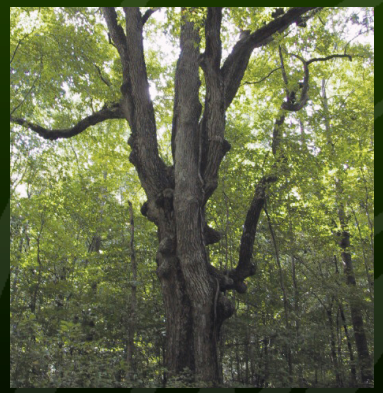
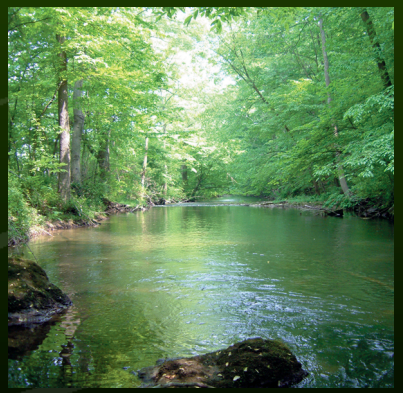
Natural Lands Trust

Stewardship Planning for Natural Lands






LTA Practice 12 C - Land Management

A land trust inventories the natural and cultural features of each property prior to developing a management plan that identifies its conservation goals and how it plan to achieve them Permitted activities are compatible with conservation goals, stewardship principals and public benefit mission of the organization Permitted activities occur only when the activity poses no significant threat to the important conservation values, reduces threats or restores ecological processes and or advances learning and demonstration opportunities


