

ECOSYSTEM MANAGEMENT and SUSTAINABLE FORESTRY
TECHNICAL ADVISORY COMMITTEE (TAC)

March 28 and 29, 2006

Meeting Summary

DRAFT

(1). Vision Statement

Philosophical agreement that active management, stewardship and habitat restoration on public and private land is required for all resources in order to meet the goals of the Highlands Council to achieve objectives of the Highlands Water Protection and Planning Act.

(2). Summary

The following statements, strategies and approaches are an agglomeration of the full range of issues discussed on Day 1 and Day 2. Strategies and approaches specific to the five problem statements posed by the Highlands Council staff may be found in Section 4.

1. Science-based management on public and private lands shall address all natural resources within the Highlands Region with the goal of maximizing public benefit. This shall be accomplished by:
 - Preparation and implementation of forest and resource management plans with third party verification/peer review;
 - Reduction in deer herd, invasive species and overabundant native species;
 - Maintaining a mosaic of patch sizes, habitat types, and age classes;
 - Reducing permanent disturbances/sprawl;
 - Biodiversity friendly development;
 - Maintaining and enhancing the upland/wetland continuum; and
 - Basing plans on good data, inventories and species abstracts.
2. Science-based management includes the entire spectrum of activities from intensive silvicultural activities to the delineation of wilderness areas.
3. We view science-based management as the rubric that clarifies the terminology associated with protection, preservation, conservation, wise use and restoration.
4. TAC position on deer and invasive species. There is a need to reinvent the fundamental system of deer management and to conduct further research on the biological control of invasive species.
5. Highlands open water protection links to biological indicators. The wetland regulations are not sufficient to protect waters, and there is a need to protect the upland/wetland relationship and watershed systems.

(3). Problem statements prepared by the Highlands Council staff

Question #1:

1a- What forest metrics are useful for evaluating forest integrity?

1b- What quantitative thresholds should be used to identify high value forest land that should be prioritized for protection?

Question #2

How do we integrate watershed and forest protection (biodiversity, forest health) goals into forestry practices?

Question #3

What biological, chemical and physical attributes should be considered to rank protection needs of Highlands open waters (surface waters and wetlands)?

Question #4

What are the most effective methods and approaches to conserve biodiversity?

Question #5

What criteria should be factored into developing steep slope categories for purposes of regulating land use and development?

(4). Preliminary list of TAC strategies/approaches in response to the problem statements

Sidebar discussion

TAC cautions the Highlands Council to clarify the intent and definition of certain words. As an example, “preservation” and “conservation” have different connotations and variations in approach.

Preservation equates to “hands off,” or to remain in a wilderness state. In certain cases this is a good strategy where old growth forest is maintained.

Conservation equates to ecosystem management/science based management which allows for a limited set-aside of land for preservation.

How do we define *protection* and what approaches do we take?

- Identify undeveloped tracts of land at the macro level
- Incorporate forest management and look toward forest structure
- Application of stewardship on large patches

Forest *protection* and *sustainability* are not exclusive of each other and share common goals.

How do we define *integrity*? (Reference Society of American Foresters definition)

Question #1a – Strategies/Approaches

What forest metrics are useful for evaluating forest integrity?

- USDA Forest Service 2002 Highlands Study indicates that forest mosaic and juxtaposition are reasons for biodiversity.
- Patch size
- Configuration
- Connectivity
- Landscape to stand level metrics
- Forest age and vegetative composition (measurable at the stand level but not landscape level)
- Density and composition of native species shrub layer (measurable at the stand level but not landscape level)
- Forest health (hemlock adelgid, etc - non measurable in terms of metrics)
- Ability of the forest to regenerate (saplings and seedlings)
- Stand structure – age classes
- Landscape voracity (movement across landscape by species)
- There is no stand alone “magic metric” that should take precedence. Rather, we need to use multiple good metrics.

Question #1b Strategies/Approaches

What quantitative thresholds should be used to identify high value forest land that should be prioritized for protection?

- Science-based management (quantitative and qualitative)
- Bigger is better
- Closer is better
- More porous is better
- Contiguous patches
- Forest draining to public water supply (higher value)
- Site index
- Soil index
- Stand type
- Stocking level
- All forest still connected
- Lack of invasive species (cannot be quantified at landscape level, but can be quantified on a smaller scale)
- Need to take a hard look at the metrics data to determine the breakpoint threshold for high and low value
- Landscape level needed for the Highlands Council to develop constraints map – need to use forest cover and soil types

Question #2 Strategies/Approaches

How do we integrate watershed and forest protection (biodiversity, forest health) goals into forestry practices?

