

**Great Lakes Northern Forest  
Cooperative Ecosystem Studies Unit**

**Draft:  
3 – 5 Year Strategic Plan**



**CESU Workshop Report  
March 11-12, 2003  
Bloomington, Minnesota**



## Great Lakes Northern Forest Cooperative Ecosystem Studies Unit

# Strategic Plan

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## The Plan Overview

### The CESU Background

The Great Lakes Northern Forest Cooperative Ecosystem Studies Unit (GLNF CESU) will implement the objectives of the national Cooperative Ecosystem Studies Unit initiative within the region surrounding the Great Lakes.

- Provide research, technical assistance and education to federal land management, environment and research agencies and their potential partners
- Develop a program of research, technical assistance and education, that involves the biological, physical, social, and cultural sciences needed to address resources issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional, and national level
- Place special emphasis on the working collaboration among federal agencies and universities and their related partner institutions

The first CESU workshop was held March 11-12, 2003 in Bloomington, Minnesota to develop a strategic plan for identifying, conducting and supporting the CESU programs. This is a report of the partners' discussions and decisions about the priority goals and directions of the Great Lakes Northern Forest CESU in the next 3-5 years.

### The Planning Process

#### **CESU Assessment:**

**January-March, 2003**

Through pre-workshop worksheets, CESU participants assessed the current status and potential strategies for cooperative ecosystem studies in the Great Lakes Northern Forest region. The compiled results were used as a springboard for developing the strategic directions and road map at the planning workshops. The assessment results are compiled in two separate documents – The Pre-Workshop Input: Building a Working Partnership (March 21, 2003) and the Working Inventory: Cooperative Research, Technical Assistance and Education Projects and Accomplishment (March 21, 2003). A summary of the key findings and ideas is included in this report.

#### **CESU Workshop:**

**November 19-20, 2001**

The planning workshop brought together the Host University and representatives from federal agencies, universities, and non-federal organizations (See Appendix A for a participant list). The objective of the workshop was to discuss and agree on directions for operating the CESU. The outcomes included the following:

- ❑ Mission: Specific purpose and role for research, technical assistance and education
- ❑ Status: The major foundations we need to build on and horizons to address in ecosystem study
- ❑ Requirements: Specific benefits and contributions of CESU partners
- ❑ Plan: 3-5 year goals and 1-2 year action strategies for operating the CESU

#### **CESU Launch**

**April 2003 – March 2004**

The CESU host university, The University of Minnesota will facilitate the implementation of the strategic plan by all partners through its executive committee, Managers Committee and numerous adhoc work groups. Future workshops will be held periodically to review and redirect initiatives and address specific internal and external issues and projects.



## Plan Summary

### Partner Expectations

Details pp. 5-6

- A. Get to know the CESU partners and possibilities
- B. Understand and meet the needs of partners
- C. Link research with education and outreach
- D. Develop needed collaboration in research, technical assistance and education
- E. Promote science-based ecosystem practices and decision-making
- F. Attend to regional scale ecosystem monitoring and study
- D. Address the critical link between natural and human systems

### Status and Strategies – advantages, challenges, needs, opportunities

Details pp. 7-8

### General Observations on the partnership

Details p. 9

- A. We are a truly diverse region
- B. It will be difficult to identify the strategic focus for projects
- C. Partnership coordination and expansion will be challenging

### Key Foundations – Strengths or advantages

Details p. 10

- A. Abundance of existing ecosystem study, information, activities and groups
- B. Many live partnerships, linking between needs and expertise
- C. We benefit from an established CESU track record and concept
- D. Many partners share a strong desire for large-scale study and getting out of silos!

### Key Horizons – Gaps and edges

Details pp. 11-12

- A. Scoping the collective focus and field of play
- B. Working closely across traditional boundaries and territories (boxes)
- C. Involving essential players at all levels
- D. Making it work within an environment of increasing needs and diminishing resources
- E. Sustaining cooperative impact, capacity and momentum

### Participant Conclusions about planning and partnership progress

Details pp. 13-15

- A. There is great commonality amidst incredible diversity of partners
- B. The interaction has been extremely collegial and productive
- C. We see to want to fulfill agency needs *and* tackle large-scale regional issues
- D. Potential for many informal linkages, joint ventures and effective outreach
- E. We will succeed if we are communicative and creative in overcoming our challenges
- F. Integrate social dimensions and human diversity in our projects and partnership

### Expected Partner Benefits and Contributions

Details pp. 16-19

### Mission Components

Details pp. 20-21

- A. Catalyze, build and enhance regional collaboration
- B. Improve interdisciplinary science based decision-making
- C. Address the sustainability needs of the unique regional ecosystem
- D. Integrate human impacts and involvement in ecosystem study and stewardship



## Plan Summary

Continued

<b>3-5 Year Priority Strategies</b>	Details pp. 22-29
<b>A. Set-up CESU Operations</b> Get the CESU coordination, communication, decision-making, funding, and project management and other support infrastructure up and running.	Work plan p. 30
<b>B. Interactive Information Sharing and Management</b> Develop a web-based system for gathering, synthesizing and distributing information to partners to support their operations and inform decisions:	Work plan p. 31
<b>C. Expand and Involve Relevant Stakeholders and Partners</b> Identify, invite and involve all organizations that represent the diversity of the region and are important stakeholders in achieving the CESU mission.	Work plan p. 32
<b>D. Strategic Planning and Implementation of CESU Projects</b> Plan and implement short and long term plan for taking on research, technical assistance and education projects that best meet the needs of partners and address the pressing sustainability issues of the region	Work plan pp. 33-34
<b>E. Increased Internal and External Awareness</b> Increase internal and external awareness of the GLNF CESU	Work plan p. 35
<b>F. Citizen, Student and Agency Staff Outreach and Education</b> The CESU will encourage student training, outreach, education and professional development	Work plan p. 36
<b>Next Steps</b>	Details p. 37
Urgent: Initiate in March	
1. Consensus Plan	
2. Partner Acknowledgements	
3. Talking Points	
Soon: Initiate in April	
4. Base Funding	
5. Coordination Structure	
6. Communication Mechanism	
7. Strategic Work Teams	
Later: Initiate in 2003	
8. Do the Plan	
9. Regular Monitoring	



## The Situation Assessment Participant Expectations

At the start of the workshop, partners shared the following expectations for the CESU planning or operations

### **At the Start: *What are expectations for the workshop?***

#### **A. Get to know the CESU partners and possibilities**

- Anxious to learn more about CESU and connect with partners
- With a background in water resources, I am interested in the relationship between the co-op units housed in our department and the CESU
- I work in the ecology group across-college groups with diverse and broad interests. I hope to learn more about CESU

#### **B. Understand and meet the needs of partners**

- We are interested in best serving the needs of particular land managers and build a regional strategy to integrate our systems across the CESU
- Living by the "other" Great Lake, I'm interested in the interdisciplinary focus and how to get regional scale interaction with federal partners
- Interested in finding out federal agency needs
- NASA has a large, 6400-acre facility in Sandusky. We are looking for partners in a species management plan
- I'm interested in how our Sandusky facility fits in with the CESU
- As the NPS representative with its Inventory & Monitoring, I hope to see CESU support ecosystem monitoring projects
- I bring a park management view, and hope we address some of the huge stressors such as exotics and human dimensions/social interactions

#### **C. Link research with education and outreach**

- As a part of a museum that brings in the millions of people I am eager to tap into linkage the group offers in education and research
- I work primarily in a teaching institution and want to make links with agency partners and other research institutions
- Interested in improving educational opportunities at the Science museum through CESU work

#### **D. Develop needed collaboration in research, technical assistance and education**

- Link the CESU with the Sea Grant program network
- In the NRRI Center for Water and Environment, we work within a model of cooperation and coordination and are strong supporters of the CESU concept
- The IAGLR s related to a group of 1000 scientists publishes a quarterly journal to promote Great Lakes research and sponsors an annual conference. I want to see how those avenues can support CESU research, etc.
- We completed a CESU project recently and are very interested in the evolution of this project
- This is a unique, diverse partnership and I want to link my partners with the CESU's research opportunities, especially community forestry. The CESU can also link with an existing global partnership
- Want to integrate what other partners are working on regarding aquatic research



## The Situation Assessment Participant Expectations Continued

**At the Start:** *What are expectations for the workshop?*

### **E. Promote science-based ecosystem practices and decision-making**

- Our goal to improve science in parks, etc. and this is a mechanism to do so. We are now advertising a position related to CESU activities
- I'm interested and active in environment modeling, ecosystem/environment health and Great Lakes research
- Raise awareness that the BLM is active in the Eastern US in the minerals management program and land partnership projects. We want to supplement what we have with what CESU has to support good science, acquire more land and address management issues in the eastern market
- I work in a research organization with over 50 scientists and interested in efforts to coordinate research and get in on the ground
- I have been part of a tradition of collaboration in resource matters. I want to see us provide land management studies and hope partnership capacity will fuel sustainable forestry and timber projects
- Hopefully the CESU will work on solid regional measurements and modeling

### **F. Attend to regional scale ecosystem monitoring and study**

- Work together on landscape level issue and get the resources to make it happen
- I'm interested in all problems related to the lakes basin and work with any related efforts including NEOH, SEMI and the Lake Erie Center
- Interested in study of the waters of Lake Superior
- I hope the CESU will enable information-sharing, communication and play an advocacy role. The Great Lakes Commission has been active with a water resources projects at the Isle Royale National Park. I want to learn more about the CESU and how to receive grants. We also are a grant making organization for projects related to soil erosion programs, the Clean Air Act, etc.
- I work with private lands, Indian lands, etc. and a research interest is to promote sustainability across ownership's - forestry and forest protection in all areas of the state. In a regional context, interested in global climate change and transcend state boundaries to address regional needs

### **D. Address the critical link between natural and human systems**

- It is important that human dimensions are represented, as host, the university wants to make CESU successful and make a difference in the region
- Interested in promoting American Indian perspectives in research and providing undergraduate opportunities for research projects for students in our 2 year institution
- Have a primary interest in the human dimensions area and generally want to be best CESU!
- With a specialization in cultural resources, I am looking for a way to fit in human fabric into process of the CESU
- I work in Recreation Resources Management, in wilderness areas and interested in supporting development and issues of rural development



## The Situation Assessment

### Pre-Workshop Input on Ideas about Status and Strategies

Over 30 CESU partners submitted pre-workshop input regarding the status and strategies of the CESU. The input served as a springboard for strategic planning discussion and decisions. The input was compiled in two separate documents, which were distributed to participants prior to the workshop and are available at the CESU office at the University of Minnesota (The Pre-Workshop Input: Building a Working Partnership [revised March 21, 2003] and the Working Inventory: Cooperative Research, Technical Assistance and Education Projects and Accomplishment [revised March 21, 2003]). The following is a summary of key themes in the pre-workshop input. The numbers in parentheses indicate the number of partners who included comments related to the theme.

