

Travel Management Planning and The Route Evaluation Tree Process[©]

Travel Management on Public Lands

Workshop

USGS Science Center

Fort Collins, Colorado

February 22, 2006

Advanced Resource Solutions, Inc.

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Presentation Agenda

- Introduction
- Review Overall Route Evaluation Tree Process
- Review Route Evaluation Software

Lunch

- Group Exercise: Evaluate Routes
- Group Discussion



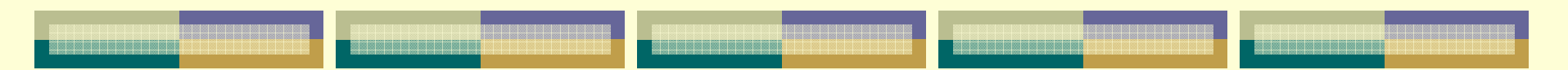
Route Evaluation Background

- Introductory comments
 - Staff/other assistance
 - Why Advanced Resource Solution is here
 - Spirit of conference: *To learn, explore and discuss possible tools that can assist in this arena of planning*



Route Evaluation Background

- Experiences that led to the development of the Evaluation Tree:
 - Public meetings and projects since 1993
 - Need to address variety of public concerns
 - Concern about the lack of data-based decision-making
 - Lack of a systematic route data collection tool

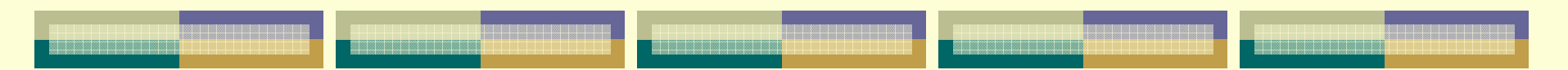


Some Reasons to Evaluate and Designate Routes

- Required by Agency **Planning Guidance**
- Assist with **Statutory Compliance**

- **Minimize** resource **impacts**
- **Minimize** user **conflicts**
- Assist with general management, budgetary, law enforcement and maintenance concerns

- Develop a “better **network**” of routes that **maximizes** the **protection** of natural and cultural resources while still providing to the extent practical **multiple use** via a variety of routes



Why use a software/database evaluation tool for this type of planning?

- **Readily useable documentation vs. unused “dust-gathering” documents**
- **Administrative record** – basis for decisions
- **Dynamic database** - useful for tracking, implementation & follow up, and future uses



Primary Issues

- **Involve the public** to the extent possible (FACA)
- **Look beyond** natural **resources** constraints
- **Include** good **recreational and commercial uses** data
- Good **ground-truthed maps**
- **Clearer links** between closures and resource concerns
- Route **evaluation** process that is **systematic**
- Evaluate each route **individually**, as well as **all routes collectively** (i.e. cumulative landscape perspective)
- **Route by route data** management



Route Evaluation Primary Concerns

● Some Sensitive **Resource Concerns:**

- **Protection of natural and cultural resources**
- Need reliable, recent biological data, especially T, E and S
- Agency projects designed to **recover T and E species**
- How to control & address “**user-created**” routes
- Number and level of impacts, as well as intensity and type of use
- **Habitat fragmentation, route density and properly functioning habitat**
- **Cultural/Historic Resources** Protection (Section 106)
- **Route proliferation, compliance,** route redundancy
- **Cumulative effects and “landscape” perspective**
- **Visitor conflicts**

Route Evaluation Primary Concerns

(continued)

● Some Access Concerns:

- **Commercial and Private Property Access**

- Ranching, impacts on local economies
- Oil and Gas, Mining
- Utilities

- **Recreational Opportunity**

- **Variety** of Routes (e.g. motorized and non-motorized) (user conflicts)
- History of Use
- **Safety**
- **Concentrating** Use
- **Intensity and Season**
- Full Day's Recreation, feeder Routes
- **Recreational experience has value**
- **Look beyond transportation**, (e.g. looping opportunities)
- **Route "Network"**



Some Agency Staff Concerns

- Lack of systematic neutral interdisciplinary public collaborative process for evaluating each route **individually**, as well as **collectively**, based upon **statutory requirements** and **issues** raised by the **public**.
- Lack effective process for integrating travel management planning, interdisciplinary environmental analysis and scientific/resource data with new technologies (e.g. GIS, relational databases, GPS).



Some Pertinent Statutes / Sideboards

- NEPA
- ESA
- Historic Preservation and Antiquities Acts
- Agency Organic Acts (e.g. NFMA, FLPMA)
- Federal Mining and Grazing Acts
- CFRs, Presidential Executive Orders re: OHV Recreation Planning
- Other Directives (e.g. Monument Proclamations, Wild and Scenic Rivers Act)
- State Codes and Regulations (e.g. AZ Game and Fish)
- Public Land Health Standards
- Case Law *Marsh (SC)-Mitigation; Strycker's Bay: weighting*



Route Evaluation Tree Process®

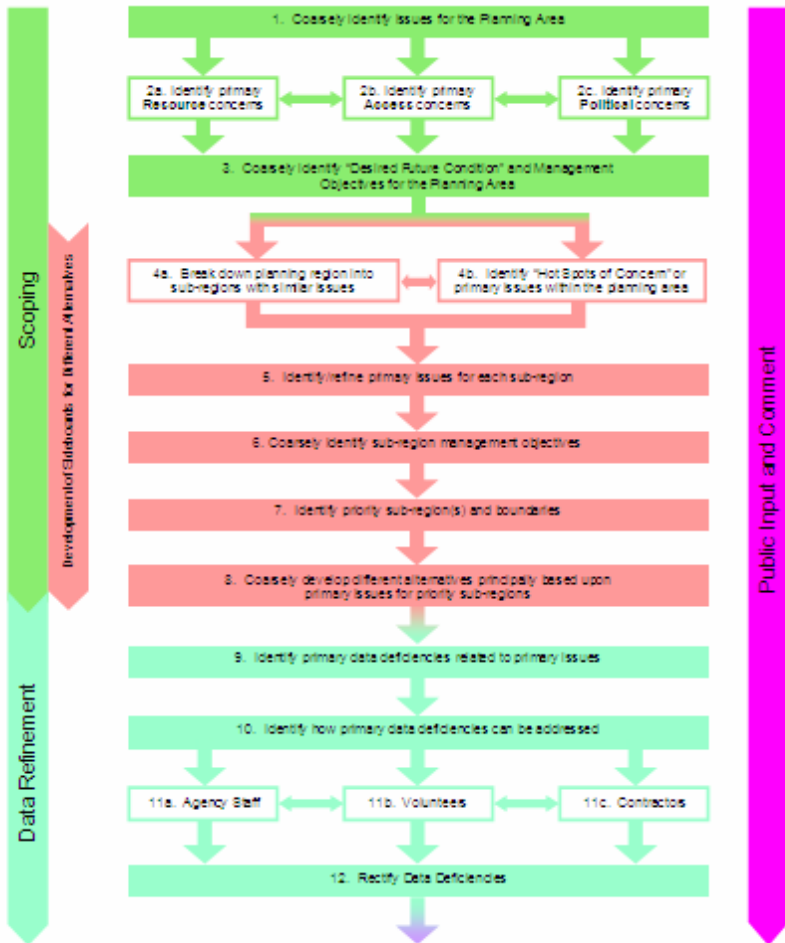


Phases of the Route Evaluation Tree Process[©]

- **Three Major Phases** of the Entire Process:
 - Steps **Preceding** Use of Evaluation Tree[©]
 - **Use of** Evaluation Tree[©]
 - Steps **Post-** Evaluation Tree[©]
- Remember...use of the **Evaluation Tree[©]** for evaluating routes is **only one step** among many in the entire Route Evaluation Process[©] and planning process

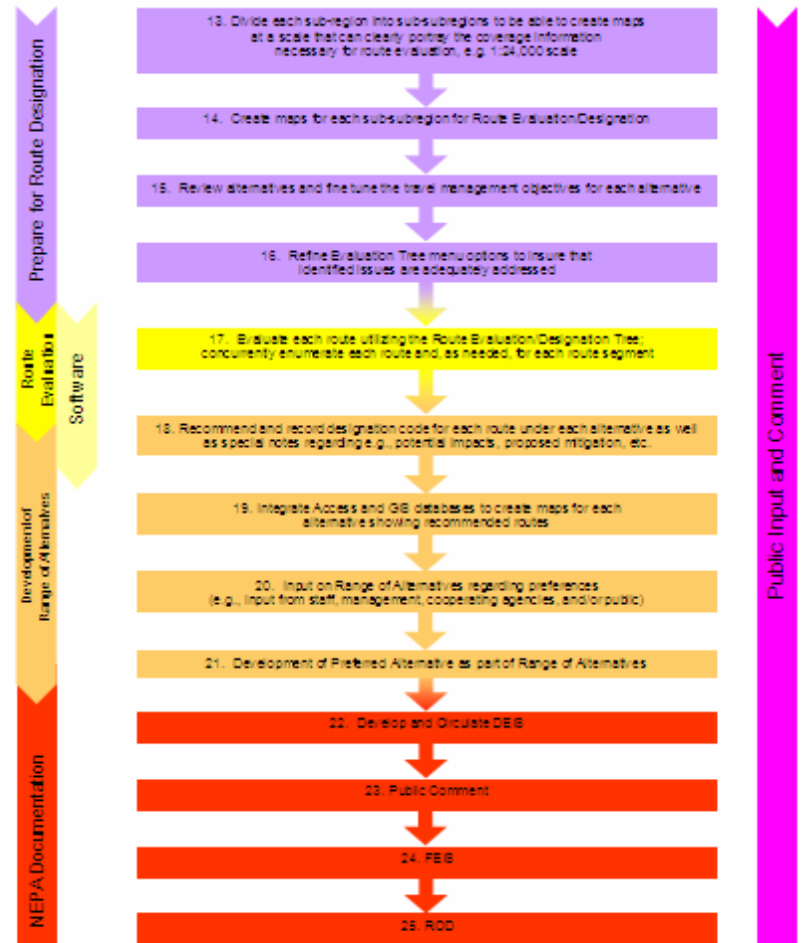
Route Evaluation Tree Process © Flowchart