Sadsbury Woods Preserve


Glades Wildlife Refuge


Bear Creek Preserve

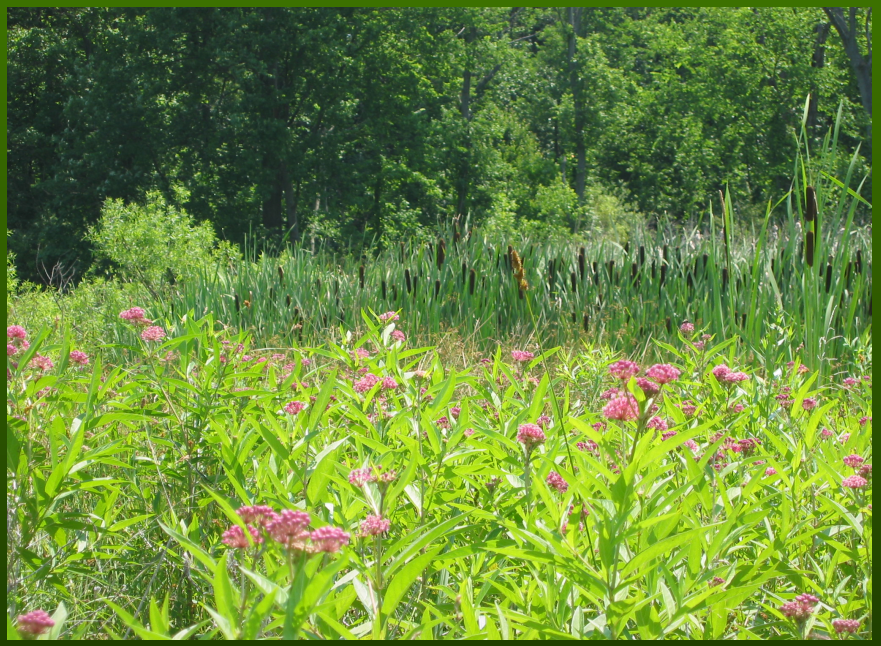

Hildacy Farm Preserve

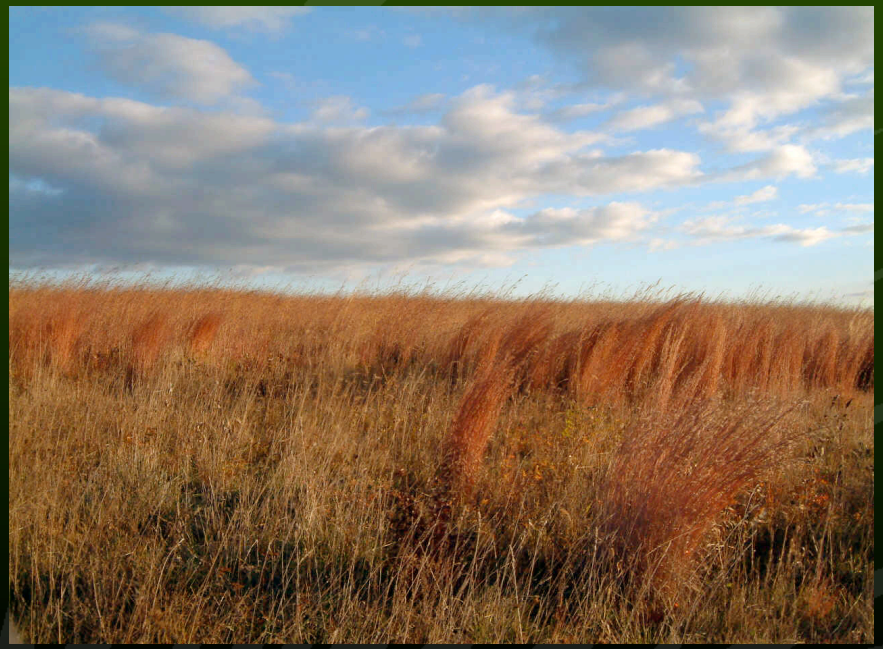

ChesLen Preserve


Stroud Preserve

The Continuum of Conservation

No protection, no management	Identify land as being worthy of protection	Weak easement with no resource management provisions	Resource management, but no permanent protection	Strong easement with resource management provisions	Conservation ownership	Permanent protection, well managed according to best practices





Four Primary Issues and Challenges to Land Stewardship in PA

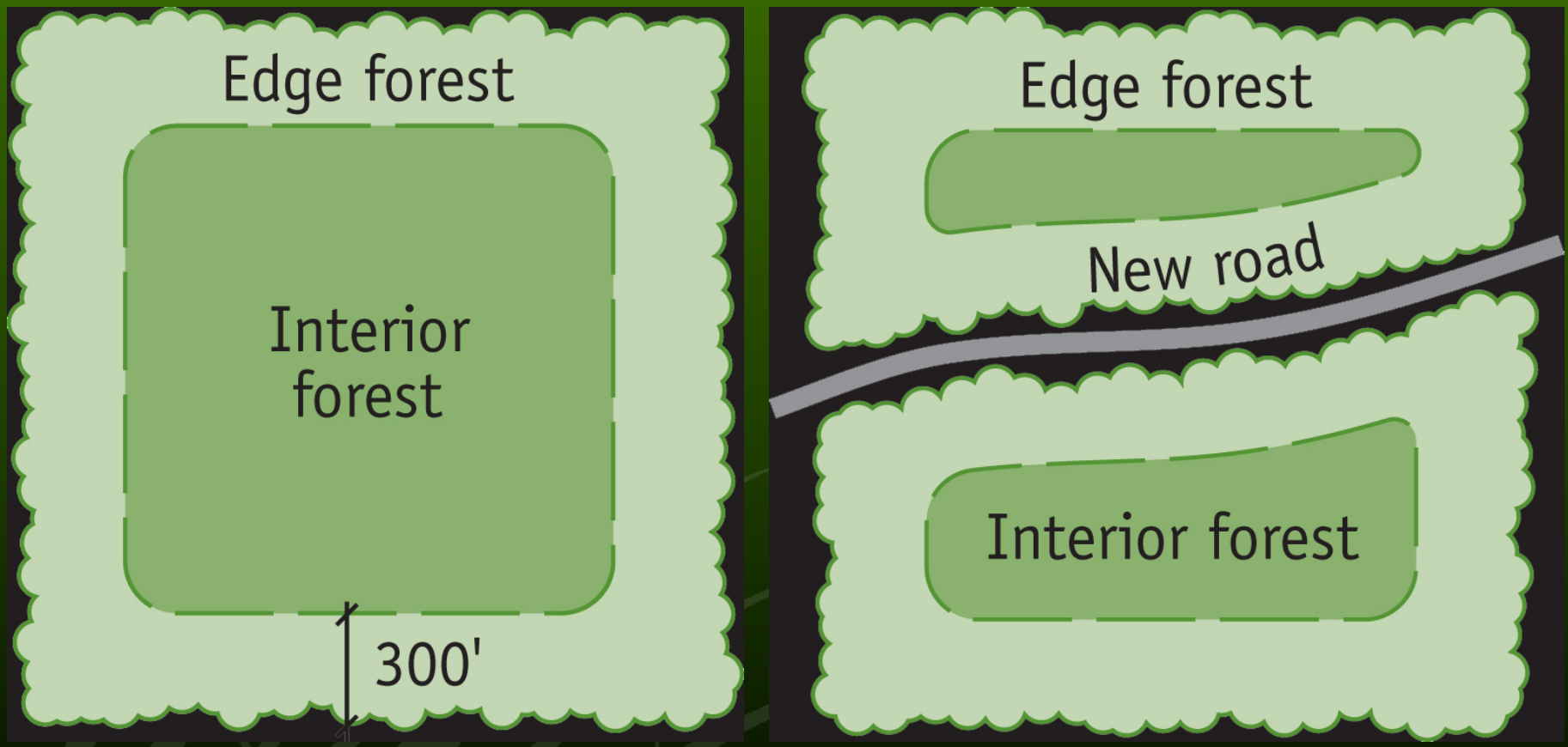
Fragmentation and Edge Effect

Deer Overabundance

Invasive Plant Species

Water Quality and Quantity

Natural Lands Trust


Edge forest
Interior forest
300'
Edge forest
New road
Interior forest

EDGE TO AREA RATIO – Preserve A is so small it is all edge. Preserve B is larger, but it is still all edge because of its shape. Preserve C is smaller than B, but because it is circular, it has an area of interior forest.