- Preservation
- Conservation
- Best Management Practices (one example: establish buffers around vernal pools)
- Relationship of forestry to the Highlands Act (forestry cannot be banned and is exempt)
- Identify areas most in need of restoration
- Identify areas most in need of restoration
- Develop a management plan for the Highlands region that includes active management and leaving areas alone. Said plan needs to be executed on the ground.
- Why is there a need for active management? To gain farmland assessment status, for wildlife, for aesthetics, to increase water yield.
- Invasives (example- washing equipment to avoid seed dissemination)
- Tackle the deer issues
- Rare, threatened and endangered species (some require disturbance, some do not)
- State Wildlife Action Plan – good resource for foresters and others

Question #3 – Strategies/Approaches

What biological, chemical and physical attributes should be considered to rank protection needs of Highlands open waters (surface waters and wetlands)?

- Drains to public water supply
- AMNET data
- Wetland mosaics
- Wetland interconnectivity
- Riparian protection
- Seeps and springs protection
- Vernal pool and upland buffer protection
- Percent of watershed/impervious surface correlation
- pH
- Temperature
- Dissolved oxygen
- Dissolved solids
- Nitrogen
- Sedimentation
- IBI data
- Presence of contamination
- Natural Heritage plant communities
- Presence or absence of public sewer system
- Trout waters
- Mussel data
- Stream salamanders

Question #4 – Strategies/Approaches

What are the most effective methods and approaches to conserve biodiversity?

- Invasive species control and deer control
- Management (There is a lack of management of public owned lands at all levels of government)
- Management plans are needed for conservation easements
- Maintain multiple age classes and harvest schedule (forest/wildlife benefits)
- Offer incentives to private landowners to manage their land
- Limit human disturbance
- Wildlife Action Plan – good tool
- Bigger is better
- Earthworm control
- Maintain a mosaic of forest types
- Is more biodiversity always good? Yes
- Vulnerability of time scale and dynamics (400 year old forest vs. 10 year old forest)
- Balance core (forest interior) – early successional forest can occur within the core
- Provide funding to implement management plans
- Monitor what works and what does not work

Problem Statement #5 – Strategies/Approaches

What criteria should be factored into developing steep slope categories for purposes of regulating land use and development?

Note: The group used all of their voting dots on questions #1 through 4.

- First define steep slope
- Soil types associated with slope
- SCS erodable soils
- Slopes over distances
- Variable
- Aspect
- Recovery
- Water quality
- Depth to bedrock
- K factor
- Percent slope
- Define erosion potential (light, moderate & extreme)
- Also protect less steep slopes located downslope of steep area
- Surrounding landscape and degree of degradation
- Talus slope
- Vegetation cover
- Understory structural diversity
- Why should a slope not be disturbed? Water quality degradation, flood hazard and downstream effect

(5). Top strategies/approaches, implementation methods, resource constraints, and case studies/examples.

| <p><i>1a- What forest metrics are useful for evaluating forest integrity?</i></p> <p><i>Top strategies:</i> <i>Patch size and configuration with the understanding there is no stand alone “magic metric” that should take precedence. Rather, we need to use multiple <u>good</u> metrics. The TAC felt that all strategies should still be factored into the evaluation.</i></p> | | |
|---|---------------------------------------|--|
| <i>Implementation</i> | <i>Resources (limitations)</i> | <i>Good Examples</i> |
| Utilize FRAGSTATS metric methodologies | Staff and money | NY City Watershed Lands – their data use and application |
| Review GIS layers | | NJ Green Acres ranking system has a core-patch focus |
| Field reconnaissance is necessary to confirm conditions on the ground | | NJ Landscape – use in a nonregulatory capacity and as guidance. (mixed reaction from TAC on landscape project) |
| Identify patches of interest (example: private vs. public land) | | |
| Many patches of interest will be next to or within public | | |
| Ownership – first cut is not the issue, it becomes an issue later | | |
| Correlation of metrics which must be verified on the ground | | |
| Field check 2002 land use/land cover changes | | |
| Develop a ranking system | | |

Question 1b - What quantitative thresholds should be used to identify high value forest land that should be prioritized for protection?

Question 2 - How do we integrate watershed and forest protection (biodiversity, forest health) goals into forestry practices?

Top Strategies:

Science based management (quantitative and qualitative), conservation, preservation, and best management practices received top scores. However, the TAC felt that all strategies need to be considered.

Relationship of forestry to the Act (forestry cannot be banned and is exempt) – see notes following table.

| Implementation | Resources (limitations) | Good Examples |
|---|-----------------------------------|----------------------|
| Development of resource management plans | Staff | |
| Resource assessment (in the field data) | Money | |
| Research and literature review | Technically trained professionals | |
| RTE flora inventory -public and private (private subject to 3 rd party review) | | |
| RTE fauna inventory-public and private (private subject to 3 rd party review) | | |
| Objectives for management | | |
| History of parcel management | | |
| Detailed wildlife prescriptions | | |
| Detailed management abstracts for RTE species | | |
| | | |

Relationship of forestry to the Act (forestry cannot be banned and is exempt).