Route Evaluation/Designation Tree Process[®]
for Travel Management Planning



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Route Evaluation/Designation Tree Process[®]
for Travel Management Planning



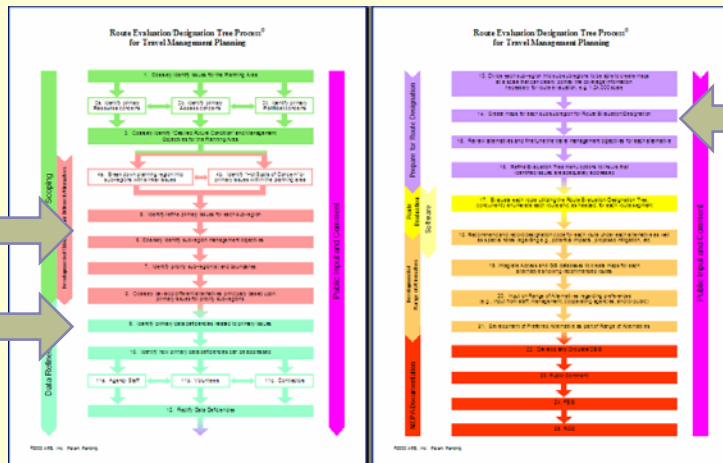
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Preceding Evaluation

Resource and Route Inventory

The steps before route evaluation involve extensive staff research and can typically take several months of preparation

- Fine-tune and weight issues with agency interdisciplinary staff and the public
- Develop different network options criteria that address priority issues
- Capture and consolidate resource and route inventory data
- Identify primary data deficiencies
- Rectify data deficiencies
- Develop GIS data layers reflecting both the issues and the known inventory



Preceding Evaluation

Fine-tune Route Evaluation Tree[©] software

to insure that identified issues are addressed and the **priority issues** are clearly identified (e.g. MIS, T& E species)

Route Access / Use - AB10001

Identify all access/uses for this route: Memo

Access / Use:

- Administrative Uses
- Commercial Ranching Facility**
- Military Facility
- Mining
- Misc.
- Officially Recognized in Federal Planning Document and Maintained

Select the Access/Use by clicking "P"-Primary, "S"-Secondary, or "T"-Tertiary

| | Specifically | P | S | T | ▲ |
|--------------------------|------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | Salt Lick | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | Spring | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | Stock Trail | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | Tank | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | Trough | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | Water Catchment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | Water Facilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

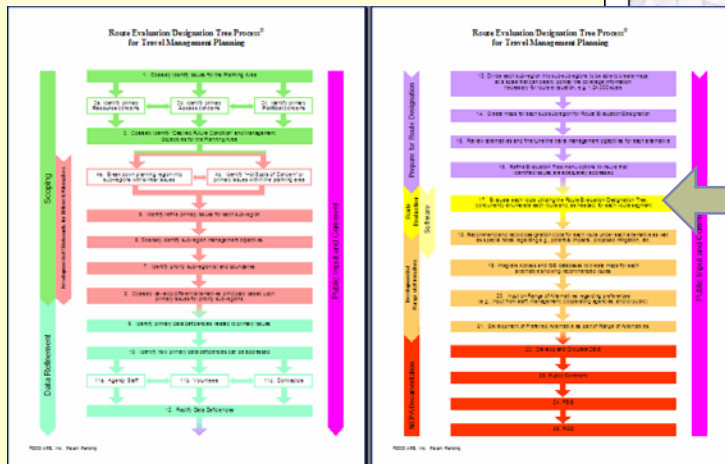
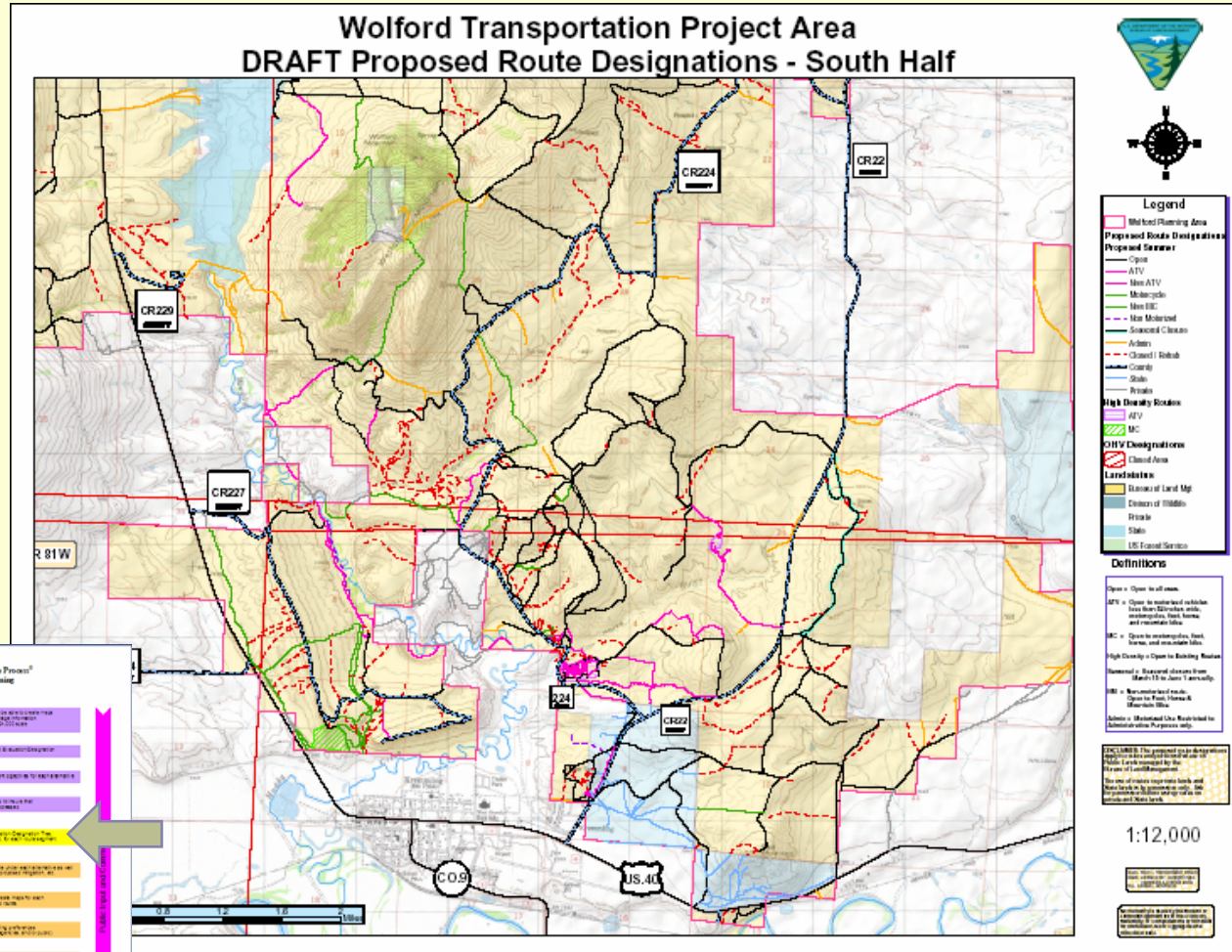
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e.g. Access Uses:

- Administrative Uses
- Commercial Ranching Facility
- Military Facility
- Mining
- Officially Recognized in Federal Planning Document and Maintained
- Private Property
- Railroad
- State Lands
- Utilities