Why invasive plants matter

invasives outcompete natives

resulting in

fewer natives in the natural area's species mix

resulting in

- **halting or subverting of natural succession**
- **lower diversity of food sources**

resulting in

- **degraded habitat for wildlife**
- **disruption of nutrient cycling, hydrology, fire regimes, and other vital ecosystem processes**


UGA0008373


UGA1268029

Water Quality

Degraded by:

- Contaminants from lawns and agriculture

Solve by:

- Installing and maintaining riparian buffers
- Reducing use of contaminants
- Managing Canada Geese populations
- Keeping livestock out of streams

Water Quantity

Degraded by:

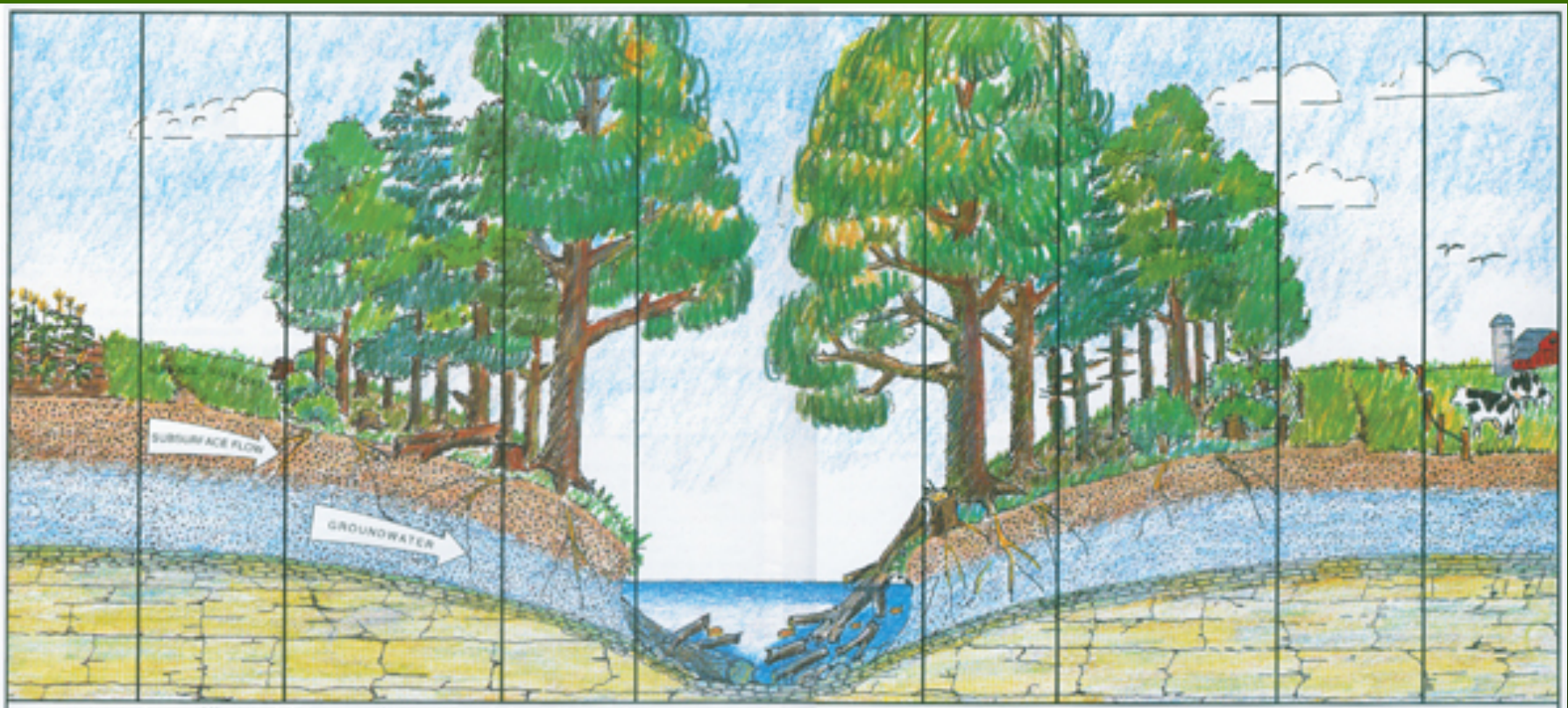
- Lack of recharge due to impervious surface depleting grand water