#### **In the area of cooperative ecosystem study in the region surrounding the Great Lakes....**

##### **.....what are major ADVANTAGES?**

A. Expertise in multiple disciplines	8 comments
B. Network of research centers/stations strategically connected to the landscape	6 comments
C. Existing state, local, federal partnerships addressing needs on the land	14 comments
D. Region has a unique eco-scape	6 comments
E. Student participation	4 comments
F. Partnership synergy to do things that cannot be done solo	12 comments
G. Ability to bring attention, perspective and action on regional-scale issues	4 comments
H. Existing education networks	12 comments
I. Partners are already practicing sustainability leadership	3 comments
J. Connection to real-world problem solving	2 comments
K. Uncovering and using cooperative funding options and advantages	3 comments

##### **...what are key CHALLENGES?**

A. Compatibility with partner organization goals, needs and priorities	7 comments
B. Lack of standardization in information, language and organizational cultures	6 comments
C. Addressing interdisciplinary tensions	2 comments
D. Staying focused on regional cooperative sustainability projects	3 comments
E. Creating continuity of ecosystem study leadership across generations	2 comments
F. Communicating university expertise to agencies	7 comments
G. Unclear expectations of roles	4 comments
H. Missing roles, relationships and partners	4 comments
I. Overcoming distance and complexity of many players	5 comments
J. Administrative lags and hurdles	8 comments
K. Overcoming competitive funding realities	4 comments
L. Adequate funding and staff support	17 comments
M. Funders determine project priorities	2 comments
N. Time and money for projects	3 comments
O. Accessing funds for new targets	2 comments
P. Research facility limitations	2 comments
Q. Data ownership	2 comments
R. Turf Issues	2 comments



## The Situation Assessment Pre-Workshop Input on Ideas about Status and Strategies

Continued

### In the area of cooperative ecosystem study in the region surrounding the Great Lakes....

#### ...what are critical NEEDS?

##### *Pressure point issues to address:*

A. Focus on the full system of interacting issues	5 comments
B. Landscape level study	7 comments
C. Great Lakes aquatic/terrestrial systems study	6 comments
D. Use, protection and management of forested landscapes	10 comments
E. Watershed management	3 comments
F. Economic, social and cultural impacts and integration	17 comments
G. Impacts of diseases and exotic/invasive species	15 comments
H. Park ecosystem management	9 comments
I. Species restoration and resource conservation	4 comments
J. Climate change	4 comments
K. Renewable energy	2 comments

##### *Other Needs:*

L. Help with specific land management plans and projects	22 comments
M. Conduct broad-based information and monitoring programs	20 comments
N. Increased research information access and research capacity	10 comments
O. Strategies and tools for administering complex and large-scale research	1 comment
P. Not Clear	1 comment
Q. Equip communities for ecosystem problem solving	11 comments
R. Utilize effective public education and involvement mechanisms	11 comments
S. Enhance personnel technical skills and knowledge	8 comments

#### ...what are OPPORTUNITIES ?

A. Conduct new, large-scale project funding	4 comments
B. Leverage existing partnerships to initiate cooperative studies	7 comments
C. Establish multi-region/nation partnerships	3 comments
D. Catalyze local technical assistance partnerships	7 comments
E. Create unique field education opportunities	1 comment
F. Present workshops at existing, partner-related venues/facilities	7 comments
G. Offer more workshops and expand delivery methods	6 comments
H. Citizen education	3 comments
I. Utilize creative project staffing	4 comments
J. Involve education staff and students	10 comments



## The Situation Assessment Key Foundations and Horizons

After reviewing the pre-workshop ideas about CESU status and strategies, partners shared overall observations and identified the key considerations for charting the future course of the CESU, specifically:

- The overall observations about the partnership
- The foundations – the strengths and advantages to build upon
- The horizons – the major gaps and edges in regional ecosystem study

**OVERALL OBSERVATIONS:** *What are reflections or conclusions about the state of the GNLf CESU?*

### **A. We are a truly diverse region**

- We represent great diversity with respect to ecosystems, partners, population bases and federal lands
- We are one of the most built/developed CESU regions in terms of density of populations
- The boundary of the region is not necessarily logical and this could work for or against us
  - There are great ecosystem diversity and population differences
  - We have everything from the “Atlantic coast” to the Midwest in our CESU region!

### **B. It will be difficult to identify the strategic focus for projects**

- The expectations of partners are a mix of specific agency needs as well as “wish lists”
- We need to make the tactical versus strategic distinction. Is the original CESU intent to move towards ecosystem scale research, etc. or is the intent to meet partners’ needs?
- How do we navigate the complexities and address all that is needed within an environment of flat federal budgets and diminishing state budgets. The challenge will be to get this off the ground!

### **C. Partnership coordination and expansion will be challenging**

- I’m surprised by partners’ experience and expertise. It is a real strength but the challenge is to expand linkages across sectors. We can’t stop where we are
- Intellectual property issues need attention. Sharing ideas with others in the CESU may lead to others taking a shared idea and running with it



## The Situation Assessment Key Foundations and Horizons

Continued

**FOUNDATIONS:** *In the arena of cooperative ecosystem research, technical assistance and education, what is working well? What do we need to keep and build upon?*

### **A. Abundance of existing ecosystem study, information, activities and groups**

- Number of communities and institutions focused on Great Lakes doing large number of activities
- Many research groups are addressing ecosystem scale questions
- Huge base of information. There is a large amount of scientific information available in Great Lakes region (journals, etc.)

### **B. Many live partnerships linking between needs and expertise**

- CESUs helped expose expertise in Universities, etc. to parks and help connect projects with the experts
- Tremendous amount of successful partnerships that are already present in the region
- Agencies can provide relevant research connections that can be expanded out to the group
- There is a large number of commissions and institutions focused on the focused on studies and activities that address Great Lakes area ecosystems issues
- There a multitude of research groups working on ecosystem study
- Many successful partnerships are already present in the region

### **C. We benefit from an established CESU track record and concept**

- Great Plains CESU is focused on park/agency needs. It is a smaller CESU in number of partners. Many partner agencies are science based and haven't funded CESU research because they have staff to do this on their own. We have developed a web page for accessing information regarding existing faculty expertise and agency needs and hope this eventually leads to larger projects (in scale and in number of partners involved)
- CESUs offer administrative mechanisms for funding smaller projects essential to the ecosystem
- The CESU offers an extra mechanism to expedite smaller projects and grants. It is an administrative help for the agency
- Federal agencies help launch the CESU through a one time contribution of \$10,000

### **D. Many partners share a strong desire for large-scale study and getting out of silos!**

- We seem to have a desire for large scale projects and consensus on large scale targets
- Many are already addressing ecosystem scale questions but we don't have these groups working together across regions and, in some cases, even aware of who is doing what
- There is a desire for large scale projects and a consensus to initiate such projects
- The economic crunch time could be opportunity to advocate CESU as priority – it offers a way to focus limited funds on a large number of issues simultaneously - especially to address the human dimension element
- There is a huge opportunity for applied research on the ecosystem scale
- The Great Lakes/St. Lawrence Seaway etc. provide a unique opportunity for large-scale work. There is an advantage to the odd shape of the GLNF CESU – it offers opportunities for interesting comparisons between different areas within the region



## The Situation Assessment Key Foundations and Horizons

Continued

**HORIZONS:** *In the arena of cooperative ecosystem research, technical assistance and education, what needs work? Where are the gaps and edges that need to be addressed?*

### A. Scoping the collective focus and field of play

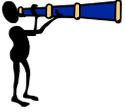
- Working within/with designated boundaries. We need to focus on commonalities and the “fuzzy regional lines” and grab a hold of elephant. There are some commonalities in the areas that fall within our boundaries but we need to get at the challenge of identifying the large issues. It will clearly be easier to agree on the smaller issues
- In clarifying our purpose and articulating the “grand challenges” we need to put aside (for awhile) political boundaries and let the spatial footprints drive what we are doing
- We need to identify how the collaboration can influence policy issues. We also need to deal effectively with any potential for conflicts of interest because of the diversity of jurisdictions we cover
- Spatial scale information needs to be linked and/or gathered including local/ base information on specific sites

### B. Working closely across traditional boundaries and territories (boxes)

- Working across research groups. The groups that are working on ecosystem scale questions aren’t necessarily working together across regions – and in some cases we don’t even know the other groups are working on these issues
- Successful partnerships require personal working relationships. Ecosystem study requires immense collaboration and it’s hard to put this together – especially personal relationships
- We need to be interdisciplinary and need to identify specific groups of disciplinary expertise within each partner. Organization. We could then establish inter-organization working groups comprised of similar discipline groups
- How do we retrieve all the information available in the Great Lakes region, synthesize it and bring it into a useful form?
- There is an opportunity for catalyzing partnerships between existing partnerships in different regions (i.e. Minnesota and Maine forests)

### C. Involving essential players at all levels

- We need more effective connections between the user groups - federal, university and non-federal partners and many potential others
- Other agencies should be part of the GLNF CESU such as the EPA. Canadian partners should be considered since they are within our boundary
- We need to reach the private land owners through technical assistance and education – this is critical in our region
- The human component really needs to be included in this; agencies struggle to get good, honest public involvement. How can the CESU help to integrate the human dimension into ecosystem study effectively?
- What does the human dimension include/mean? Agencies deal with public interface on a regular basis. The CESU should identify sustainability issues that support the sustainability need and focus of agencies



## The Situation Assessment Key Foundations and Horizons

Continued

**HORIZONS:** *In the arena of cooperative ecosystem research, technical assistance and education, what needs work? Where are the gaps and edges that need to be addressed?*

### **D. Making it work within an environment of increasing needs and diminishing resources**

- Institutional capacity and funding is strained. It is a heck of a time to launch something like this. For example – my agency s limiting travel by employees. We need to be realistic about this impediment to the success of this CESU
- Areas of duplication need to be converted into synergy. Parks are doing many of the same things. If we can work together to reduce overlaps, we could have time and money for other things
- We have to find the monies to support a working budget for the GLNF CESU

### **E. Sustaining cooperative impact, capacity and momentum**

- Need to identify discrete “bite-size” projects to call attention to the CESU (e.g. land cover/land use map) in order to communicate externally and maintain energy internally.
- We need a better connection with the federal agencies and assure inclusiveness/consistency within the liaison model
- How do we best utilize existing and future funds to take advantage of matching funds sources?
- Facilitate work/cost savings for federal agencies and get work done more effectively. If we can’t provide this basic service, we can’t move onto a grander scale of work
- Even if we are wildly successful but can’t increase administrative support funds, we will eventually reach a bottleneck due to overburdening our administrative staff



## The Situation Assessment Participant Conclusions

During the workshop, each participant shared overall reactions regarding the progress and state of the CESU partnership and planning.

**Mid-Meeting** what are *highlights, hindsights, or insights* regarding the partnership development?

### A. There is great commonality amidst incredible diversity of partners

- I was impressed with the diversity in this group and still trying to understand where CESU is going. It has a lot of potential for networking and coordinating with or without money
- I am amazed by how diverse everyone is but see a commonality in the CESU. I oscillate between an, "Oh my gosh, we are too diverse," to the sense that, "Our ideas dovetail much better than I thought. Yep, I can see it happening"
- It was interesting to see how we were lumping and splitting our ideas
- Struck by the diversity but impressed by the pleasant and constructive discussion. I hope this isn't because we aren't dividing money yet. (laughter) This is a very important undertaking. I look forward to cooperation between the group despite geographic gaps
- I ditto comments about the diversity around the tables but the university, federal and non-federal partners are able to understand what each other expects. I got a better understanding of the CESU and our role in it
- It was good to see the diverse viewpoints regarding benefits and roles
- Enlightening to hear the specific benefits and contributions
- I am really pleased that the human dimension/ private forest lands piece came out so prominently
- Encouraging to see how the contributions and benefits seemed to mesh
- The diversity of ideas that came out was impressive. Because of this I really think this can happen.