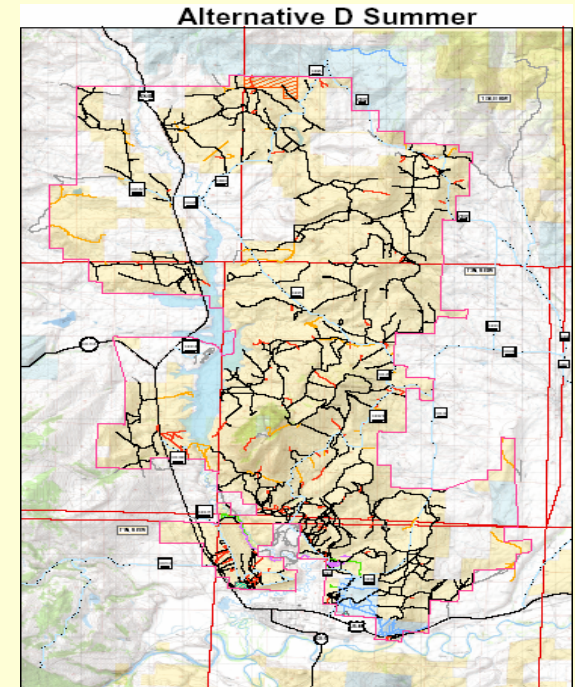
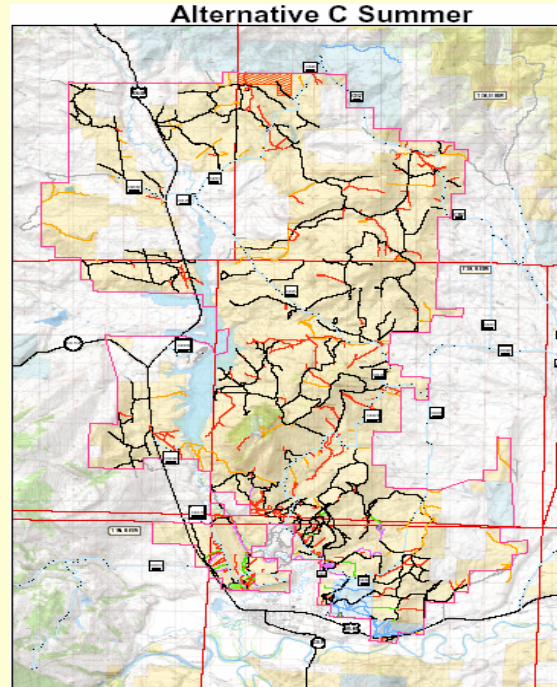
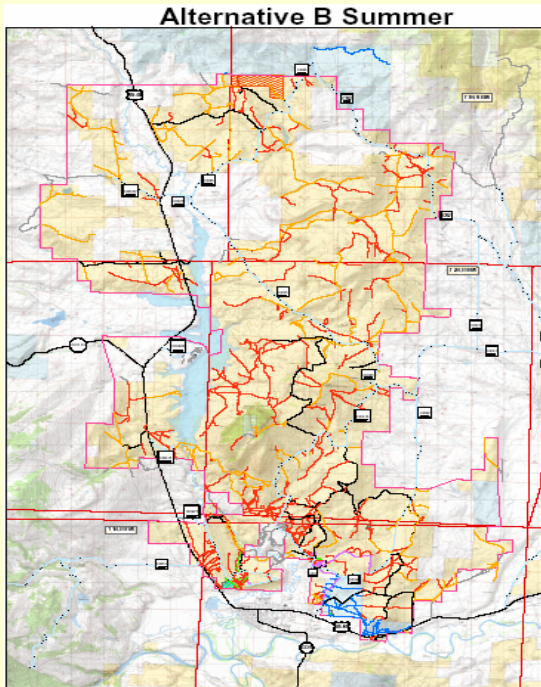
Use of Evaluation Tree[©]

Carry out route evaluation with agency staff utilizing the Route Evaluation Tree Software[©]



Steps Post-Evaluation Tree[©]

GIS Maps – Range of Alternatives



Each alternative may address or weight the identified issues differently. Often the differences between alternatives is based upon different thresholds of acceptable impact (e.g. different levels of route density).

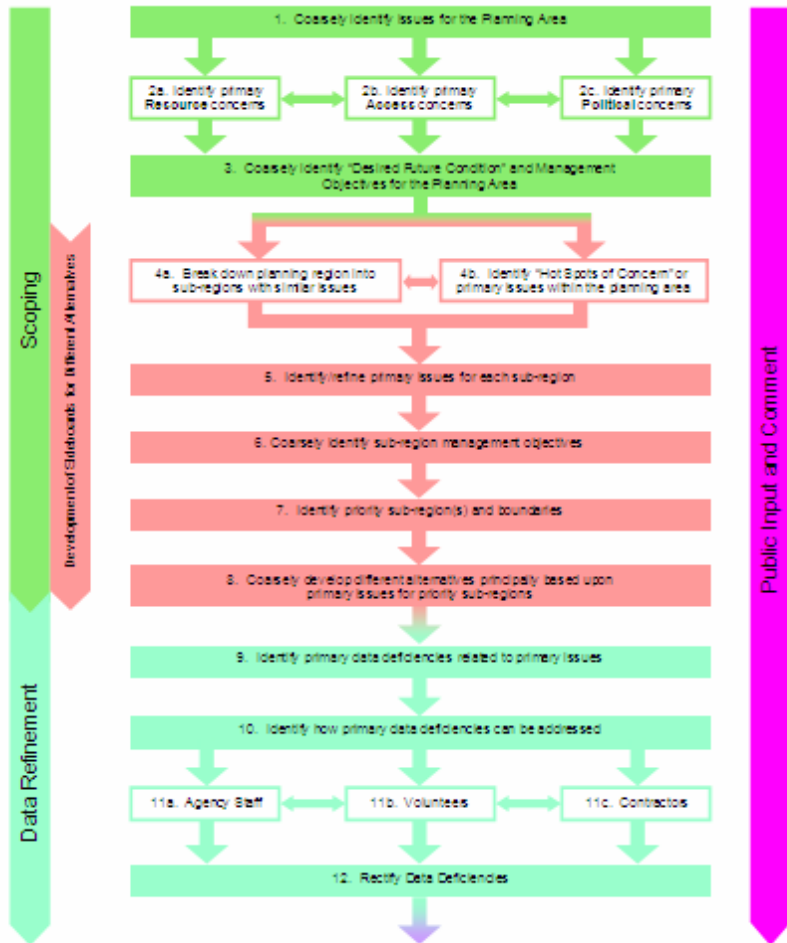


Integration of the Route Evaluation Tree Process Into the Travel Management Planning

- **Use of the actual Route Evaluation Tree is only one step** amongst many in carrying out the Route Evaluation Tree Process[©]
- **In order to be most effective:**
 - **Need thorough preparation**
 - **Need staff involvement and managerial support**

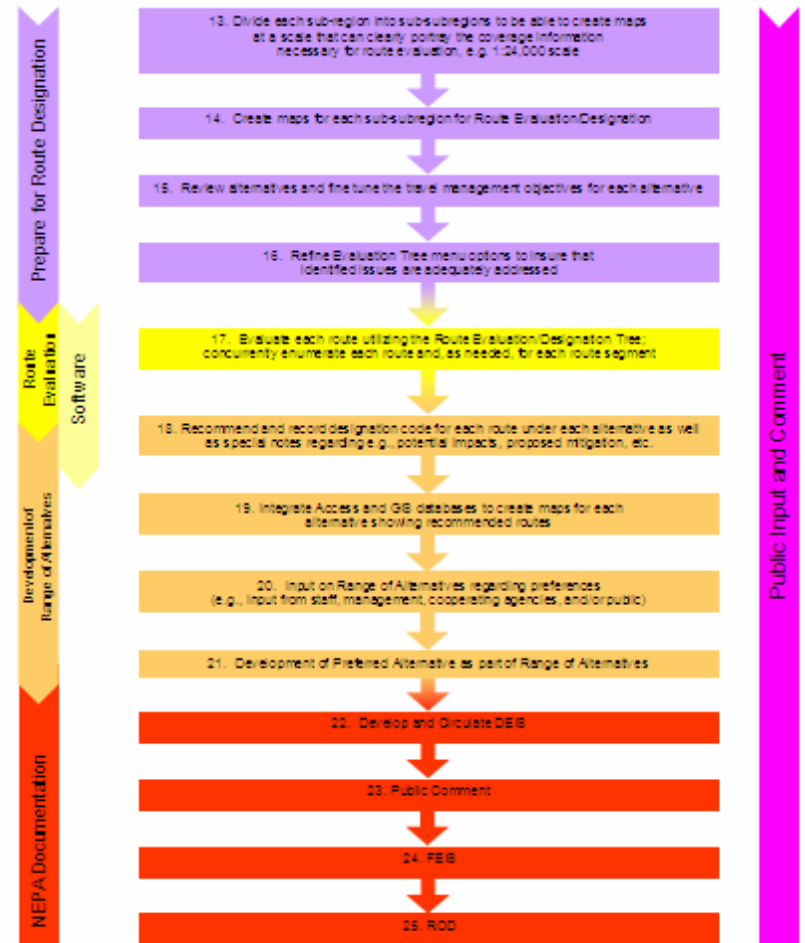
Route Evaluation Tree Process © Flowchart