Resulting in:

- Drying up of streams and wetlands

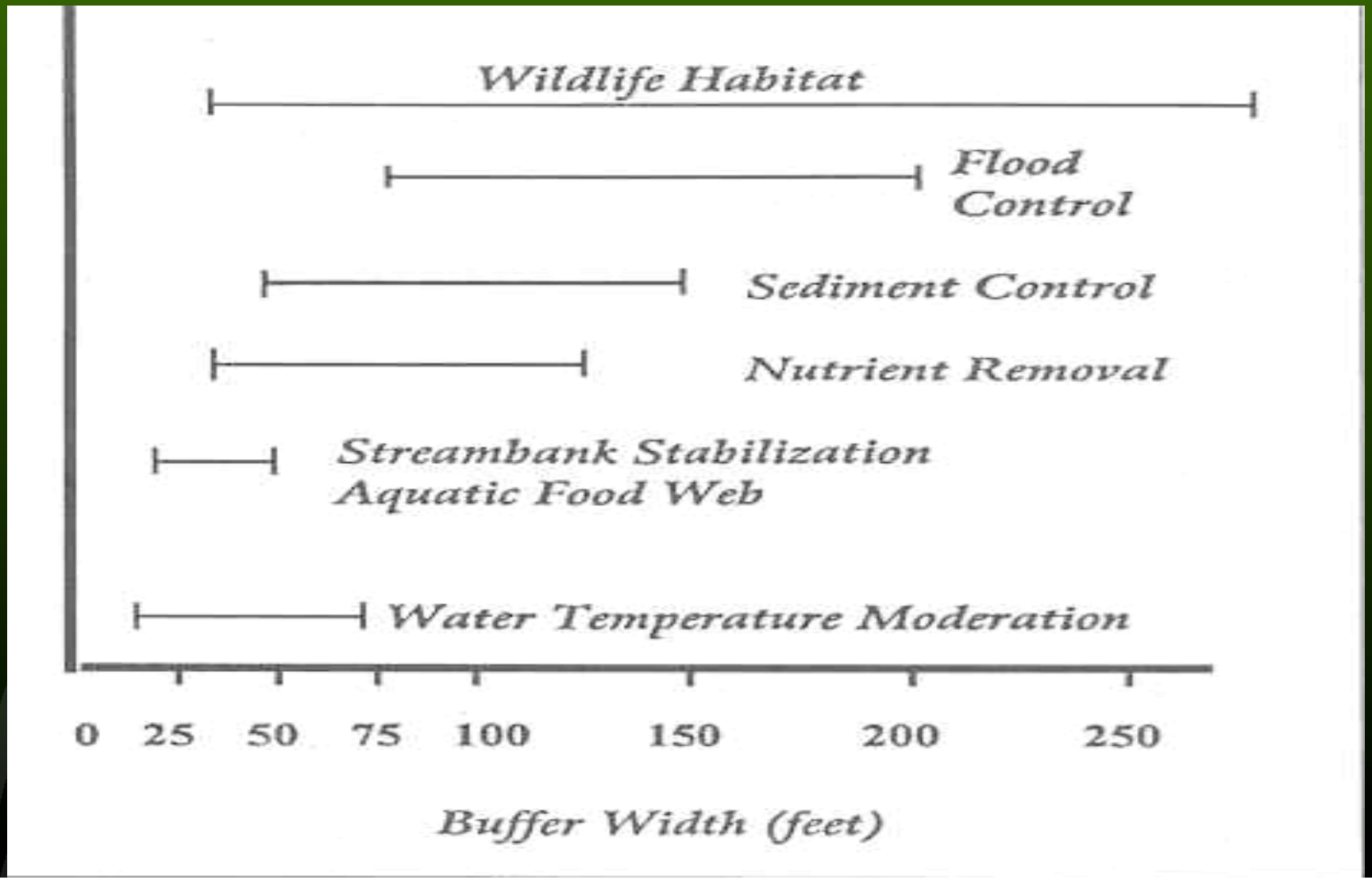
Solve by:

- Installing and maintaining riparian buffers
- Infiltrating storm water BMP”S



20'	60'	15'		15'	60'	20'	
CROPLAND	ZONE 3 RUNOFF CONTROL	ZONE 2 MANAGED FOREST	ZONE 1 UNDISTURBED FOREST	STREAMBOTTOM	ZONE 1 UNDISTURBED FOREST	ZONE 2 MANAGED FOREST	ZONE 3 RUNOFF CONTROL	PASTURE
Sediment, fertilizer and pesticides are carefully managed.	Concentrated flows are converted to dispersed flows by water bars or spreaders, facilitating ground contact and infiltration.	Filtration, deposition, plant uptake, anaerobic denitrification and other natural processes remove sediment and nutrients from runoff and subsurface flows.	Maturing trees provide detritus to the stream and help maintain lower water temperature vital to fish habitat.	Debris dams hold detritus for processing by aquatic fauna and provide cover and cooling shade for fish and other stream dwellers.	Tree removal is generally not permitted in this zone.	Periodic harvesting is necessary in Zone 2 to remove nutrients sequestered in tree stems and branches and to maintain nutrient uptake through vigorous tree growth.	Controlled grazing or haying can be permitted in Zone 3 under certain conditions.	Watering facilities and livestock are kept out of the Riparian Zone insofar as practicable.

Riparian Buffer Width



A Stewardship Plan takes land from current state to a desired future state

It Identifies:

- current resources
- stewardship issues
- conservation priorities and goals
- strategies to achieve the goals