### B. The interaction has been extremely collegial and productive

- I found the discussion on the table very interesting as well as the way we came at benefits and contributions. It is useful to continue to communicate in a similar way.
- I thought the process was useful - the post-it's stayed put! Wow!
- I've been impressed. This has been a good exercise in understanding the CESU.
- I was encouraged, energized and excited by the abundance of existing research and new research that will come out of this - including larger scale projects. I'm amazed by the progress we have made so far! I've been with groups that takes a half a year to get a mission statement
- I'm surprised that I am having a good time here. I'm still at level of thinking about opportunistic projects. This network provides a quick way to get something done that we might not be able to get done without the CESU. Also opportunities to hook up with people that we might not have known without the CESU
- I'm also having a good time. There is a lot of good synergy here. I'm looking forward to what's going to happen. I'm intrigued by the collaboration and the interest in large-scale ecosystem scale research.
- I was struck by our work as well - entered here with skepticism but left with a more positive view - we even had fun! I didn't expect to have quite as much fun.
- I have a background in planning and like being surrounded by flipcharts, etc. I'm glad to talk about the commonalities amongst us.
- As an "elder" I agree with comments on progress we have made – thanks to the facilitator. She did not come in with a pre-conceived agenda but let the process work on its own - we had some really good ideas that were generated by all of us Good leadership made the difference.
- Ditto, ditto, ditto, ditto! I'm relieved and thrilled with the comments. Everyone seems enthusiastic.



## The Situation Assessment Participant Conclusions

Continued

**Mid-Meeting** what are *highlights, hindsights, or insights* regarding the partnership development?

### **C. We see to want to fulfill agency needs as well as tackling large-scale regional ecosystem issues**

- I keep contrasting in my mind the Great Plains CESU and the GLNF CESU - we need to realize that when these things start they often focus on individual projects in parks and later move to big scale projects
- We need to study at the large scale but also at a small scale. The challenge is to determine how to link with each other. I wish we had some more input from the national CESU and anxious to see what we'll do
- For something to work - it has to benefit all the partners. I'm interested to know if partners think they benefit more from this than working by themselves. We have a disconnect between the scale of money available and the large scale of proposed projects
- I was impressed in the level of common interest for completing large-scale ecosystem work
- I echo the comments on the scale discussion; large-scale projects cost lots of money and we don't have this. There is the possibility of bringing people's time together, but we can do this without the CESU. I would be happy with how it works in the Great Plains CESU simple procedures for finding money for projects. I have pessimism about grand schemes when there is no pot of money
- I am concerned if the CESU is only a mechanism for lowering direct costs on projects. This lessens the power of the CESU group. Lowering indirect costs of research doesn't seem like a worthy goal by itself
- Despite lack of money, I do think we can do these large projects and can find ways to make small pots of money work together across CESU partners
- As we talked, I kept thinking - have I ever worked with a fully funded project? Best work I've seen has happened in during challenging circumstances. Good strategic planning will enable effective action even when money isn't there. I am eager to get a roadmap in place.
- There is a great deal of research is going on but the reality is that our research is out of sync with this. Most problems we are facing as a society are large scale. Many of the questions we are trying to answer are at the large scales yet most projects are at small scale. The CESU can be a way to change this. If we don't work across boundaries, we can't get to the most relevant and critical questions
- I appreciate comments on the budget; this is not the time to plan less but a time to strategize. We have some good things started.
- I'm pleased by mission statement work and realized people were looking at the CESU in different ways not simply to set up a research, technical assistance and education process but finding ways to truly impact the regional resources. I'm glad we were able to discuss this. In the benefits and contributions discussion I found a very strong relationships between partners. The most refreshing part is that it's not all about the money. I did come into this thinking it's all about the money, but wasn't. It is really healthy that it's not all about the money
- I take a very utilitarian approach. I liked exposure to the experts. There is nice timing between the NPS and I&M networks and CESU development. We are starting large-scale projects already. It is a great opportunity for the NPS Inventory & Monitoring project and CESU programs to work closely together
- We need to take a comprehensive earth systems approach in our definition large scale issues that affect the local landscapes



## The Situation Assessment Participant Conclusions

Continued

**Mid-Meeting** what are *highlights*, *hindsights*, or *insights* regarding the partnership development?

### **D. Potential for many informal linkages, joint ventures and effective outreach**

- I had many dejavus regarding parallel universes as we worked yesterday. I was struck by the huge opportunity for everyone to consider public outreach opportunities our institutions present. Our institution is quite connected and has worked in many areas to figure out how we bring understanding of research to the public. The CESU provides a playground to test some of these ideas even if they money doesn't necessarily come along. I wonder if I'm the only one thinking this
- We hope to go beyond Sea Grant research and get it out to more people of the Great Lakes region. Social marketing is greatly needed in public outreach
- I have experienced that money follows the good ideas and good partnerships! When I began searching the web, I came across a speech saying that nothing new is happening within sectors. It is happening across sectors when people step out of their boxes. I realized that I could reach out to this group to get projects going and get funding by opening up new opportunities. I'm anxious to get on to the practical application.

### **E. We will succeed if we continue to be communicative and creative in overcoming our challenges**

- I started feeling that "maybe this could work!"
- I didn't realize all the work that went into starting up the CESU.
- I liked the "apply locally - integrate regionally" concept. We may not have a million dollars, but this will probably start out with local, small projects with an opportunity to guild larger scale efforts using this network. We have to plan to look for expertise, identify shared interests, develop projects and set-up student opportunities. We should let everyone know what this is about, what we are doing and spread the word!
- I came in unclear on CESU but now feel a lot better although I'm not completely clear though. Good collaboration starts with personal relationships. Really enjoyable talking with the university partners. It will be a challenge for host to keep the energy up!
- I'm thinking about how similar what I'm doing is with what CESU is doing. Partnerships are great things but when span great distances they can have some drawbacks. We have some "interesting times" ahead
- It is clear that the type of person we want to hire for an NPS coordinator is someone with a catalytic personality and can find a better way to make better things happen
- I have enjoyed working on this and hope the involvement and participation will be sustained

### **F. Integrate social dimensions and human diversity in our projects and partnership**

- As we ramp-up to whole system projects, it must link and correlate with communities
- I was also struck with the diversity of people and ideas about population, scale and projects. The human dimension aspect still bothers me. It is the tension zone. As I look around- I notice that most of us have been born and raised north of the 45<sup>th</sup> parallel. If we are going to represent society - we should bring in more cultural, ethnic, etc. diversity. Hope we can do this at the research level
- I was happy to have the discussion about the human dimension - I was worried it wasn't going to be as prominent. A few times, I observed it's unfortunate that in our non-federal partners that we don't have our state agencies present here today. Hope we get their input - much of what we do here depends on them. This is good stuff



## The Destination Expected Benefits and Contributions

The development of CESU goals and mission began with the identification of key expectations and requirements that partners have for the CESU. The following is a summary of the benefits to be fulfilled and contributions to be offered. The subsequent pages describe the specific ideas within the major benefits and contributions.

<b>The Requirements Summary</b>		
<b>Partner</b>	<b>Benefits</b> <i>What values or gains are expected?</i>	<b>Contributions</b> <i>What are major partners roles?</i>
<b>Federal Partners</b>  <small>Details p.17</small>	<ol style="list-style-type: none"> <li>1. Cost-effective funding process (3)</li> <li>2. Efficient, effective research (2)</li> <li>3. Better resource management (2)</li> <li>4. Better inter-agency coordination</li> <li>5. Professional development and training (2)</li> <li>6. Meet unmet needs</li> <li>7. Access to expertise</li> <li>8. Public acceptance of agency mission</li> </ol>	<ol style="list-style-type: none"> <li>1. Funds (5)</li> <li>2. Research sites and facilities (4)</li> <li>3. Regional market and marketing</li> <li>4. Research application and implementation</li> <li>5. Expertise</li> <li>6. Research targets and problems</li> </ol>
<b>University Partners</b>  <small>Details p.18</small>	<ol style="list-style-type: none"> <li>1. Access to funds (4)</li> <li>2. Access to research priorities (3)</li> <li>3. Graduate student opportunities (4)</li> <li>4. Improved inter-university coordination</li> <li>5. Access to federal lands</li> </ol>	<ol style="list-style-type: none"> <li>1. Research expertise (4)</li> <li>2. Knowledge transfer and outreach (4)</li> <li>3. Student involvement/assistance (2)</li> <li>4. Bring objectivity and clarity</li> <li>5. Facilities</li> <li>6. Leverage other resources</li> </ol>
<b>Non-Federal Partners</b>  <small>Details p.19</small>	<ol style="list-style-type: none"> <li>1. Networking, visibility and access (5)</li> <li>2. Outreach and technical assistance (2)</li> <li>3. Influence policy</li> <li>4. Better understand research agenda</li> <li>5. Mission-specific research</li> <li>6. Inter-disciplinary, multi-institutional research</li> <li>7. Access to funds and facilities</li> </ol>	<ol style="list-style-type: none"> <li>1. Communication and outreach (4)</li> <li>2. Provide study sites, money,</li> <li>3. Provide a broad perspective</li> <li>4. Advocacy</li> <li>5. Leverage non-traditional funds</li> <li>6. Policy expertise and other</li> </ol>

(#) = Number in parentheses shows the quantity of group ideas related to the benefit or contribution



**The Destination**  
**Expected Benefits and Contributions**  
Continued

**The Specific Requirements of the FEDERAL Partners:**

**BENEFITS: *What values or gains are expected?***

1. Cost-effective funding process (3)
  - Simple funding process
  - Less bureaucratic barriers
  - Lower administrative costs
2. Efficient, effective research (2)
  - Efficient, effective research
  - More efficient use of resources
3. Better resource management (2)
  - Better management of natural resources
  - Monitoring Protocols tiered to sustainability
4. Better inter-agency coordination
  - Inter-disciplinary networking and collaboration
  - Identify common issues among agencies
  - Better coordination among agencies
5. Professional development and training (2)
  - Technical assistance and training
  - Professional development
6. Meet unmet needs
7. Access to expertise
8. Public acceptance of agency mission

**CONTRIBUTION: *What are major partner roles?***

1. Funds (5 duplicates)
2. Research sites and facilities (4)
  - Lab for research of real places and real problems
  - Study sites
  - Infrastructure – Data, ships, field stations, visitors, facilities
3. Markets and marketing including the US Federal role in cross-border efforts with treaties and Canada
4. Identify research opportunities; identify and articulate research problems
5. Research application and implementation
6. Expertise



## The Destination Expected Benefits and Contributions Continued

### The Specific Requirements of the UNIVERSITY Partners:

#### **BENEFITS: *What values or gains are expected?***

1. Access to funds (4)
  - Access to funds
  - Leverage outside money
  - Funding for research and experience for grads - easier access to existing money and new funds
  - Access to funds and other resources
2. Access to research priorities (3)
  - Access to priorities - Universities get access to Federal and NGO Managers' needs and priorities; Easier to fashion collaborations etc. to address specific needs
  - Research opportunities that are broad, unique, have consensus, enable researcher connections, reduce duplication, increase efficiency
  - Research applications
3. Graduate student opportunities (4)
  - Graduate student training
  - Student training
  - Student opportunities
  - Involve graduate students -- Greater opportunities to involve students in larger, cross/inter disciplinary work (don't do it very well but it's important; need to expose them to research beyond current edges); student recruiting, advising and exposure to agency needs; possibility of agency internships and publications
4. Improved inter-university coordination  
Breakdown barriers (in funding, other support) to working across universities and colleagues in other institutions. CESU should allow us to do large projects where we can break funding between/among groups and provide time to make connections with colleagues and meet with agencies. Ability to move to larger scale or landscape level projects by taking advantage of opportunities for funding across a number of land types
5. Access to federal lands including physical sites and personnel data