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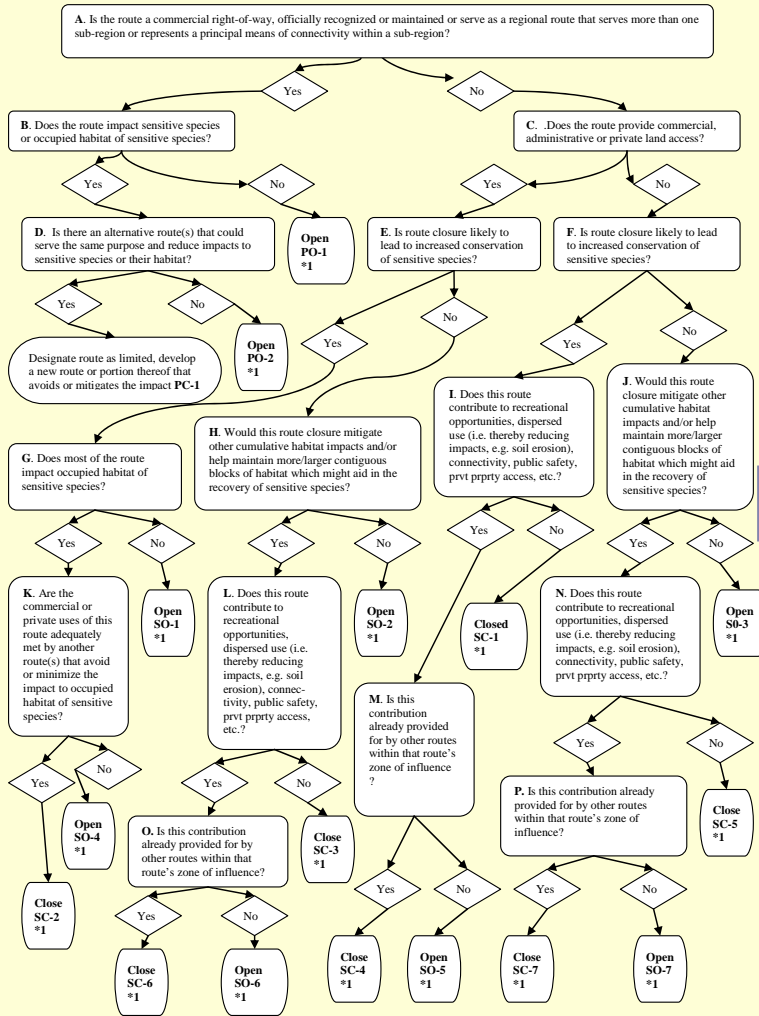
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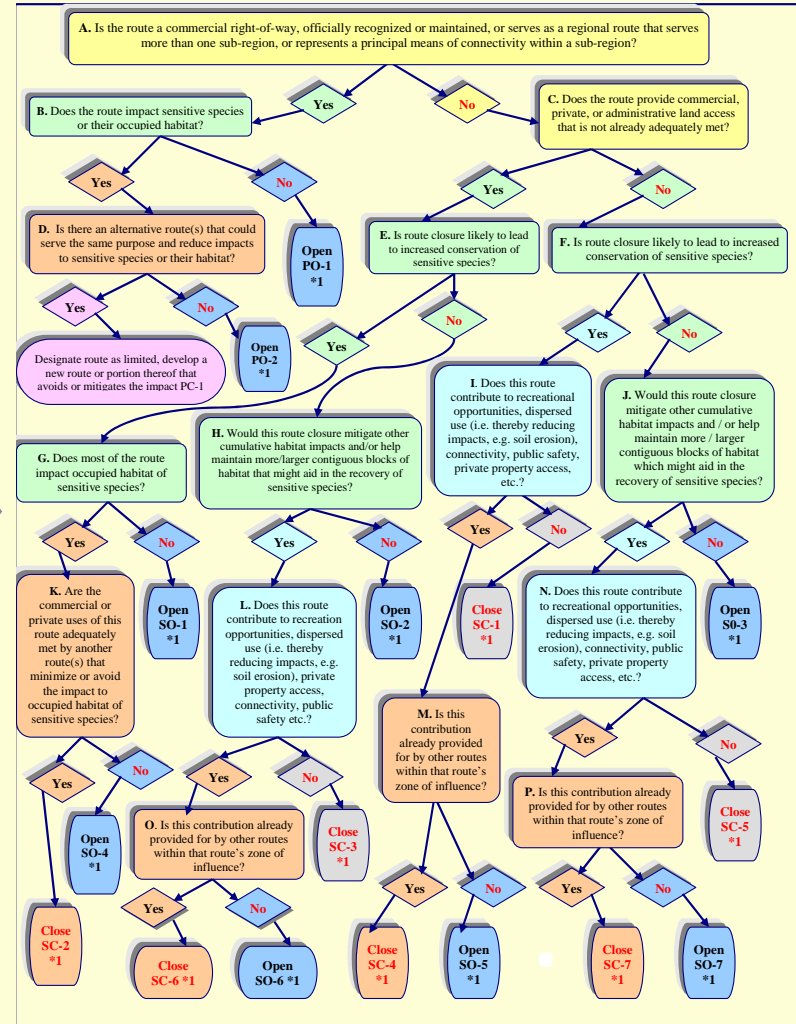


Route Evaluation Tree[©]

Evolution of the Evaluation Tree



October 8, 2002

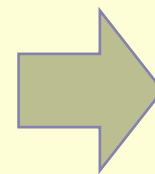
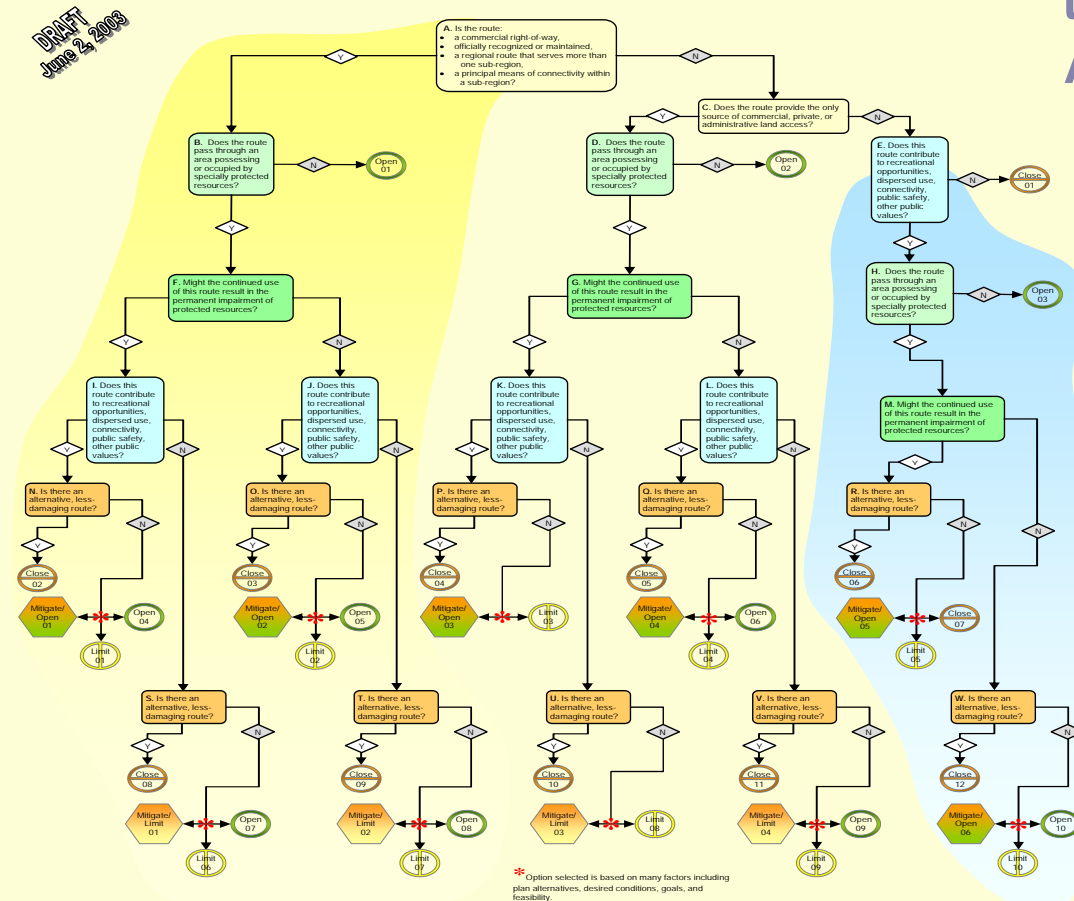


