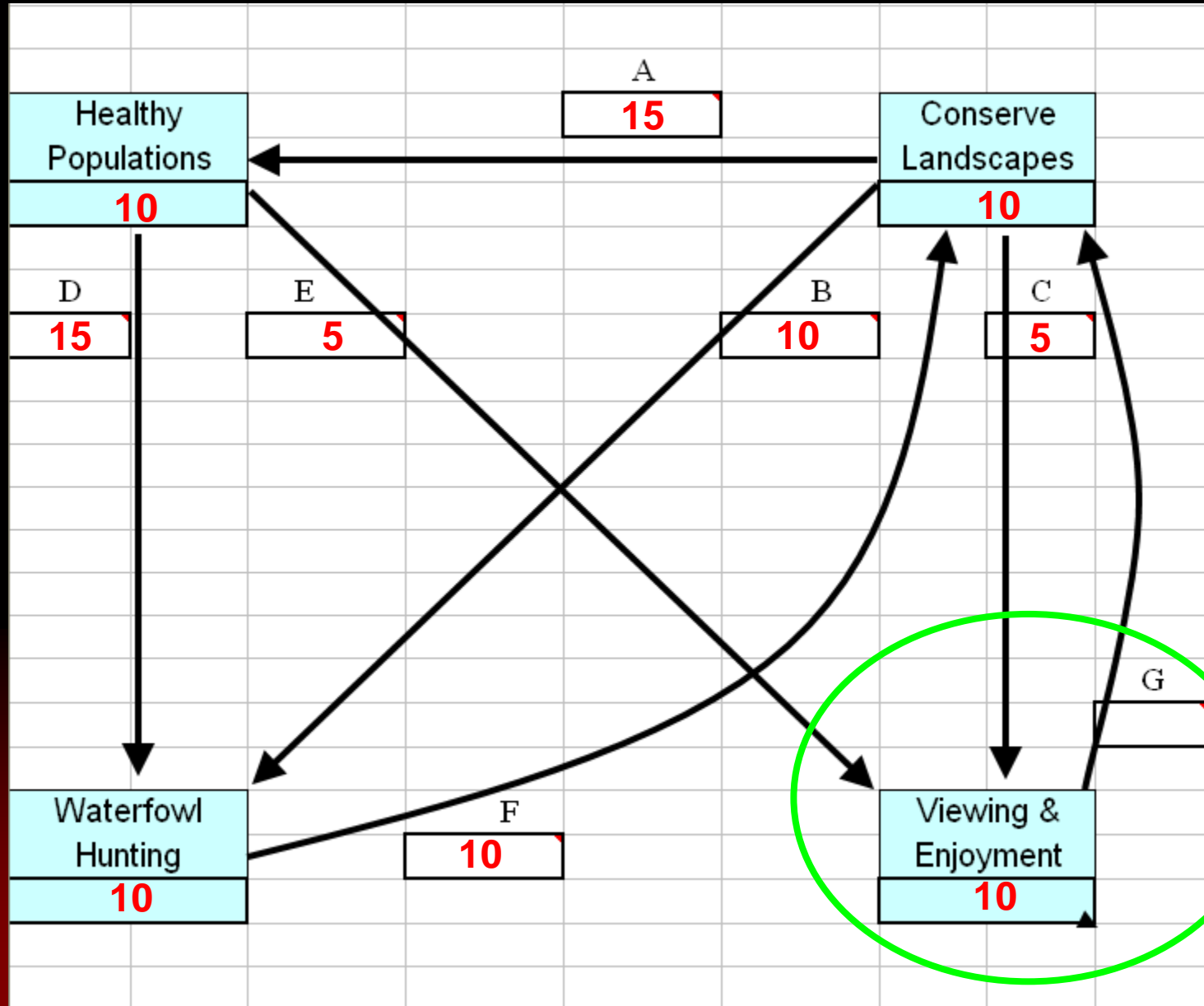


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