#### **CONTRIBUTION: *What will the partner contribute?***

1. Research expertise (4)
  - Research skills
  - Broad research expertise
  - Expertise
  - Access to expertise
2. Knowledge transfer and outreach (4)
  - Knowledge transfer
  - Extension/outreach
  - Technical assistance and outreach
  - Training and education
3. Student involvement/assistance (2)
  - Student workforce
  - Bring graduate students on board
4. Bring objectivity and clarity
5. Facilities
6. Leverage other resources - Funding, students and facilities



**The Destination**  
**Expected Benefits and Contributions**  
Continued

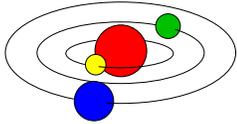
**The Specific Requirements of the NON-FEDERAL Partners:**

**BENEFITS: What values or gains are expected?**

1. Networking, visibility and access (5)
  - Access to expertise and knowledge
  - Partnering with universities
    - Access to wider disciplines
    - Unique partnerships
    - Benefits state agencies as well
  - Access to research, education and technical assistance partners
  - Network
  - Expanded visibility
2. Outreach and technical assistance (2)
  - Outreach and technical assistance
  - Fodder for education outreach
3. Influence policy
4. Better understand research agenda
  - Improved advocacy
  - Refined agenda
5. Mission specific research
6. Inter-disciplinary, multi-institutional research
7. Access to funds and facilities

**CONTRIBUTION: *What will the partner contribute?***

1. Communication & outreach (4)
  - Communication and connection to constituencies/sites
  - Communication through journals, conference etc. (E.g. IAGLR publishes a Journal (peer reviewed, scientific journal), holds an annual conference, has an Expert Directory for the Great Lakes to connect science and policy makers)
  - Reaching the public to connect policy and practice and assure education and outreach
  - Information and communication services
  - Outlet for applied research
2. Provide study sites, money, facilities, networks (3)
  - Multi-scale study sites
  - Contribute landbase, waterbase, people and expertise
  - Provide facilities, money and expertise
3. Broad perspective
4. Advocacy
5. Leveraging non-traditional funds
  - Foundation monies
  - International funds
6. Policy and other varied expertise



## The Destination Mission Components

Partners agreed on the major components of the GLNF CESU mission and generated several draft statements of the mission before and during the workshop. The executive or steering committee will facilitate the finalizing of the CESU mission based on the workshop agreements.

### Consensus Components:

*What do we intend to do together? What is the main task of the GLNF CESU?*

#### A. Catalyze, build and enhance regional collaboration

*Related recommendations:*

- Serve as a catalyst for collaboration and easing money transfer process and ecosystem based research
- Develop regional networks
- Integrate disciplines
- Assure research, technical assistance and education efforts that are applied locally and integrate regionally
- Work across the long border with Canada

#### B. Improve interdisciplinary science based decision-making

*Related recommendations:*

- Improve science-based decision making (2 comments)
- Assure inter-disciplinary perspective

#### C. Address the sustainability needs of the unique regional ecosystem

*Related recommendations:*

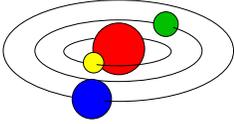
- Focus on the complete Great Lakes watershed and all northern forests as well as the Allegheny highlands, Ohio River Basin and other key landscapes
- Address water resources issues including a focus on the Great Lakes, diversity of uses, size and volume of resources, multi-jurisdictional aspects, glacial history, diversity of ecosystem types
- Guard sustainability of the region's resources
- Restore ecosystems and communities
- Address habitat fragmentation
- Study invasive species and pathogens
- Deal with air quality
- Examine all northern forests from the midwest to the eastern hardwood forests

#### D. Integrate human impacts and involvement in ecosystem study and stewardship

*Related recommendations:*

- Link landscapes to lifescapes
- Maintain a strong human dimension focus
- In conducting projects continue to inform and work with private landowners on GLNF issues of concern
- Take and make federal/university/non-federal opportunities to engage private folks so that we meet their needs as well as agency needs. We cannot meet agency needs/goals if we do not involve, incorporate and meet needs of private landowners
- Connect actively with private forests and landowners since the landscape is a patchwork of diverse ownerships and uses
- Take on scale issues dealing with small and large lakes; rural and urban environments and all land uses including agriculture, forests and mining
- Consider rural and urban gradients

*See APPENDIX C for additional components suggested in pre-workshop worksheets*



## The Destination Mission Components

Continued

### Draft Mission Phrases and Statements

The mission of the Great Lakes Northern Forest CESU is ...

... **to assure** an interdisciplinary and participatory focus on sustainability that links landscapes to lifescapes and addresses trans-boundary, regional issues

... **to address** the sustainability issues of the most developed and populated part of country. Provide science-based rehabilitation and sustainable resource management support that integrates social, economic, cultural and natural resource disciplines

... **to facilitate** the development of an integrative approaches to ecosystem research and management in the Great Lakes region between international, federal, state and private land and water management entities through research, outreach and training efforts

... **to provide** a multi-faceted trans-disciplinary partnership that promotes research, education, and technical assistance to ensure the long-term sustainability of the Great Lakes and Northern Forest ecosystems by enhancing their unique ecological, social, cultural, and economic values

... **to conduct** research, engage in educational initiatives, provide technical assistance, and use an cooperative approach to best serve the needs of the federal scientific community mandated to manage and preserve our nations ecosystems in a rapidly changing social, economic, and environmental landscape, and to extend our expertise globally

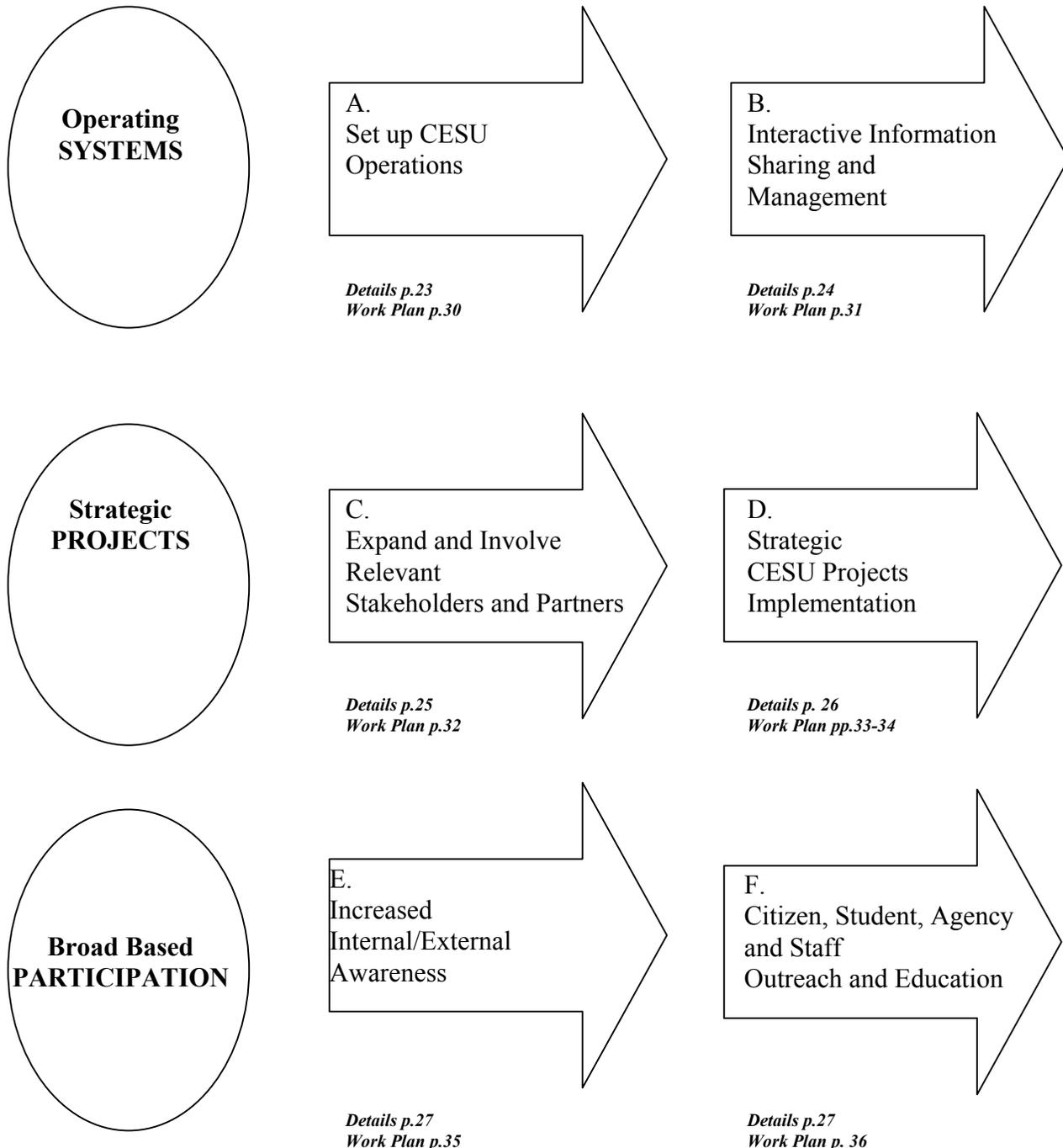
... **to develop** a program of research, technical assistance and education that involves the biological, physical, social and cultural sciences needed to address resources issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional and national level. (From pre-workshop worksheet)



# The Roadmap 3-5 Year Priority Strategies

Continued

After agreements about the situation and destinations, partners identified six areas of action required to launch the partnership operations, fulfill expected benefits, implement partner contributions and achieve the mission of the Great Lakes Northern Forest Cooperative Ecosystem Studies Unit.