True Decision Tree

November 18, 2002

Evolution of the Evaluation Tree

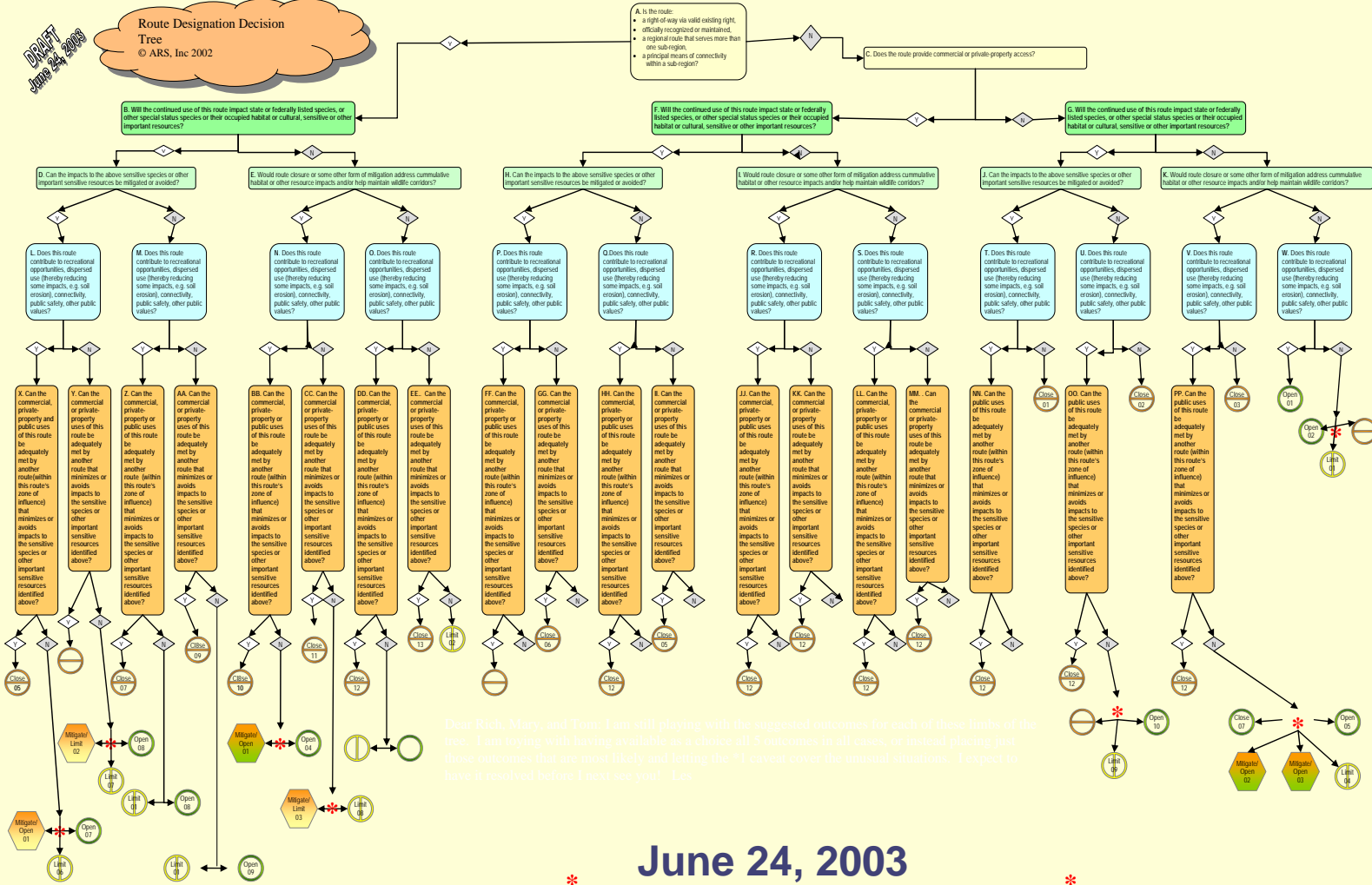
More options wanted
to help create a range;
Agency Planning Staff
= Evaluation Tree



June 2, 2003

Evolution of the Evaluation Tree

Need more detail and clarification: Environmental Community



June 24, 2003

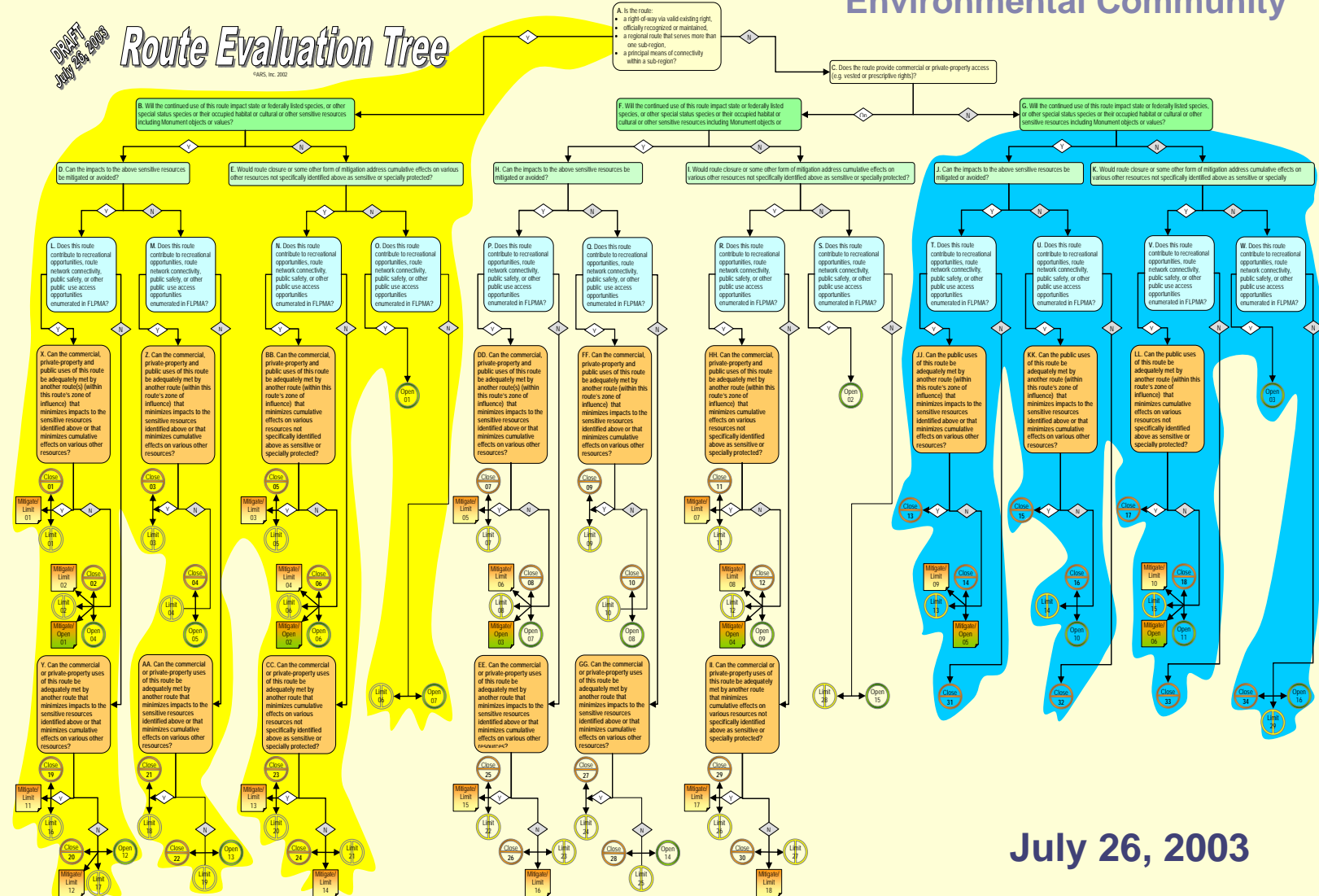
Evolution of the Evaluation Tree

Further clarify environmental impacts:
Environmental Community

DRAFT
July 26, 2003

Route Evaluation Tree

1983, et. seq.