Stewardship practices – implement the plan

Monitor and adapt

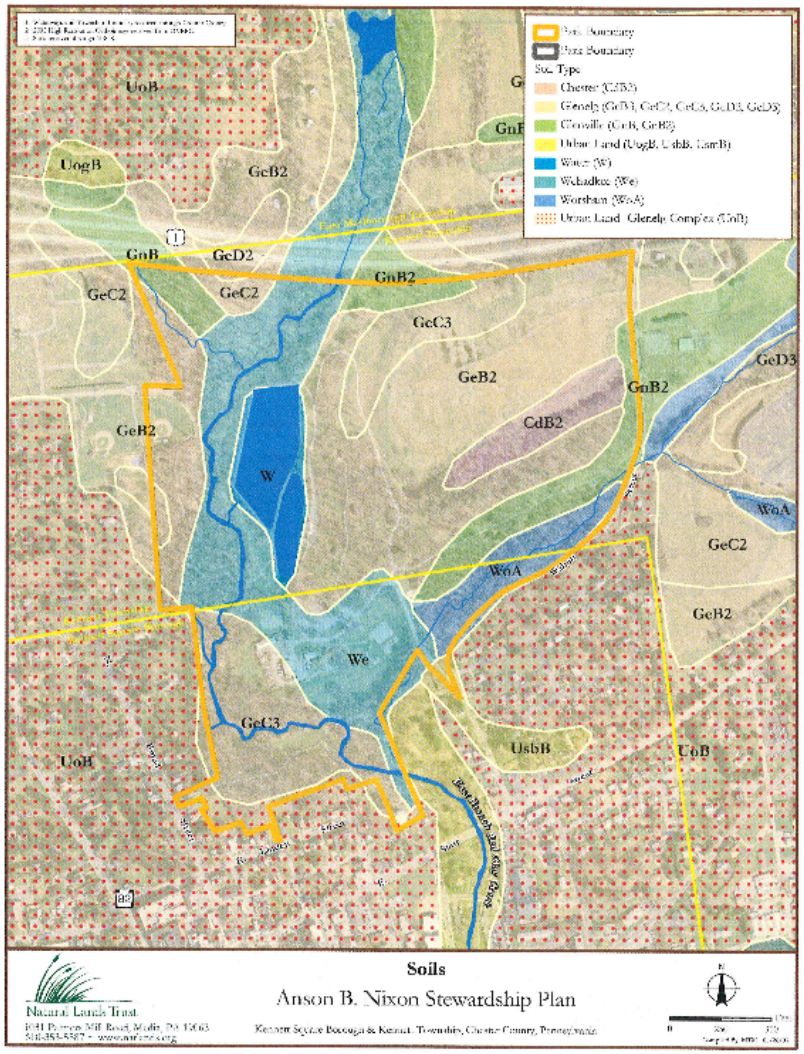
Natural Lands Trust

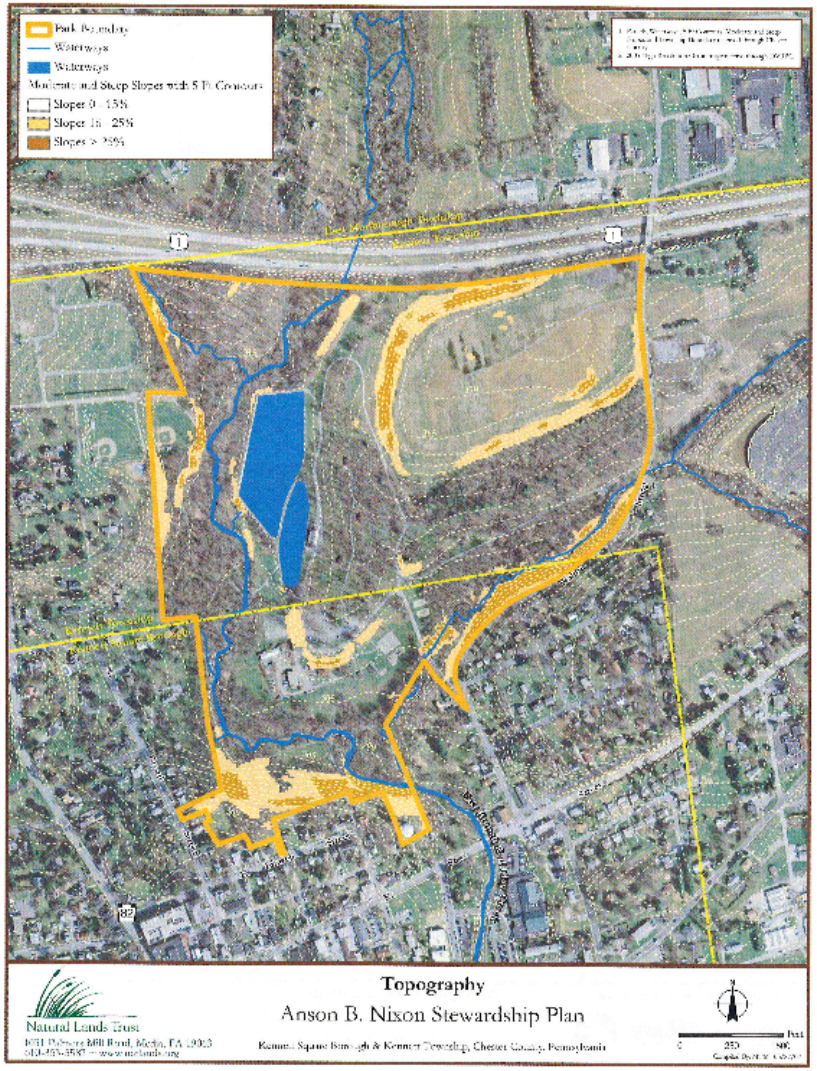
Stewardship Planning Steps

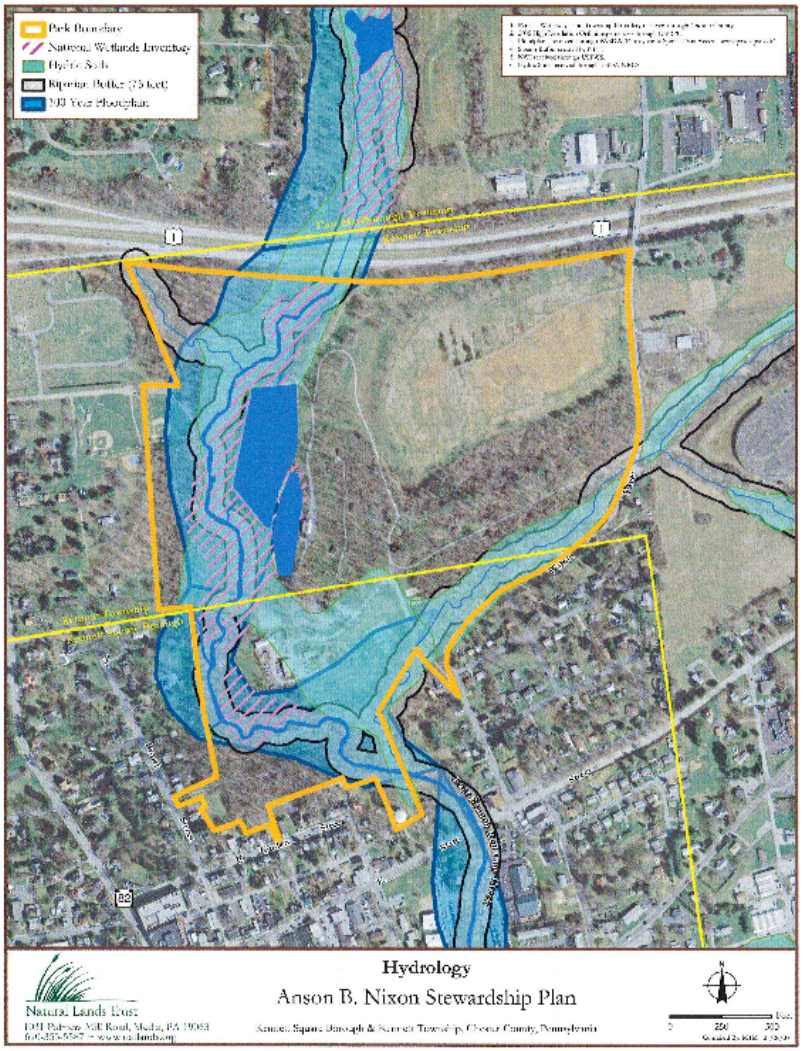
1. Inventory existing natural resources

Natural Lands Trust


Park Boundary
Site Plan
Anson B. Nixon Stewardship Plan
Natural Lands Trust


Park Boundary
Tract Boundary
Soil Type
UoB
UogB
GeB2
GnB
GeD2
GeC2
GnB2
GeC3
GeD3
CdB2
W
WoA
We
UshB
Soils
Anson B. Nixon Stewardship Plan
Natural Lands Trust