## The Roadmap Priority Strategies

*Suggested long and short term strategy elements*

Strategy	Representative Short Term 1 – 2 Year Tactics	Representative Long Term 3 – 5 Year Tactics
<b>A. Set up CESU operations</b>  <i>Work Plan p.30</i>	<b>A. Meet first year requirements</b>	
	<ul style="list-style-type: none"> <li>• Finish strategic plan and get it out (discrete project)</li> <li>• Managers group</li> <li>• Meeting</li> <li>• Work plan</li> <li>• Reporting</li> </ul>	
	<b>B. Create permanent coordination groups</b>	
	<ul style="list-style-type: none"> <li>• Managers group - Two federal employees in each partner agency (n=12)</li> <li>• Executive Group - All partner s tech reps (n=29)</li> <li>• CESU steering committee – Selected representatives from the CESU (n=5)</li> <li>• Establish groups as needed such as discipline based work groups</li> </ul>	
	<b>C. Build communication mechanism among partners</b>	
	<ul style="list-style-type: none"> <li>• Develop communication tools</li> <li>• Develop effective mechanisms for maintaining communication among partners</li> <li>• Develop protocols for reporting progress on projects</li> </ul>	<ul style="list-style-type: none"> <li>• Annual CESU conference</li> </ul>
	<b>D. Ensure operations staff</b>	
	<ul style="list-style-type: none"> <li>• Ensure staff support (identify funding stream for CESU infrastructure)</li> <li>• Fund CESU staff and operations</li> <li>• Get agency research coordination in place</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure staff and infrastructure support</li> <li>• Establish an information management position for CESU</li> </ul>
	<b>E. Develop project management systems</b>	
	<ul style="list-style-type: none"> <li>• Identify a way of accounting for partner benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic grants processing</li> </ul>
	<b>F. Secure operations funds</b>	
	<ul style="list-style-type: none"> <li>• Secure ongoing operational CESU funding</li> <li>• Define administration and funding of CESU</li> <li>• Develop a CESU operational budget</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage funds for synthesis of research</li> <li>• Identify other funding sources for CESU administration/ operation</li> <li>• Identify alternative funding sources</li> </ul>
	<b>G. CESU code of ethics</b>	
<ul style="list-style-type: none"> <li>• CESU code of ethics (to encourage intellectual exchange, open sharing, idea generation)</li> </ul>		
<b>H. Ongoing evaluation systems</b>		
	<ul style="list-style-type: none"> <li>• Continue to evaluate the process and mechanisms to meet CESU goals and objectives</li> <li>• Review partnership operations; ongoing evaluation of CESU success</li> <li>• Meet to update strategic plan</li> </ul>	

*Continued on next page*



**The Roadmap**  
**Priority Strategies** continued  
*Suggested long and short term strategy elements*

Strategy	Representative Short Term 1 – 2 Year Tactics	Representative Long Term 3 – 5 Year Tactics
<b>B.</b> <b>Interactive information sharing and management</b>  <i>Work Plan p.31</i>	<b>A. Operationalize basic website</b>	
	<ul style="list-style-type: none"> <li>• Develop guidelines for website and database (existing)</li> <li>• Establish website to share funding opportunities</li> <li>• Complete website and database development using input from all partners (discrete project)</li> </ul>	
	<b>B. Link to information decision makers</b>	
	<ul style="list-style-type: none"> <li>• Agencies gain access to all partners’ electronic database library</li> <li>• Enhance build/accomplishments outcomes process/mechanisms (some way to encourage application of research results to local management and other sites)</li> </ul>	<ul style="list-style-type: none"> <li>• Link, support, partners with “data” keepers</li> <li>• Improve science based decision making by informing agency decision makers about CESU research results</li> </ul>
<b>C. Build information clearing-house</b>		
	<ul style="list-style-type: none"> <li>• Conform to existing mechanisms. For example, the data base should be done after consulting programs like NSF funded DLESE (digital library for earth system information)</li> <li>• Update project/expertise exchange</li> <li>• Identify past and present projects with relevance</li> <li>• Proposed projects/needs/expertise catalog</li> <li>• Inventory of existing projects, needs, education programs</li> <li>• System/mechanism to link existing projects to CESU</li> <li>• Develop baseline data</li> <li>• Develop metadata standards for data management</li> <li>• Develop reference of who has what knowledge now (discrete project)</li> <li>• Repository for case studies (discrete project)</li> <li>• Develop GIS database of existing resources (e.g. natural, cultural, exotic, contaminants) (discrete projects)</li> <li>• Compile natural resource information for federal lands: enabling legislation, management issues, ongoing programs (discrete project)</li> <li>• Generate land cover map for GLNF-CESU with all federal lands defined (discrete project)</li> <li>• Social database network (perhaps also through a GIS database: disciplines, case studies, student training, opportunities, workshop/district learning courses, citizen service programs, current research interests and expertise) (discrete project)</li> <li>• Spatial database network (land use, land cover, existing monitoring programs, exotics/diseases, watershed alliances, citizen science projects) (discrete project)</li> </ul>	<ul style="list-style-type: none"> <li>• Standardize and integrate natural resource monitoring across federal properties within CESU</li> <li>• Publish a research catalogue</li> <li>• Identify information that can be synthesized and used by agencies on landscape level (existing data, reports, research)</li> </ul>

*Continued on next page*



**The Roadmap**  
**Priority Strategies** *continued*  
*Suggested long and short term strategy elements*

Strategy	Representative Short Term 1 – 2 Year Tactics	Representative Long Term 3 – 5 Year Tactics
<b>C. Expand and involve relevant stakeholder partners</b>  <i>Work Plan p.32</i>	<b>A. Outreach to potential partners</b>	
	<ul style="list-style-type: none"> <li>• Extend membership to other key partners (especially federal)            Department of Defense            EPA            Midwest natural resource manager's group; national forest systems            State natural resource agencies            Other NGO's            Ontario stakeholders</li> <li>• Pursue additional federal partners</li> <li>• Expand partnerships to federal agencies in region</li> </ul>	<ul style="list-style-type: none"> <li>• Add partners; i.e. state agencies in minority instituting federals – ARC/EPA other universities</li> <li>• Special effort to reach minority partners</li> <li>• Expand partnerships beyond federal lands</li> </ul>
	<b>B. Intensify existing partner relations</b>	
	<ul style="list-style-type: none"> <li>• Increase interactions between partners</li> <li>• Involve minority students/institutions/fac/ partners in CESU activities, projects, meetings</li> </ul>	
	<b>C. Working relations partners beyond the region</b>	
	<ul style="list-style-type: none"> <li>• Stronger link to national CESU network</li> </ul>	<ul style="list-style-type: none"> <li>• Develop international capacity/networks (annually define "grad challenges" which reflect the broadest level research objectives of the region; translate information micro – macro level research)</li> </ul>
<b>D. See funding partners</b>		
		<ul style="list-style-type: none"> <li>• Partner with foundations</li> <li>• Develop research incentive fund (multiple partners/matching funds/ partnership with foundations)</li> </ul>

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**The Roadmap**  
**Priority Strategies** continued  
*Suggested long and short term strategy elements*

Strategy	Representative Short Term 1 – 2 Year Tactics	Representative Long Term 3 – 5 Year Tactics
<b>D.</b> <b>Strategic            planning to            implement            CESU            projects</b>  <i>Work Plan            pp.33-34</i>	<b>A. Initiate priority agency projects</b>	
	<ul style="list-style-type: none"> <li>• Initiate (6) research to meet agency needs</li> <li>• Identify federal agency research needs</li> <li>• Assess and prioritize needs</li> <li>• Integrate closely with programs like NPS I&amp;M programs</li> <li>• Workshop to identify agency needs and share expertise (discrete project)</li> <li>• Develop strategic plan for E/PO/PR (discrete project)</li> <li>• Develop set of regional demonstration projects (geographically representative) (discrete project)</li> <li>• Social sensing (socio-espionage – just kidding) (develop a community sensing with leaders in a community to get a sense of community issues, values without having to live there to know what approach for education, information sharing) (discrete project)</li> <li>• Local level sustainability indicators project: multiple states; partners, reach (discrete project)</li> <li>• Demonstration projects; e.g. Isle Royale biodiversity (discrete project)</li> <li>• Study NR outreach, education to public(s) schools, etc. (discrete project)</li> <li>• Study education/outreach effectiveness to private landowners (discrete project)</li> <li>• Region-wide, exotics – project; inventory – distribution (discrete project)</li> </ul>	<ul style="list-style-type: none"> <li>• Obtain NSF grant so all can have a piece</li> </ul>
	<b>B. Activate project implementation networks and groups</b>	
	<ul style="list-style-type: none"> <li>• Research network effectiveness (discrete project)</li> <li>• Implement committee system to locate linkages to build initiatives</li> <li>• Issue-based working groups</li> </ul>	<ul style="list-style-type: none"> <li>• Make it happen – opportunity to be involved in research at field locations (undergrad/grad/fac/staff/ organization)</li> </ul>
<b>C. Explore, plan and conduct large scale projects</b>		
<ul style="list-style-type: none"> <li>• Identify existing multi-state research frameworks</li> <li>• Initiate 1 – 2 multi-state interdisciplinary research projects</li> <li>• Develop bold research plan/agenda</li> <li>• Develop big resource agenda (R/T/E; using CESU process)</li> <li>• Comprehensive issue map (discrete project)</li> <li>• Comprehensive asset map (discrete project)</li> </ul>	<ul style="list-style-type: none"> <li>• Define scale issues</li> <li>• Comprehensive/coordinated research agenda</li> <li>• Develop and fund long term R/T/E interdisciplinary multi-agency/partner/ university landscape level project</li> <li>• Complete our 1-2 multi-state interdisciplinary research projects</li> <li>• Sustain, protect and/or restore 5 unique ecosystems in the region via CESU projects</li> <li>• Relevance to global research community</li> <li>• Global local level indicator exchange host in GLNF CESU (discrete project)</li> <li>• Develop/pilot civic engagement models to address loss of open space, natural areas, and biodiversity impacts on quality of lifescape (discrete project)</li> </ul>	

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**The Roadmap**  
**Priority Strategies** continued  
*Suggested long and short term strategy elements*

Strategy	Representative Short Term 1 – 2 Year Tactics	Representative Long Term 3 – 5 Year Tactics
<b>E. Promote increased internal/ external awareness</b>  <i>Work Plan p.35</i>	<b>A. Communicate and promote the CESU</b>	
	<ul style="list-style-type: none"> <li>• Conduct a branding and PR campaign</li> <li>• Develop graphic or logo for CESU</li> <li>• Identify a post child (discrete project)</li> </ul>	
	<b>B. Substantive and active CESU interchange</b>	
	<ul style="list-style-type: none"> <li>• Marketing CESU within partner organizations</li> <li>• Outreach to managers to gain awareness and support</li> <li>• Showcase existing CESU-like research</li> <li>• Identify and show case project</li> </ul>	<ul style="list-style-type: none"> <li>• Be recognized as center for interaction among partners in GLNF CESU region</li> <li>• Complete show case project(s) and identify others</li> </ul>
<b>C. Broad-based CESU awareness</b>		
	<ul style="list-style-type: none"> <li>• Educate public on CESU</li> <li>• Educate public on Great Lake ecology</li> <li>• Symposia on discrete, critical, emerging issues, scientific conferences (discrete project)</li> </ul>	<ul style="list-style-type: none"> <li>• Video of research – T – E across CESU</li> <li>• Develop “CESU series” (a body of work)</li> <li>• Develop CESU session at annual IAGLR conference</li> <li>• Increase visibility outside existing CESU network</li> </ul>
<b>F. Citizen student agency staff outreach and education</b>  <i>Work Plan p.36</i>	<b>A. Diverse student/teacher/staff learning through involvement</b>	
	<ul style="list-style-type: none"> <li>• Require student/teacher/citizen involvement (budgets include separate funding for S/T/C)</li> <li>• Lots of local R/T/E projects (involve minority institutions)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide professional development courses/opportunities</li> <li>• Develop mechanism for staff and student exchanges</li> </ul>
	<b>B. Broad education outreach</b>	
	<ul style="list-style-type: none"> <li>• Require a “research-T-E summary” for all CESU projects</li> <li>• Bring field and research people together (discrete project)</li> </ul>	