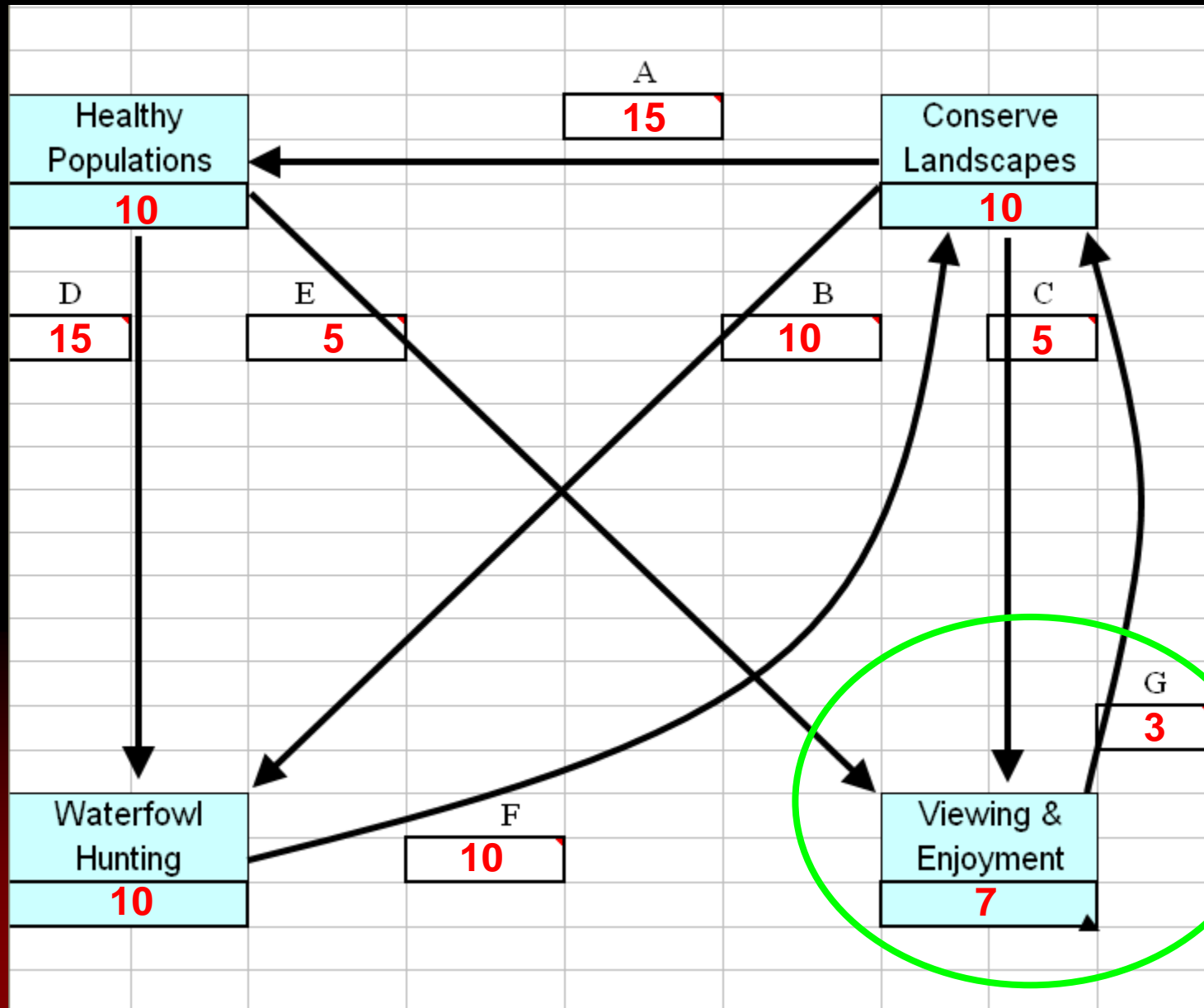