Park Boundary
Waterways
Wetlands
Moderate and Steep Slopes with 5 ft. Contours
Slopes 0 - 15%
Slopes 15 - 25%
Slopes > 25%
Topography
Anson B. Nixon Stewardship Plan
Natural Lands Trust
Kennett Square Borough & Kennett Township, Chester County, Pennsylvania


Park Boundary
National Wetlands Inventory
Hydric Soils
Riparian Buffer (75 feet)
100 Year Floodplain
Hydrology
Anson B. Nixon Stewardship Plan
Natural Lands Trust
Kennett Square Borough & Kennett Township, Chester County, Pennsylvania

healthy

degraded

rare and endangered species

vernal pools

scenic views

patches of wildflowers

lack of regeneration and structural diversity

invasive species


SIMPLIFIED SITE ANALYSIS
hedgerow
farm dump
seasonal pool
sedge wetland
pasture
mature upland forest
uncommon wildflower patch
Old Church Road
large sycamore
pond
crops
Greenville Road
Quarry Road
steep slopes
pasture
crops
skunk-cabbage wetland
mature upland forest
steep slopes
old field/ shrub
young lowland forest

Stewardship Planning Steps

1. Inventory existing natural resources
2. Establish management units

Natural Lands Trust


STEWARDSHIP UNITS
Residential property
UNIT 2
hedgerow
UNIT 4
sedge
wetland
UNIT 1a
mature upland
forest
UNIT 3b
crops
Old Church Road
UNIT
5
pond
Greenville Road
Quarry Road
UNIT 3a
crops
skunk
cabbage
wetland
UNIT 1b
mature
upland
forest
UNIT 6
UNIT 7
old field/
shrub
young
lowland
forest

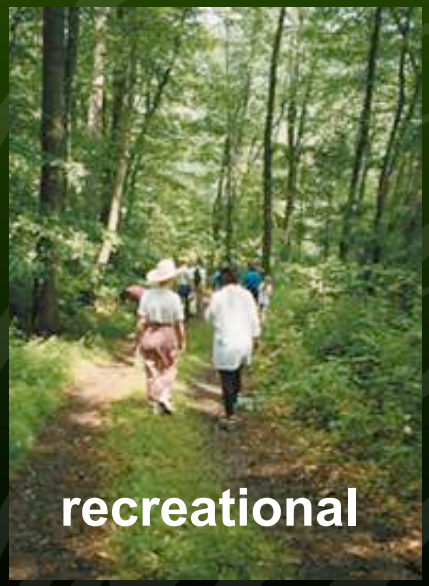
Stewardship Planning Steps

1. Inventory existing natural resources
2. Establish management units
3. Establish priorities and goals

Natural Lands Trust


ecological


programmatic


recreational


historical

Examples of Conservation Priorities

- High water quality
- Headwaters
- Unique geology
- Threatened species
- Important habitat type
- Viewshed
- Cultural features
- Environmental education
- Trails

Natural Lands Trust

Informing your Conservation Priorities

- Legal documents, deed restrictions easements, subdivision approvals, wills, covenants
- Organizational priorities
- Federal regulations
- Local Regional or state wide priorities?

What are your Stewardship Goals?

- Goals –Protect and enhance the conservation priority

Example:

Primary Goal – Protect and enhance the forest bird species of concern

Secondary Goals - Not conflict w/ Primary

Protect the water quality of the creek

Provide recreational access for local residents

Stewardship Planning Steps

1. Inventory existing natural resources
2. Establish management units
3. Establish priorities and goals
4. Determine appropriate strategies

Natural Lands Trust

hazard structures

erosion

trail realignment and stabilization

removing invasives

afforestation

Stewardship Matrix

EXISTING COVER TYPE	ACCEPTABLE OPTIONS					
	preserve as is/enhance (healthy)	*restore (degraded)*	*convert to forest*	*convert to shrubland*	*convert to meadow*	*convert to wetland*
healthy native forest	✓	✗	✗	✗	✗	✗
degraded forest	✗	✓	✗	✓	✓	✓
hedgerow	✓	✓	✓	✓	✓	✓
shrubland	✓	✓	✓	✗	✓	✓
meadow/grassland	✓	✓	✓	✓	✗	✓
pasture/cropland	✓	✓	✓	✓	✓	✓
wetland	✓	✓	✓	✓	✓	✗
riparian area	✓	✓	✓	✓	✓	✓
pond	✓	✓	✓	✓	✓	✓
lawn/landscaped area	✗	✗	✓	✓	✓	✓
traditional stormwater control structures	✗	✗	✓	✓	✓	✓