## The Roadmap: Work Plan At-A-Glance

Strategy	Spring March - May	Summer June - August	Fall September - November	Winter December - February	2004 March and Beyond	Goals
<b>A. CESU Operations Set-up</b>	<ul style="list-style-type: none"> <li>Define administrative structure</li> <li>Identify and implement funding solutions</li> <li>Set-up communications mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>Project management systems</li> </ul>	<ul style="list-style-type: none"> <li>Develop CESU Code of Ethics</li> </ul>			6-12 Month Victory: <ul style="list-style-type: none"> <li>Meet national CESU requirements               <ul style="list-style-type: none"> <li>Strategic plan</li> <li>Work/action plan</li> </ul> </li> <li>Stable and secure operational funding</li> </ul> <b>3-5 Year Goals:</b> <ul style="list-style-type: none"> <li>Stable funding</li> <li>Strong project track record</li> <li>Looking toward future research, technical assistance and education projects:</li> </ul>
<b>B. Interactive Information Sharing and Management</b>	<ul style="list-style-type: none"> <li>Set-up website for basic information sharing</li> </ul>		<ul style="list-style-type: none"> <li>Develop and conform to existing metadata standards</li> <li>Prioritize information needs and create overall plan for information sharing and management</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize information needs and create overall plan for information sharing and management</li> <li>Initial data distribution</li> <li>User training and data input</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize information needs and create overall plan for information sharing and management</li> <li>Initial data distribution</li> <li>User training and data input</li> </ul>	6-12 Month Victory: <ul style="list-style-type: none"> <li>Website for basic information coordination</li> <li>Advocacy: conform to existing standards</li> </ul> <b>3-5 Year Goals:</b> <ul style="list-style-type: none"> <li>Information personnel</li> <li>Use data to improve management decisions</li> </ul>
<b>C. Expand and Involve Stakeholders and Partners</b>	<ul style="list-style-type: none"> <li>CESU compiles key messages and background information about CESU</li> </ul>	<ul style="list-style-type: none"> <li>Hold GLNF CESU meeting in conjunction with national CESU meeting in Washington, D.C.</li> <li>Meet with Senate and House Staff Midwest Coalition</li> <li>Take to NFS managers</li> <li>Take to Midwest Federal NR Managers group</li> </ul>	<ul style="list-style-type: none"> <li>Take to NFS R-9 managers at leadership team meeting</li> <li>Convene a workshop of federal land management agencies to assess research, T.A. and education needs and identify a) regional themes, b) showcase projects</li> </ul>		<ul style="list-style-type: none"> <li>No time frame given</li> <li>When Midwest Govs. Complete Great Lakes Critical Issues Summary of Research Needs, CESU Exec. Or Steering committee (?) convenes to identify niche/involvement of CESU</li> </ul>	6-12 Month Victory: <ul style="list-style-type: none"> <li>All federal land management agencies in region are partners</li> </ul> <b>3-5 Year Goals:</b> <ul style="list-style-type: none"> <li>International, state, local, university NGO organizations represented as partners</li> </ul>



## The Roadmap Work Plan At-A-Glance

Strategy	Spring March - May	Summer June - August	Fall September - November	Winter December - February	2004+ March - Beyond	Goals
<b>D. Strategic Implementation of CESU Projects</b>	<ul style="list-style-type: none"> <li>Identify partner needs and issues</li> <li>Start ongoing coordination and funding activities</li> </ul>	<ul style="list-style-type: none"> <li>Establish issue-based work groups</li> <li>Identify partnerships and networks</li> </ul>	<ul style="list-style-type: none"> <li>Set-up a “proposed projects-needs process”</li> </ul>	<ul style="list-style-type: none"> <li>Develop overall strategic planning group for projects</li> </ul>	<ul style="list-style-type: none"> <li>Coordination and facilitation of information and syntheses</li> <li>Develop research plan for all projects</li> <li>Find grand-scale funding for grand scale projects</li> </ul>	<p>6-12 Month Victory: Mechanism in place to coordinate needed priority projects that deliver partner benefits and fulfill responsibilities Proposed project website Short term ongoing projects underway:</p> <p><b>3-5 Year Goals:</b> Plans and pilot projects in facilitating large scale projects that meet common plans and interests</p>
<b>E. Increased Internal/External Regional Awareness</b>	<ul style="list-style-type: none"> <li>Create a logo fact sheet of key members, mission statement</li> <li>Create a logo fact sheet of members, mission and create a display</li> </ul>	<ul style="list-style-type: none"> <li>Develop a display on the GLNF CESU meetings/workshops</li> <li>Inform constituencies</li> </ul>		<ul style="list-style-type: none"> <li>Have CESU workshop at existing venues</li> <li>Our own CESU conference</li> </ul>	<ul style="list-style-type: none"> <li>Have CESU workshop at existing venues</li> <li>Our own CESU conference</li> </ul>	<p>6-12 Month Victory: Established identity</p> <p><b>3-5 Year Goals:</b> Promote visibility -Broad based recognition and participation in regional sustainability efforts -Have own CESU workshop</p>
<b>F. Citizen’ Student, Agency Staff Regional Outreach Education</b>	<ul style="list-style-type: none"> <li>Encourage the incorporation of students into CESU projects</li> </ul>	<ul style="list-style-type: none"> <li>No time frame given</li> <li>Create overall strategy for outreach and education. The CESU should encourage student training, outreach, education and professional development</li> <li>Upon completion???</li> <li>Present results of CESU projects to user groups and stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Provide professional development opportunities, such as courses, workshops, sabbaticals, etc.</li> <li>Incorporate CESU projects and broad-scale ecosystem goals into curricula and exhibits</li> </ul>		<ul style="list-style-type: none"> <li>Identify education and outreach partners and resources</li> </ul>	<p><b>6-12 Month Victory:</b></p> <ul style="list-style-type: none"> <li>Identification of education and outreach partners and resources</li> <li>Recognition that education/outreach is important</li> </ul> <p><b>3-5 Year Goals:</b></p> <ul style="list-style-type: none"> <li>Students involved in projects</li> <li>Well trained students enter work force</li> <li>Projects connect with users/stakeholders</li> <li>Curriculum development/exhibit</li> <li>Newspaper with Project highlights</li> </ul>



## Work Plan: Strategy A: CESU Operations Set-up

### The Strategy

Get the CESU coordination, communication, decision making, funding, project management and other support infrastructure up and running.

### The Goals

#### Short Term Victory in 6-12 Months:

- Meet national CESU requirements
  - Strategic plan
  - Work/action plan
- Stable and secure operational funding

#### Long Term Victory in 3-5 Years:

- Stable funding
- Strong project track record
- Looking toward future research, technical assistance and education projects

### The Road Map

The Key Steps	When	Who
1. Define administrative structure <ul style="list-style-type: none"> <li>a. Executive group formation and membership</li> <li>b. Establish working groups. Decide how to define/identify; e.g. issue, discipline, other</li> </ul>	March – April 2003  April – May 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Current steering committee</li> </ul>
2. Identify and implement funding solutions <ul style="list-style-type: none"> <li>a. Short term</li> <li>b. Long term</li> </ul>	March – June 2003  2004 – 2005	<ul style="list-style-type: none"> <li>• Joint</li> <li>• Funding workgroup</li> <li>• Executive committee</li> </ul>
3. Set-up communications mechanisms <ul style="list-style-type: none"> <li>• Timing</li> <li>• Content</li> </ul>	March – May 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Executive committee</li> </ul>
4. Project management systems <ul style="list-style-type: none"> <li>• Protocols</li> <li>• Processing</li> <li>• Tracking</li> </ul>	June – August 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Workgroup</li> <li>• Executive committee</li> </ul>
5. Develop CESU Code of Ethics <ul style="list-style-type: none"> <li>• Research existing models</li> <li>• Create customized code for GLNF CESU</li> </ul>	September – November 2003	<ul style="list-style-type: none"> <li>• Executive committee</li> <li>• Broad input</li> </ul>



**Work Plan:**  
**Strategy B: Interactive Information Sharing and Management**

**The Strategy**

Develop a web-based system for gathering, synthesizing and distributing information to partners to support their operations and inform decisions:

- a) Regional data
- b) Research approach
- c) Operations/project coordination information

**The Goal**

**Short Term Victory in 6-12 Months:**

- Website for basic information coordination
- Advocacy: conform to existing standards

**Long Term Victory in 3-5 Years:**

- Information personnel
- Use data to improve management decisions

**The Road Map**

<b>The Key Steps</b>	<b>When</b>	<b>Who</b>
1. Set-up website for basic information sharing	March – May 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Information work group</li> </ul>
2. Develop and conform to existing metadata standards	September – November 2003	<ul style="list-style-type: none"> <li>• Executive committee</li> <li>• Host</li> <li>• Information work group</li> </ul>
3. Prioritize information needs and create overall plan for information sharing and management	September 2003 – August 2004	<ul style="list-style-type: none"> <li>• Host</li> </ul>
4. Initial data distribution	2004	<ul style="list-style-type: none"> <li>• Information work group</li> <li>• Host</li> </ul>
5. User training and data input <ul style="list-style-type: none"> <li>• At CESU conference/workshop</li> <li>• Other venues</li> </ul>	2004	<ul style="list-style-type: none"> <li>• Information work group</li> <li>• Host</li> </ul>



**Work Plan:**  
**Strategy C: Expand and Involve Stakeholders and Partners**

**The Strategy**

Identify, invite and involve all organizations that represent the diversity of the region and are important stakeholders in achieving the CESU mission.

**The Goals**

**Short Term Victory in 6-12 Months:**

- All federal land management agencies in region are partners

**Long Term Victory in 3-5 Years:**

- International, state, local, university NGO organizations represented as partners

**The Road Map**

The Key Steps	When	Who
1. CESU compiles key messages and background information about CESU	May 31, 2003	<ul style="list-style-type: none"> <li>• Dorothy Anderson and Jerrilyn Thompson</li> </ul>
2. Hold GLNF CESU meeting in conjunction with national CESU meeting in Washington, D.C.	June 2003	<ul style="list-style-type: none"> <li>• CESU executive or steering committee (or subcommittee they create)</li> </ul>
3. Meet with Senate and House Staff Midwest Coalition	June or July 2003	<ul style="list-style-type: none"> <li>• Dorothy Anderson</li> </ul>
4. Take to NFS R-9 managers at leadership team meeting	Summer or Fall 2003	<ul style="list-style-type: none"> <li>• Phyllis Green</li> </ul>
5a. Take to Midwest Federal NR managers group – focus on	August 2003	<ul style="list-style-type: none"> <li>• Chris Hanson</li> </ul>
5b. When Midwest Govs. Complete Great Lakes Critical Issues Summary of Research Needs, CESU Exec. Or Steering committee (?) convenes to identify niche/involvement of CESU		<ul style="list-style-type: none"> <li>• CESU – talk to Phyllis Green for contact</li> </ul>
6. Convene a workshop of federal land management agencies to assess research, T.A. and education needs and identify a) regional themes, b) showcase projects	Late October 2003 (or November)	<ul style="list-style-type: none"> <li>• Jerrilyn Thompson and new NPS staff</li> </ul>
7. Identify foundations for potential partnerships and funding opportunities		
8. Make presentation at NAASF meeting on key CESU messages (Northeastern Area Association of State Foresters)	TBD	<ul style="list-style-type: none"> <li>• Contact Jerry Rose – Al Ek</li> </ul>



**Work Plan:**  
**Strategy D: Strategic Implementation of CESU Projects**

**The Strategy**

Plan and implement short and long term plan for taking on research, technical assistance and education projects that best meet the needs of partners and address the pressing sustainability issues of the region

**The Goals**

**Short Term Victory in 6-12 Months:**

Mechanism in place to coordinate needed priority projects that deliver partner benefits and fulfill responsibilities

- Proposed project website
- Short term ongoing projects underway

**Long Term Victory in 3-5 Years:**

Plans and pilot projects in facilitating large scale projects that meet common plans and interests