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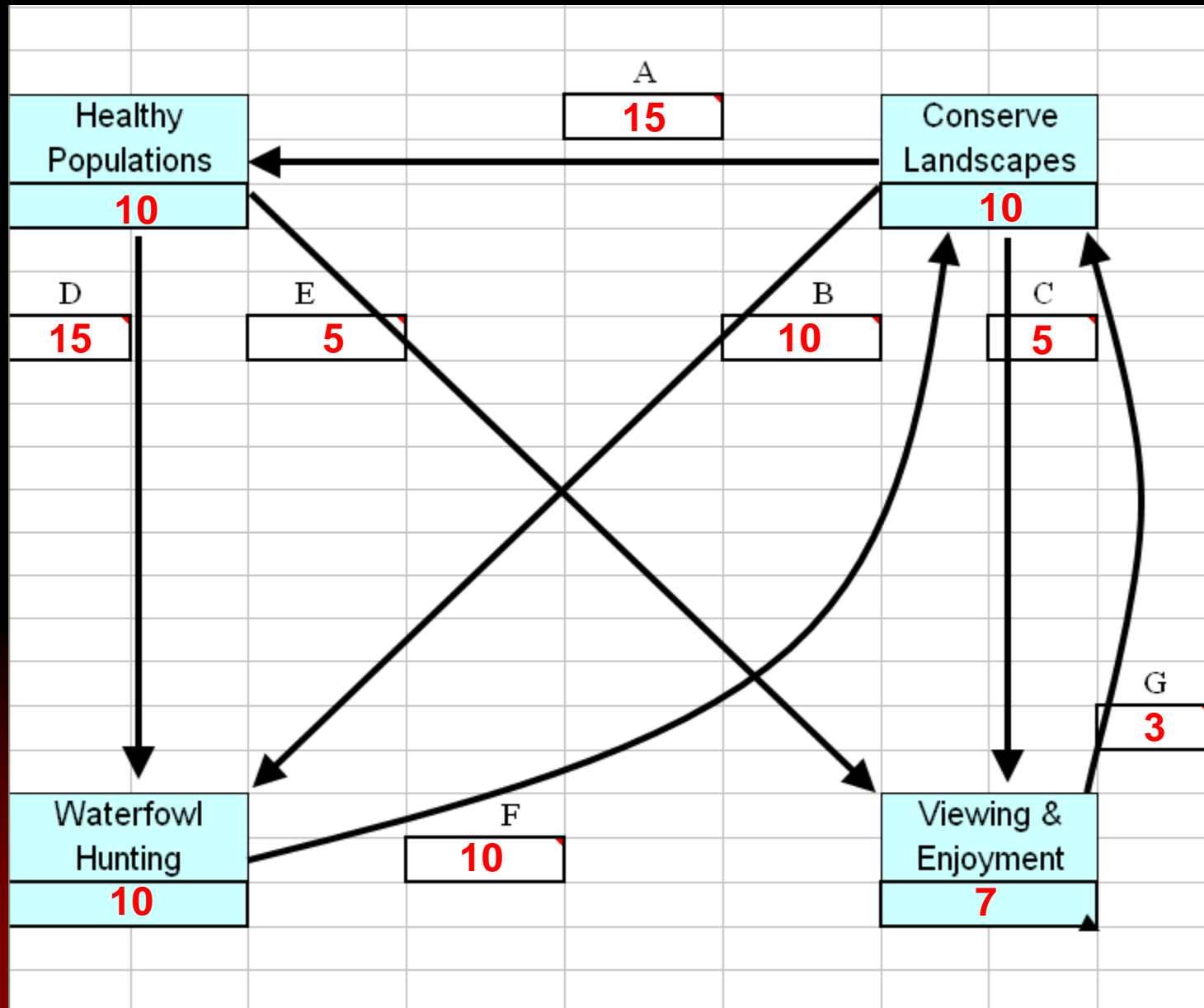


Valuing Objectives





Valuing Objectives





Please begin the exercise...

Ask questions if you are
confused!