Stewardship Planning Steps

1. Inventory existing natural resources
2. Establish management units
3. Establish priorities and goals
4. Determine appropriate strategies
5. Prioritize and schedule tasks

Natural Lands Trust

1. Address hazards to humans and wildlife

2. Address issues actively degrading the conservation priority

3. Remove unsightly debris

4. Address issues affecting desired cover type


Routine Tasks
verses
Restoration Tasks


Joe Kosack/PGC Photo

Stewardship Planning Steps

1. Inventory existing natural resources
2. Establish management units
3. Establish priorities and goals
4. Determine appropriate strategies
5. Prioritize and schedule tasks
6. Establish a monitoring program

Natural Lands Trust


Natural Lands Trust's
Top Five
Stewardship Recommendations
For A Healthy Landscape

1. Mow Less

- Mow two times /year
  St. Patty's Day, 4th July
- Use curves for natural look
- Sharp edge gives managed appearance
- Mow winding trails
- Encourage warm season grasses

2. Control Invasive Plants

- Keep healthy areas “healthy
- Focus efforts on keeping the canopy intact
- Use herbicide judiciously and get proper training

- Stop mowing turf to edge
- The bigger the better
- Use native species

3. Plant and maintain Riparian Buffers

4. Use Native Species

- Use proper plants for growing conditions
- Consider ultimate size of tree
- Diversity = strength
- Plant small stuff in spring, and the big stuff in Fall

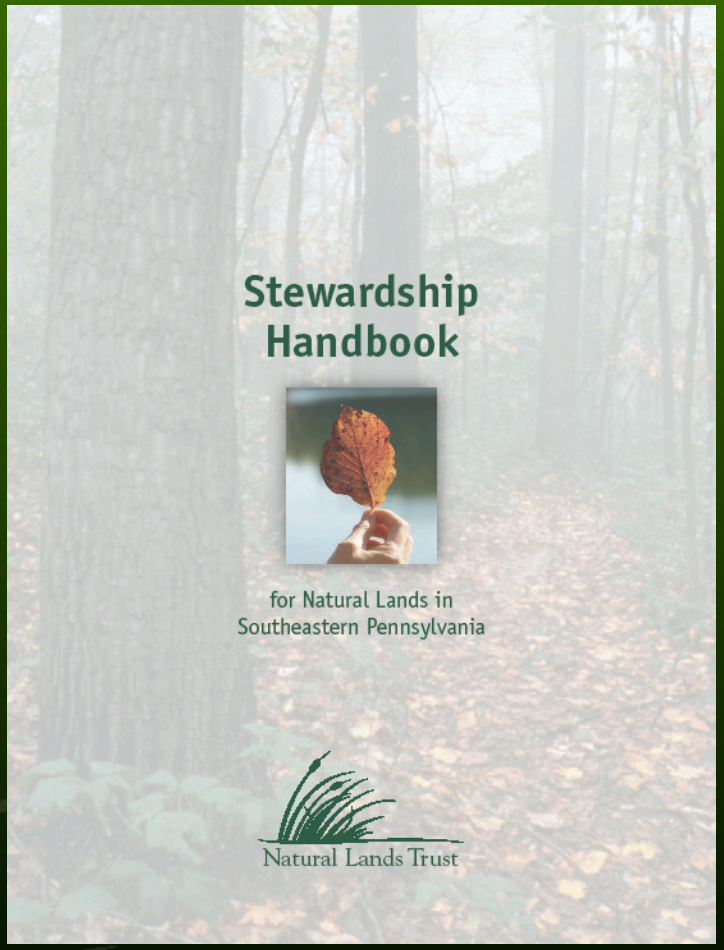
5. Keep it Together!

Large units of cover – good
Small patches - bad!

Keep contiguous types of cover together

- Minimize edges

Resources for Landowners



www.natlands.org
www.conservationlandowners.org

NLT Stewardship Handbook

Available at
NLT website
www.natlands.org
Free download or
for purchase
$57.50 & S&H
thru lulu.com

Drew Gilchrist - Director
Center for Conservation Landowners
Natural Lands Trust
215-272-1982
dgilchrist@natlands.org


SIMPLIFIED SITE ANALYSIS
hedgerow
farm dump
seasonal pool
sedge wetland
pasture
mature upland forest
uncommon wildflower patch
Old Church Road
large sycamore
pond
crops
Greenville Road
Quarry Road
steep slopes
pasture
crops
skunk-cabbage wetland
mature upland forest
steep slopes
old field/ shrub
young lowland forest