July 26, 2003

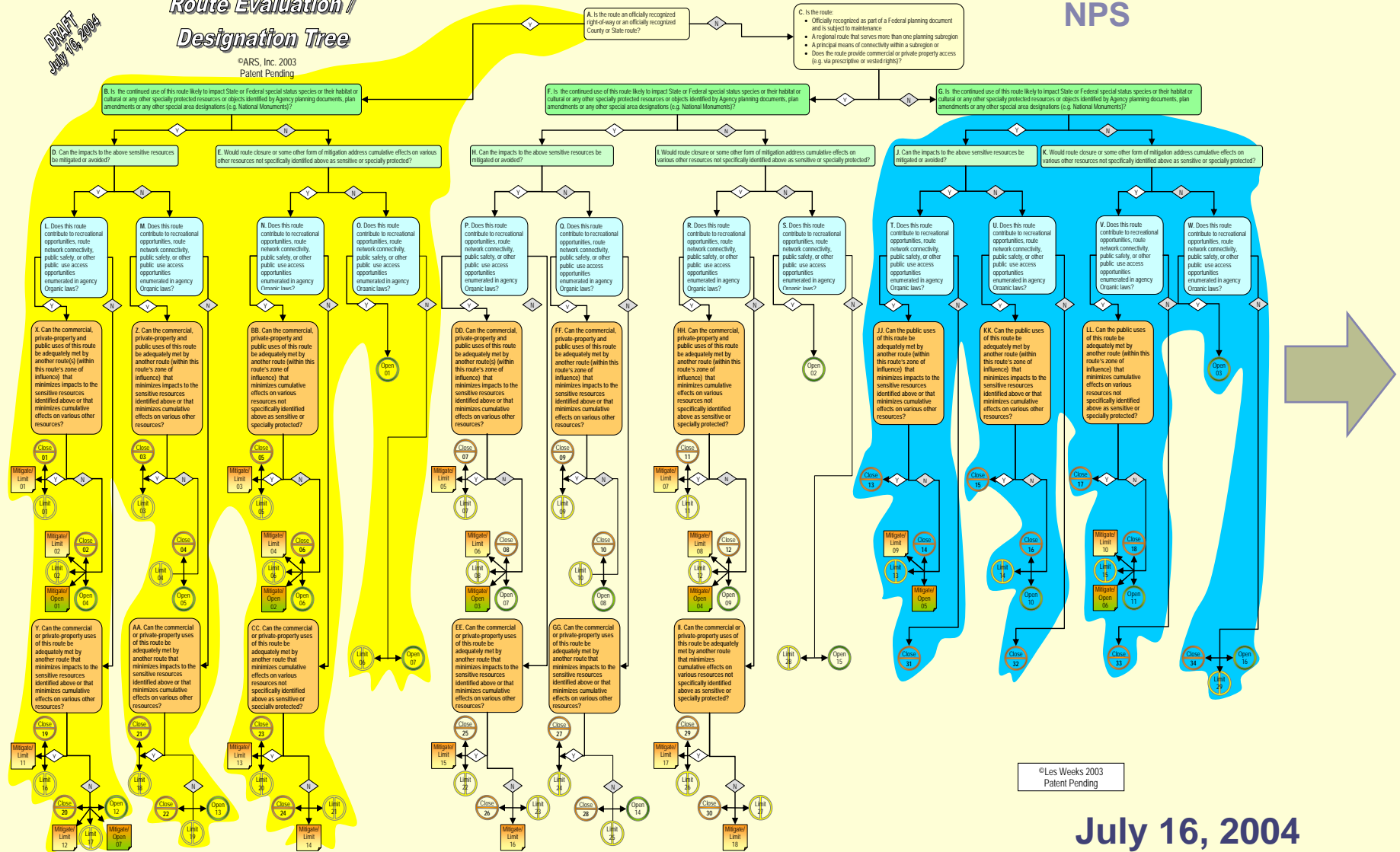
Evolution of the Evaluation Tree

Adjust treatment of access information:
NPS

Route Evaluation / Designation Tree

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DRIFT
July 16, 2004

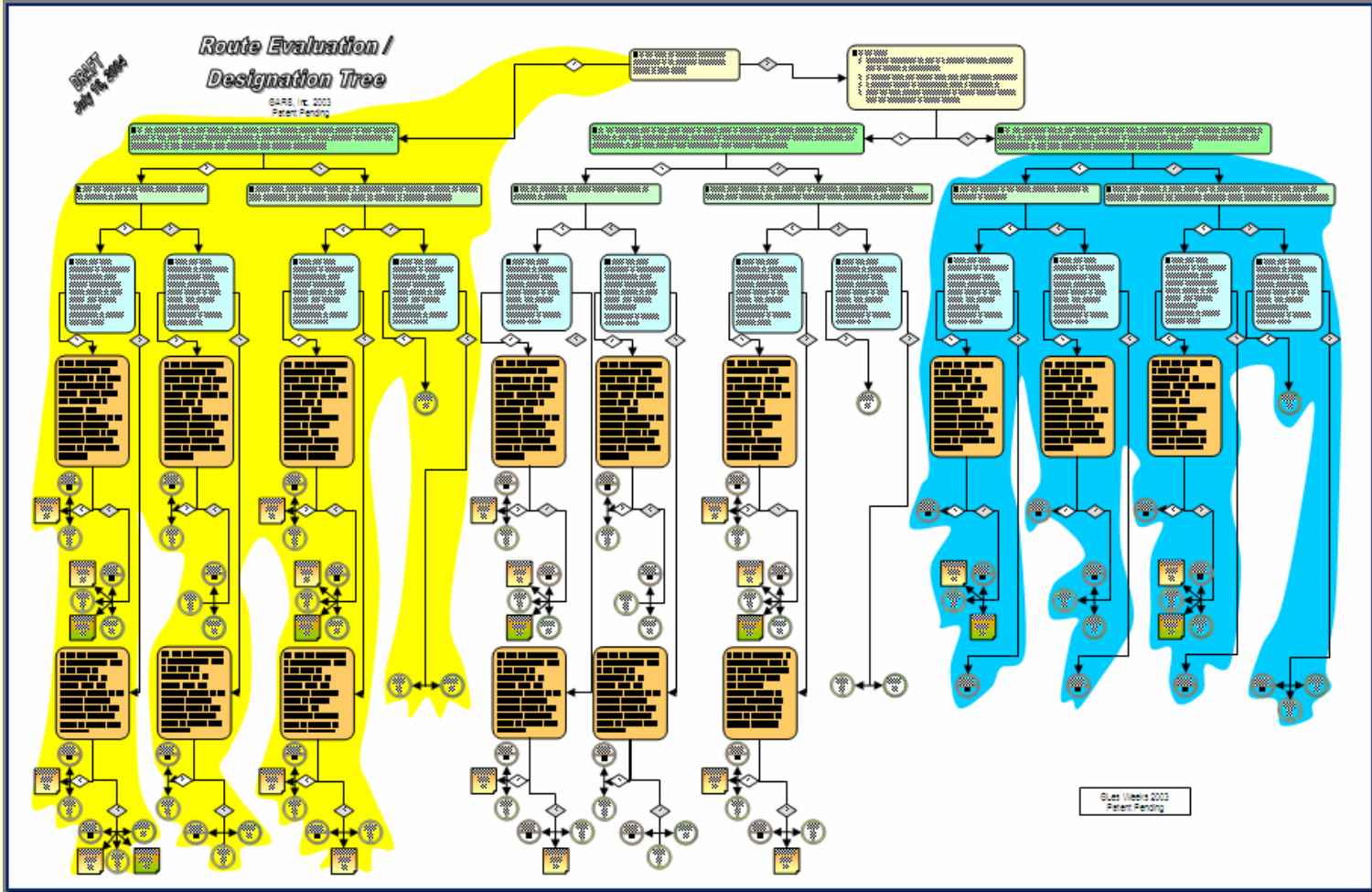


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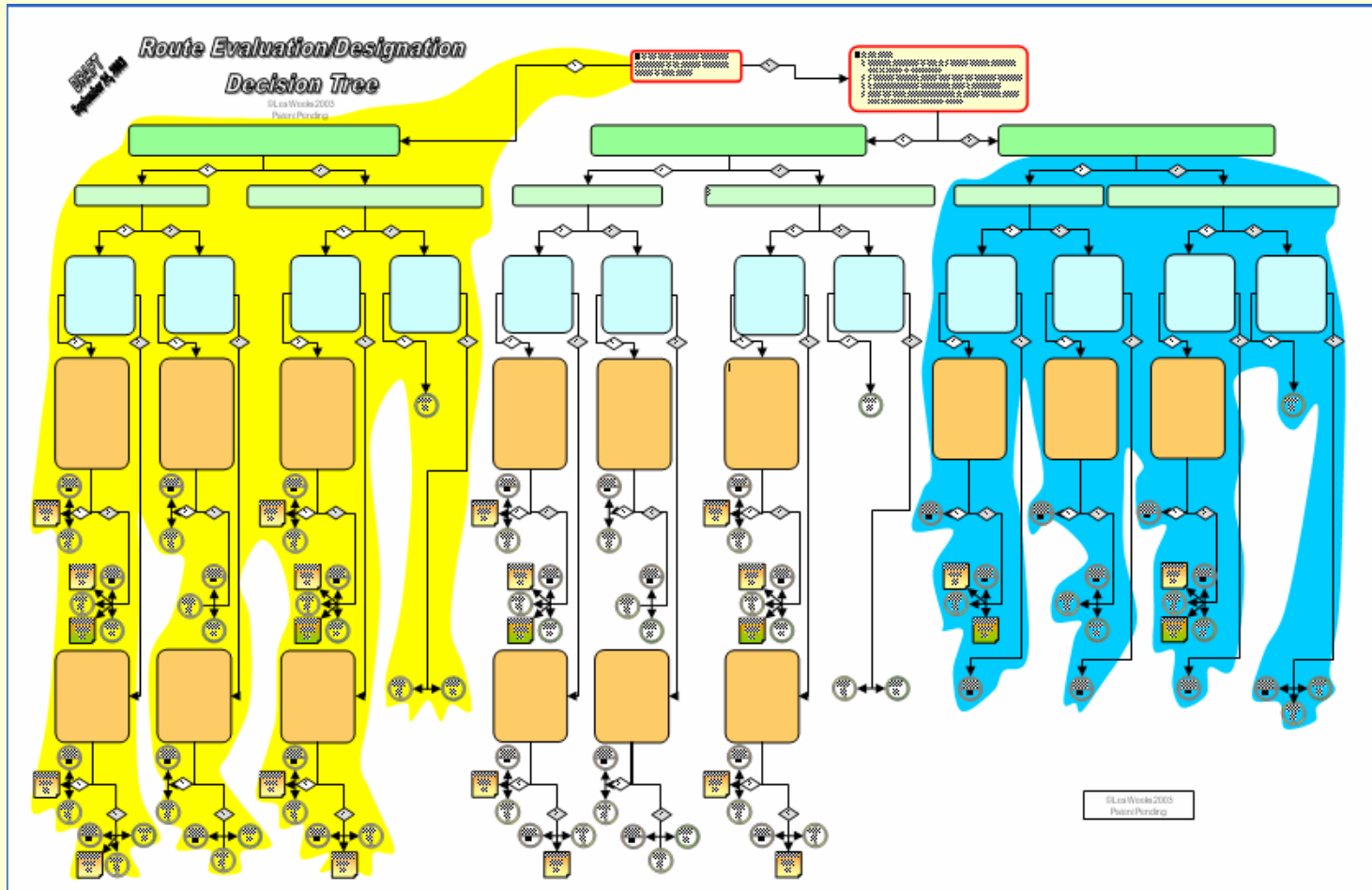
July 16, 2004

Route Evaluation Tree[©]