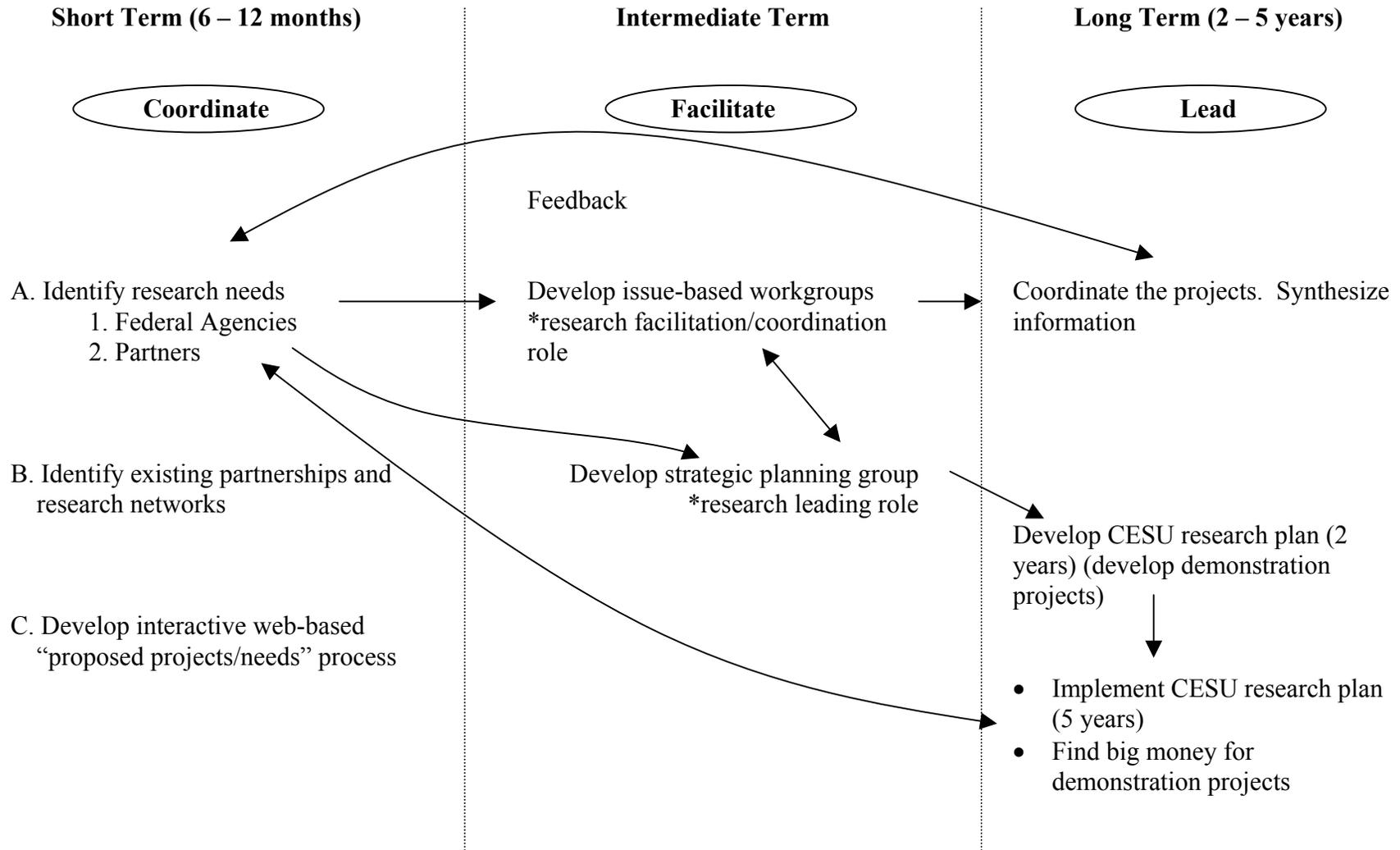
**The Road Map**

The Key Steps	When	Who
1. Set up issue-based work groups <u>Coordinate:</u> Identify research needs; federal agencies; partners <u>Facilitate:</u> Develop issue-based workgroups <u>Lead:</u> Coordinate the projects, synthesis information	<ul style="list-style-type: none"> <li>• Short term (6-12 mos):</li> <li>• Intermediate term:</li> <li>• Long term (2-5 years):</li> </ul>	<ul style="list-style-type: none"> <li>• Issue based work group</li> </ul>
2. Develop an overall strategic planning group. <ul style="list-style-type: none"> <li>• Subcommittee for spearheading integration of research (starting up – planning long term efforts (like an oversight or long view gap to help CESU coordinators). Maybe this could rotate CESU partners systematically... formalizes a way to make those links we're all taking now – is this the role of the steering committee?</li> </ul> <u>Coordinate:</u> Identify existing partnerships and research networks <u>Facilitate:</u> Develop strategic planning group <u>Lead:</u> Develop CESU research plan	<ul style="list-style-type: none"> <li>• Short term (6-12 mos):</li> <li>• Intermediate term:</li> <li>• Long term (2-5 years):</li> </ul>	<ul style="list-style-type: none"> <li>• Executive committee to set up strategic planning group</li> </ul>
3. Develop interactive, web-based “proposed project needs” process <u>Coordinate:</u> Develop interactive web-based “proposed projects needs” process <u>Lead:</u> Implement CESU research plan; find big money for demonstration projects	<ul style="list-style-type: none"> <li>• Short term (6-12 mos):</li> <li>• Long term (2-5 years):</li> </ul>	<ul style="list-style-type: none"> <li>• Work group to set up process</li> </ul>
4. Ongoing coordination and funding <ul style="list-style-type: none"> <li>• Poster child projects that link R, TA, E and each type of member/partner if possible</li> <li>• Establish concrete mode for communication among partners to facilitate information and also idea exchange (to the extent partners are comfortable)</li> <li>• Secure operations money, including (at least) enough to support a research meeting to present CESU projects</li> <li>• Connect with the Canadians – possibly by actually getting some Canadian partners on board (if we can) with CESU</li> <li>• Set up steering or research integration marketing/committee</li> <li>• Funding for synthesis publications relevant to GLNF ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing</li> </ul>	

**See attached diagram for relationships between the key steps**



## Strategy D: Strategic Implementation of CESU Projects





**Work Plan:**  
**Strategy E: Promote Internal/External Regional Awareness**

**The Strategy**

Increase internal and external awareness of the GLNF CESU

**The Goals**

**Short Term Victory in 6-12 Months:**

Established identity

**Long Term Victory in 3-5 Years:**

Promote visibility  
 -Broad based recognition and participation in regional sustainability efforts  
 -Have own CESU workshop

**The Road Map**

The Key Steps	When	Who
1. Create a logo fact sheet of key members, mission statement	March – May 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Adhoc committee</li> </ul>
2. Create a logo fact sheet of key members, mission statement. Develop a display on the GLNF CESU	March – May 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Adhoc committee</li> </ul>
3. Develop a display on the GLNF CESU meetings/workshops	June – August 2003	<ul style="list-style-type: none"> <li>• Host</li> <li>• Adhoc committee</li> </ul>
4. Inform constituencies	June – August 2003 (after fact sheet)	<ul style="list-style-type: none"> <li>• Each partner</li> </ul>
5. Have CESU workshop at existing venues <ul style="list-style-type: none"> <li>• Tag along symposium/workshop conferences and events to already planned by other entities (e.g. IAGLR)</li> </ul>	2004	<ul style="list-style-type: none"> <li>• Host</li> <li>• Work group</li> </ul>
6. Our own CESU conference	2004 (or in 2-3 years)	<ul style="list-style-type: none"> <li>• Any partners</li> </ul>



**Work Plan:  
Strategy F: Regional Outreach and Education**

**The Strategy**

The CESU will encourage student training, outreach education and professional development

**The Goals**

- |   |  |
|---|--|
| <p><b>Short Term Victory in 6-12 Months:</b></p> <ul style="list-style-type: none"> <li>• Identification of education and outreach partners and resources</li> <li>• Recognition that education/outreach is important.</li> </ul> | <p><b>Long Term Victory in 3-5 Years:</b></p> <ul style="list-style-type: none"> <li>• Students involved in projects</li> <li>• Well trained students enter work force</li> <li>• Projects connect with users/stakeholders</li> <li>• Curriculum development/exhibit</li> <li>• Newsletter highlighting project results</li> </ul> |
|---|--|

**The Road Map**

The Key Steps	When	Who
1. Create overall strategy for outreach and education. The CESU should encourage student training, outreach, education and professional development		
2. Identify education and outreach partners and resources	12 months	<ul style="list-style-type: none"> <li>• Sea Grant</li> <li>• Coop extension</li> <li>• SMM</li> </ul>
3. Encourage the incorporation of students into CESU projects	Now	<ul style="list-style-type: none"> <li>• Federal partners</li> <li>• Everyone</li> </ul>
4. Present results of CESU projects to user groups and stakeholders	Upon completion of project	<ul style="list-style-type: none"> <li>• All outreach partners</li> </ul>
5. Provide professional development opportunities, such as courses, workshops, sabbaticals, etc.	As needed Fall/ongoing	<ul style="list-style-type: none"> <li>• All</li> </ul>
6. Incorporate CESU projects and broad-scale ecosystem goals into curricula and exhibits	Fall/ongoing	<ul style="list-style-type: none"> <li>• Work group</li> <li>• Host</li> </ul>



## The Roadmap Next Steps

After making agreements about long and short term directions, partners concluded the planning workshop with a discussion about the immediate actions to assure follow-through and launch the CESU.

*What immediate actions are needed to launch our plans?*

### **Urgent:** Initiate in March

- 1. Consensus Plan**  
Write up the draft plan, circulate for refinements and create a final working plan
- 2. Partner Acknowledgements**  
Send formal thank you letters from MN University and Congressional leaders to all partners
- 3. Talking Points**  
Create a package of talking points partners and use to communicate CESU directions

### **Soon:** Initiate in April

- 4. Base Funding**  
Go after short-term funding to cover the basic launch phase personnel and support
- 5. Coordination Structure**  
Use the existing steering committee as a springboard to form a CESU coordination and decision-making structure
- 6. Communication Mechanism**  
Create an email communication mechanism to include all partners in the operations “loop”
- 7. Strategic Work Teams**  
Use a sign-up mechanism to establish active work teams to implement the priorities and strategies identified in the plan

### **Later:** Initiate in 2003

- 8. Do the Plan**  
Implement six priority strategies as identified
- 9. Regular Monitoring**  
Gather periodically to review progress, redirect the plan and reenergize the team

## **The Resources**

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## Appendix A: Workshop Participant List

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**Appendix B:**  
**Working Definitions**  
**Research   Technical Assistance   Education**

**The Meaning of  
Research, Technical Assistance and Education  
In the CESU Network**

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One of the main objectives of the Cooperative Ecosystem Studies Unit (CESU) network is to:

...provide federal resource managers with high-quality research, technical assistance, and education. (DO20 Chap 4.21)

What does research, technical assistance and education exactly mean? Is a survey for plants considered research or technical assistance? Is making a video tape considered technical assistance or education? This paper will propose a standard definition for research, technical assistance and education for adoption by the CESU network.

***The Intent***

The distinction between research and technical assistance is really the crux of the matter. The characteristics of an education project are fairly clear in most people's mind. The term "research" carries a different connotation for different agencies – even for different program areas within an agency. The CESU network is not held to any agency view or program area view, but needs a functional definition that would make it easy to classify projects by their principal objective.

***A Proposed Set of Definitions***

The following set of definitions are proposed for the CESU network. Several general examples accompany each definition.