How do we bridge forestry which is exempt from the Act to biodiversity management?

- Provide incentives to land owners for good management
- Look to noncommodity credits(t&e, water supply, invasive species control, etc.) rather than the \$500.00 commodity requirement

Question #3 - What biological, chemical and physical attributes should be considered to rank protection needs of Highlands open waters (surface waters and wetlands)?

Top Strategies: Areas that drain to public water supply and AMNET data received top scores. However, the TAC felt that all strategies need to be considered.

| <i>Implementation</i> | <i>Resources (limitations)</i> | <i>Good Examples</i> |
|--|---------------------------------------|---|
| Seep, spring and vernal pools (identification on broad scale has limitations. New York credits landowners for identifying and mapping vernal pools). | Time, money and resource constraints | Data clearinghouse: USGS, Upper Raritan |
| Application of standard metrics to identify/measure indicators | | |
| Identify unimpaired streams and C-1 streams | | |
| Identify watersheds – drinking water reservoirs/surface water uptake | | |
| Identify surficial link to aquifers | | |
| Develop ranking system | | |
| Identify indicator species | | |
| Correlate biological, chemical, and quarter quantity linkage | | |
| Identify/protect inter-wetland mosaics | | |
| Application of best management practices | | |

Question #4 - What are the most effective methods and approaches to conserve biodiversity?

Top Strategies: Management deer control, invasive species control, incentives to private landowners to manage their land, lack of management of public owned lands at all levels of government, need for management on conservation easements and maintain multiple age classes and harvest schedule (forest/wildlife benefits).

| Implementation | Resources (Limitations) |
|--|---|
| Deer control - Highlands Council should encourage community based management plans | Money availability |
| Deer control - Hunting absent access | More state employees are needed to manage land |
| Deer control - Better decisions from the Hunting Council regarding does/bucks | Political will is needed to promote ideas and legislation |
| Deer control - Reclassify deer from game animal to pest | |
| Deer control - Market based hunting should be permitted | |
| Deer control - Legislation should outlaw deer feeding and refuges | |
| Deer control - Education is needed to play down the “Bambi” sentiment, address land owner objection, hunter opposition | |
| Deer control - The constitution of the Fish and Game Council (I didn't get all of this – TAC please complete) | |
| Invasives - Legislation should outlaw invasives in nurseries | |
| Invasives - Funding is needed for overseeing biological control of invasive species | |
| Invasives - Right-of-way requirements should address invasives | |
| Invasives - Cost share incentives should be provided to landowners to control invasives | |
| Invasives - Public land management is necessary since they provide a refuge for invasives | |
| Invasives - Educate the public that not all invasives are exotics. | |
| Private Land Owner Incentives - Provide more funding for stewardship | |
| Private Land Owner Incentives - Increase state and federal appropriations for management (WHIP, etc.) | |

Question #4 - What are the most effective methods and approaches to conserve biodiversity?

Top Strategies: Management deer control, invasive species control, incentives to private landowners to manage their land, lack of management of public owned lands at all levels of government, need for management on conservation easements and maintain multiple age classes and harvest schedule (forest/wildlife benefits).

| | |
|--|--|
| Private Land Owner Incentives - Local ordinances should be standardized | |
| Lack of management on public land - Share technical expertise and cross communication between agencies, NGO's and different levels of government | |
| Lack of management on public land - Allow for third party review of management plans | |
| Lack of management on public land - Streamline the permit process for management (the process may take up to years to obtain) | |
| Lack of management on public land - A clear model and clear mandate is needed | |
| Lack of management on public land - Reasonable objectives and standards need to be in place (for management on public land) | |
| Lack of management on public land - Capital improvement projects should include management and inventory of resources | |
| Lack of management on public land - Establish private/public partnerships | |
| Conservation Easements - Institute a "working landscape" | Education (state frowns upon conservation easements) |
| Conservation Easements - Establish good model easement language | Funding |
| Conservation Easements - Easements should be periodically reviewed | |
| Conservation Easements - Strict enforcement of not adhering to easement requirements is necessary. | |
| Multiple age classes and harvest schedule - Inventories are necessary and should be mandated | |
| Multiple age classes and harvest schedule - Policy decisions and objectives should be clearly predefined | |
| Multiple age classes and harvest schedule - Management must take into account uneven age (at a smaller scale), configuration, and scale | |