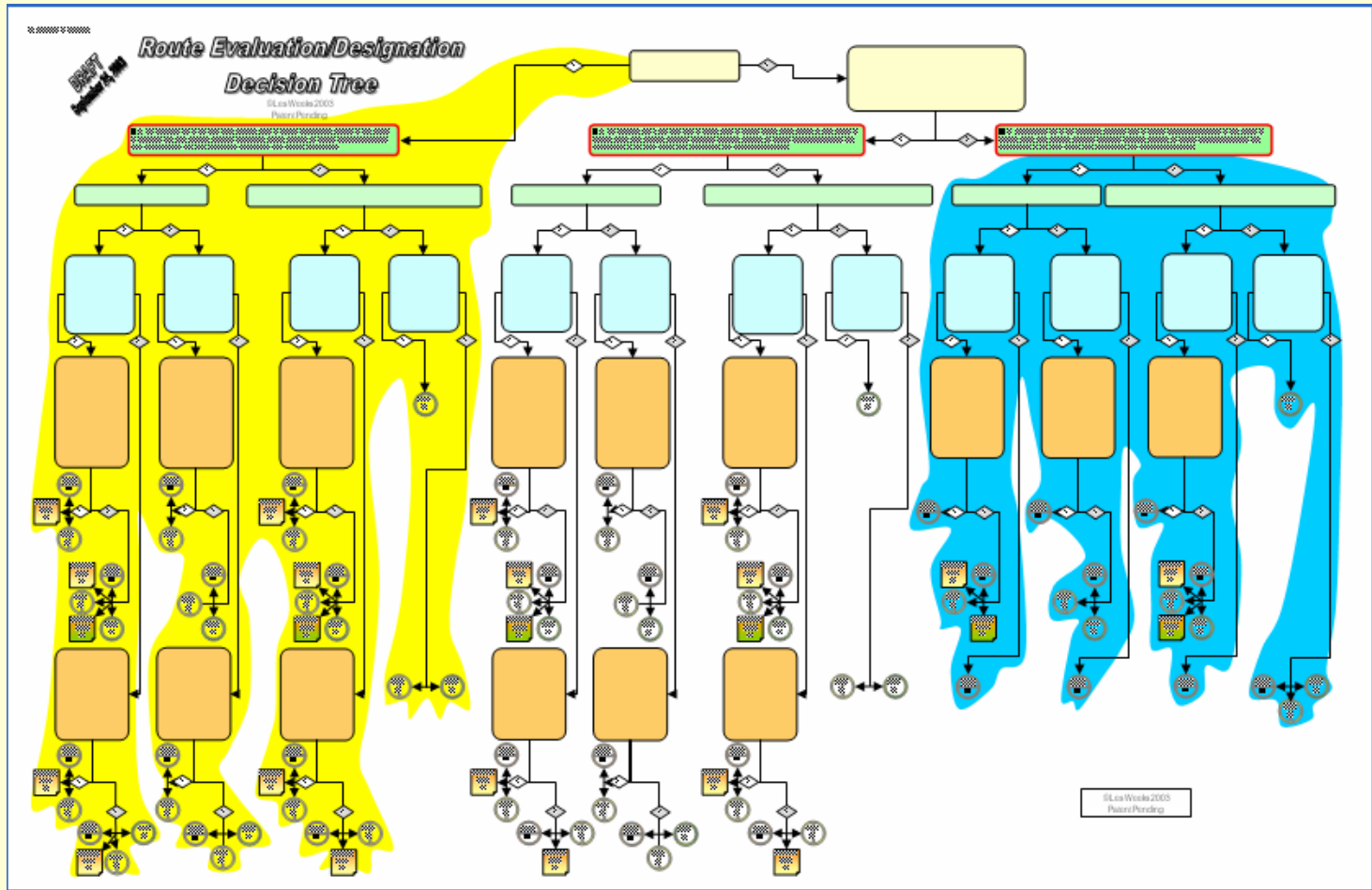
Fairly recent, but not latest version: Eliminate “Decision”, “zone of influence”, etc: Agencies, environmental community



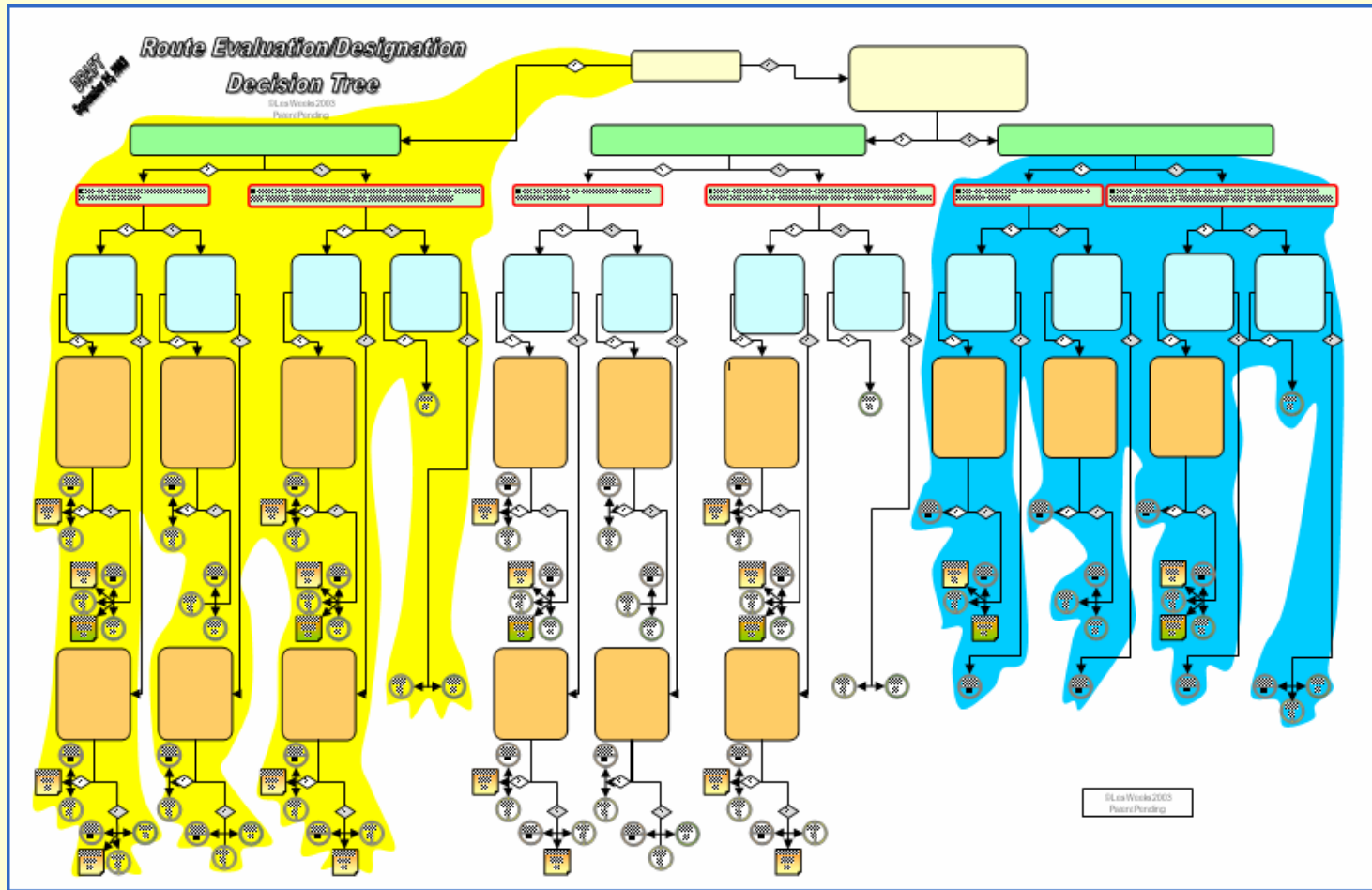
Route Evaluation Tree[©]