**Research:** Projects that focus on a systematic collection of original data. Most often involves field work or direct contact with the data source. A key criterion is that data are collected in a systematic manner (a fixed ordered design). Example research projects are: natural resource inventories, habitat descriptions, field tests or treatments, oral/phone interviews, archeological surveys, propagating a species, reintroducing a species, identifying a species, taking photographs as part of a sampling scheme, collecting GPS coordinates, specimen collection, and visitor use surveys. Sporadic monitoring records would not be considered research even though they contain original data.

**Technical Assistance:** Projects that focus on evaluation, interpretation and/or assimilation of existing data, or collection of original data in an unordered manner. New data may be generated from evaluation, interpretation and/or assimilation but are meta-data in nature (describes or reorganizes original data).

Example technical assistance projects are: developing management plans, historic significance evaluations, bibliographies, administrative histories, implementing resource protection structures, compiling historic resource data, GIS products, aerial photo information, taking indiscriminate photographs, making a free form video tape, peer review, and specimen cataloging.

**Education:** Projects that focus on dissemination of information or academic enhancement. Example education projects are: training (classroom, field, web), workshops, preparation of educational material (videos, brochures), public outreach, presentations, and instructions. Also includes sponsorship of students (interns, graduate assistantships). A video, GIS product, photographic display or any other product that is made solely for education reasons should be considered an education project and not technical assistance although the product may assimilate and interpret existing data.

### ***Some Reasoning***

Using the distinction between original data and existing data seems to be the cleanest ‘breaking point’ between research and technical assistance for CESU purposes. It could be argued that routine or general purpose data collection (such as a routine plant inventory) is technical assistance. It could also be argued that research is characterized by being an original investigation that tests a hypothesis and displays its results for public scrutiny. These views would probably be supported in academic circles. Then the definitions become a discussion of semantics: what constitutes ‘routine’? what scale /scope constitutes hypothesis testing? what constitutes public scrutiny? There is not a clean ‘breaking point’ between research and technical assistance in these views and we would encounter an unresolved gray area in the definitions (like we already have now). The whole point of developing a network standard for definitions would be lost if we each go our own way in that gray area. One has to return to the initial intent on this matter, and that is to develop a functional definition that would make it easy to classify projects by their principal objective. The proposed set of definitions accomplishes this intent.

GIS products and aerial photo interpretation might seem to fit better under research since original information appears to be derived from these activities. Actually, the information is not original: it is derived from existing data. The initial collection of the GIS attribute information is the research part, the process of determining coordinates and recording data for the dataset. The GIS product is an interpretation of assembled data making it technical assistance. Aerial photos are similar. Taking the picture and capturing the image, which is original data, is the research. Interpreting the photo image is technical assistance. Again, it must be emphasized that the GIS data and photos are collected in a systematic manner to be considered research.

### ***Combined Objectives***

What is the principal objective of a project? Most all projects are a combination or blend of objectives. Look to the type of data at the start of the project to answer this question. If it will be original data (collected in a systematic manner), then the principal objective is research. If it is existing data that will be analyzed or unordered, original data collected, then the principal objective is technical assistance. If it is existing data that will be disseminated, then the principal objective is education.

### ***Next Step***

These are proposed definitions for the CESU network. The floor is open to the presentation of alternate definitions or modifications to the proposed. Test these definitions with actual projects and see if they fit. Share your thoughts and comments. Hopefully, at the next NPS CESU Coordinator meeting we can finalize the definitions and recommend their adoption by the National Council.

## **Appendix C: Pre-workshop Mission Input**

### *POSSIBLE STATEMENT*

Develop a program of research, technical assistance and education that involves the biological, physical, social and cultural sciences needed to address resources issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional and national level.

### *ELEMENTS*

#### **Things we will DO:**

##### **Meet Land/Environmental Agency Needs through Research, Technical Assistance and Education**

- It seems that the critical elements are closely linked to the three CESU objectives. Provide research, technical assistance and education to federal land management, environmental and research agencies and their potential partners (USGS/BRD 2)
- Assist individual parks with information needs
- Research with relevancy to Agencies
- As mentioned in research, it might be informative to poll the Agency representatives to find out more about their perceived needs. The GLNF CESU website should be a great starting point to facilitate their understanding of the across-partner capabilities of the CESU.
- -Critical elements are: (1) provide for objective research, (2) provide timely research and technical assistance and (3) Provide high quality scientific research

##### **Truly Inter-disciplinary at the Regional Level**

- Interdisciplinary efforts
- The CESU will plan and fund regional and local projects.
- Develop larger multi-agency or ecosystem projects.
- Jointly develop funding streams that support interdisciplinary work in complex natural resources problems in a manner that is truly synergistic. See flow chart above as a conceptual framework for developing such teams.
- CESU should focus on forestry research and continuing education that is regional rather than local or specific to an individual state or institution. Research problems addressed by CESU should be of broad, regional interest. A critical goal for CESU should be to convey important research results to private and public sector practitioners across state and institutional lines in a timely way. CESU should leverage resources of federal agencies, universities, and other cooperators. Interstate, interdisciplinary and multi-institutional cooperation should be emphasized. CESU should not duplicate existing efforts of other institutions. No other entity in the region is doing this type of work on a broad scale.
- Facilitate research on issues that transcend boundaries, political and otherwise (i.e., climate change, atmospheric deposition, exotic species, etc.).
- Encourage interdisciplinary research with broad ecological focus
- Collaboration: Once the mission is in place, the CESU should be a facilitator for collaborative ventures that increase the spatial scale and scope of the research and consequently the applicability of information that is generated. Interdisciplinary collaborations should be encouraged.
- Case studies: The CESU might serve as a repository for integrated regional approaches to solving complex environmental problems. Approaches that worked and that did not should receive equal attention.
- Improving coordinated resource management at different scales
- The ability to encourage multi-jurisdictional, even multi-state projects, standards, and guidelines.
- Identify potential cooperative projects

## **Appendix C: Pre-workshop Mission Input**

Continued

### **Things we will DO:**

#### **Applied Research that Catalyzes Regional Sustainability Awareness and Action**

- Conduct applied research into best management practices in the areas of conservation and restoration.
- The CESU will promote sustainable places that have the following characteristics:
  - Equitable and just policies
  - Acknowledge ecological limits
  - Acknowledge different ecological scales
  - A high quality and affordable community life
  - Holistic and integrative understanding of the above
- The research should have a high degree of applicability to real circumstances (i.e., applied research).
- Encourage *synthesis* of research among agencies and institutions and over time and space
- Build capacity within groups, individuals, organizations, agencies, etc.—not build dependence upon consultants
- Build interdependence—only those who understand and do this will survive
- Help utilize existing resources that are working well before creating new; strengthen existing resources with potential before creating new; challenge people to think anew
- Challenge existing structures for new ways of doing business

#### **Working Collaboration of multiple partners**

- Place special emphasis on the working collaboration among federal agencies and universities and their related partner institutions
- The CESU will enable partners to participate in interdisciplinary research without much of the institutional/agency obstacles in the way of doing such research.
- Increase collaboration among managers and scientist around the Great Lakes through communication and coordination with Great Lake agencies and organizations GLC).
- Coordinate efforts and streamline partnerships.
- Negotiate/mediate conflicting goals between universities and managers
- Blend interests to alleviate conflicts between researchers and managers (such as research methods that may not be appropriate in Wilderness)
- Improve regional coordination—both information sharing and giving a regional context to help prioritize park projects
- Effective collaborations
- We're pragmatic, results oriented, can focus on the task, committed to making forward progress, are humble enough to be open to learn from others, respect the capacities of others, have an ethical standard that includes integrity... this is probably NOT where you were headed with this question, but I can't help but add character and conduct components...
- Build stronger cooperative linkages
- Large number (29) of partners to keep actively involved in CESU
- Multiple institutions!

#### **Disseminate Research Findings Broadly**

- Disseminate research findings on the web.
- Make partners aware of relevant research occurring in the region.
- Encourage and facilitate information exchange among the partners.

## **Appendix C: Pre-workshop Mission Input**

Continued

### **Things we will DO:**

#### **Clearing House for Funding Research**

- Become a clearinghouse for research funded by federal agencies within the study area.
- Make partners aware of funding and cooperative effort opportunities.
- To assist participants of CESU to secure founding.

#### **Ongoing Communication Between Universities and Agencies**

- Perhaps the single greatest benefit of the CESU will be to foster on going communication between land managers and other agency personnel and the research community, within and outside the CESU. (Mission Element)
- Communication: A primary element of the GLNF CESU should be to facilitate communication among partners such that anyone can visit the website and see a list of people who are working on (e.g.) air quality issues without scrolling through the list of all personnel at all partner institutions.
- Provide a forum for discussion among agencies and institutions so that goals, directions, and accomplishments are voiced and understood.
- The GLNF CESU may provide a useful forum for sharing and dissemination of information, the establishment of regional or national standards and guidelines, and serve as a source of technical assistance, center for research.
- The CESU may also improve opportunities for students to become involved in important research.
- Improve communication in the region

#### **Develop Regional Leadership Continuity**

- Get more people working together to address emerging knowledge and professional maturity needs
- Providing present and future opportunities to students

### **Things we will NOT DO:**

- The CESU will not be the status quo rubber stamp when it comes to approving projects.
- Create more red tape and obstacles to achieving much needed research, education and technical assistance
- Create more competition and territorial attitudes in the region.
- -The CESU will not be a substitute for the work that is inherently the Federal agency's responsibility
- -The CESU is not a decision making body
- -The CESU participants will represent the information fairly in all public forums

**Appendix C:**  
**Pre-workshop Mission Input**  
Continued

***UNIQUE ASPECTS OF GLNF***

**National International Resource - Great Lakes etc.**

- From a research standpoint, the Great Lakes are a national resource with a rich diversity of fisheries and wildlife. The ongoing threats from invasive species, environmental contaminants, and development justify an active research program in this region.
- Critical elements include the native forests and their associated communities, which now are surrounded by transformed landscapes and often serve as refuge for many species.
- GLNF CESU includes a unique diversity of insular, coastal and wetland sites (e.g., Apostle Islands National Lakeshore, Isle Royale Wilderness and Michigan Islands National Wildlife Refuge) and some of the world's largest freshwater systems. These should be of high priority in our strategic plans.
- Potential to foster research pertaining to all of the Great Lakes
- Includes all of the boreal forest and lake ecosystems in the continental US
- This region contains 20% of the world's fresh water. Critical aspects of the region are its water resources and associated maritime resources.
- The region's unique cultural history, including the fur trade and aboriginal copper mining (IR NP 18)
- Boreal forests
- Snow (a significant factor in the UP)

**Lead Sustainable Human and Natural Interface**

- Discuss ways to leverage real dollars to support these regional projects
- Three aspects that will probably define our work are 1) the fact that we have equal representation of the aquatic and terrestrial ecosystems, 2) the high variation in regional population densities (from urban to wilderness), and 3) the relatively small proportion of public land. Consequently, we will see increased recreation pressure on public lands, and understanding how to best manage those potential stresses in a sustainable way will be critical. The small proportion of public land necessarily means that any viable solution to natural resource issues will be driven by inputs from private landholders and stakeholders. Understanding how to integrate stakeholder needs and ecological integrity within current political and social frameworks will be a critical aspect of the CESU's work.
- Human population density and the issues that result from humans as an integral component of the ecosystems in the region.
- Capable of supporting economic transition of rural economies
- Should work to recognize the significance of Native American issues throughout the work of the CESU.

**Other:**

- We have the opportunity at this time to dedicate excess and undeveloped federal property towards conservation and restoration goals.
- NPS staff indicated that the CESUs must determine this (Hasn't this already been determined?)

# Appendix: D National CESU Network Map