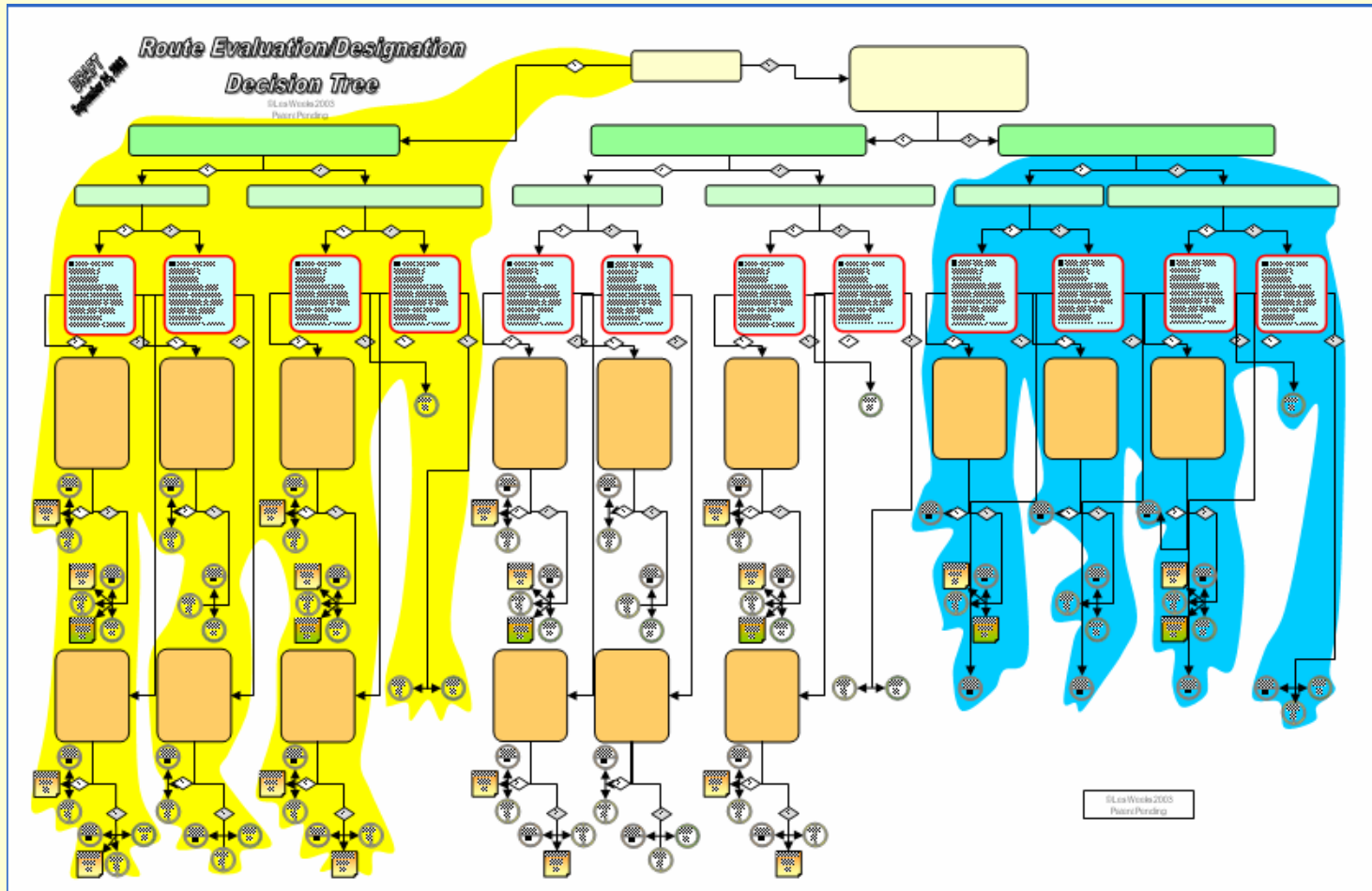
Route Evaluation Tree[©]



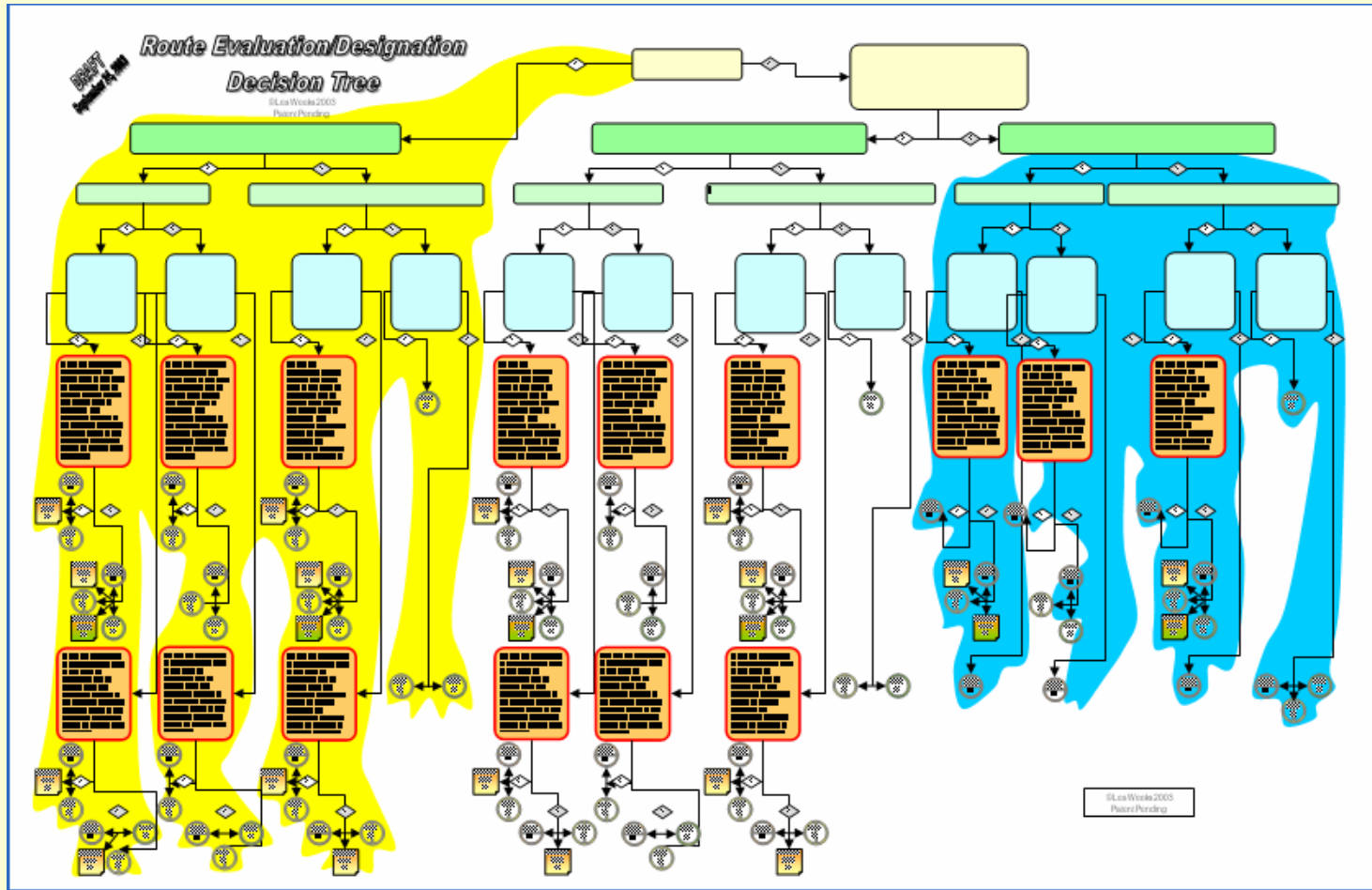
Route Evaluation Tree[©]



Route Evaluation Tree[©]



Route Evaluation Tree[©]





Conclusions



Overview of the Route Evaluation Tree Process[©]

- Effectiveness maximized by accurate and **best available information**
- **Flowchart** with sequential sets (or branches) of questions – **standardized, interdisciplinary and systematic**
- **“Focus”** or **topical questions** trigger additional follow-up questions
- **Scale: focused vs. landscape perspective-** “zoom-in and “zoom out”
- **Recommendations coded** for future tracking and retrieval of information



Route Evaluation Tree Process[©] Work Products

- Individual **route reports**
- **Access database** of Evaluation Tree[©] responses- (dynamic)
- Contributes information for the creation of a **Range of Alternatives** and Proposed Alternative
- **GIS Maps**
- **Readily queryable data** to assist with impact analysis
- Documentation for an **Administrative Record**



Qualities of the Route Evaluation Tree Process[©]

- Planning tool
- Systematic, trackable, repeatable
- Multidisciplinary
- Emphasizes public collaboration (information and implementation)
- Individual route evaluation
- Landscape and route network evaluation
- Neutral collection of information
- Assists in preparing a range of alternatives
- Database creation (assist with cumulative effects and environmental impact analysis)
- Assists staff with preparing to address statutory requirements



Feedback And Misconceptions

- **Flawed because doesn't address wildlife, soils or water quality**
- **“Closes too many routes”**
- **“Closes too few routes”**
- **“Replaces the need to do NEPA”**
- **“Computer makes final designation”**
- **“Doesn't adequately address cumulative effects or look at a landscape perspective”**
- **“Should stop evaluation of route once impacts are identified”**
- **“Doesn't weight certain factors over others”**
- **“Should only look at officially-recognized routes and automatically close all unofficial routes”**



What's Next?

- *Break*
- **Explain software**
- **Review Example to be used with software:**
 - Review subregion
 - Review range of alternatives
- *Lunch*
- **Prepare to use software:**
 - Break into three teams
 - “Game – Plan” or strategize for a small area
- *Break*
- **Use software to evaluate routes using three alternatives**
- **Discussion and Questions**



Route Evaluation Tree Software[©]



Break



Review Example to be used with software:

- Review Planning Area at successively smaller geographic
- Review alternatives
 - Review suggested criteria
- Relate to Route Evaluation Tree Process flowchart and “reality”



Lunch

- Return prepared to actively participate!



Prepare to use software:

- Break into three groups
 - *Based upon the number on your packet*
- “Retreat” to separate conference rooms (*this is usually not done, but because of noise and the size of the group we feel it is necessary*)
- Discuss & “fine-tune” alternative
- Review routes and their characteristics
- Develop a “rough” strategy for route designation based upon your alternative’s criteria
 - *(recognizing that in this example (due to time constraints) that you don’t yet have all the specific route data!)*



Break



Use GIS & Route Evaluation Tree Software to evaluate routes

- Reconvene in large room, as three separate teams
- Review each route utilizing GIS
- Record data for each route utilizing RET software
- At the end of data collection for each route:
 - Teams have private discussions on how to designate route
 - Teams share their proposed designation with the entire group
 - Proposed designations are recorded in the software and on the corresponding map for each alternative



Discussion and Questions