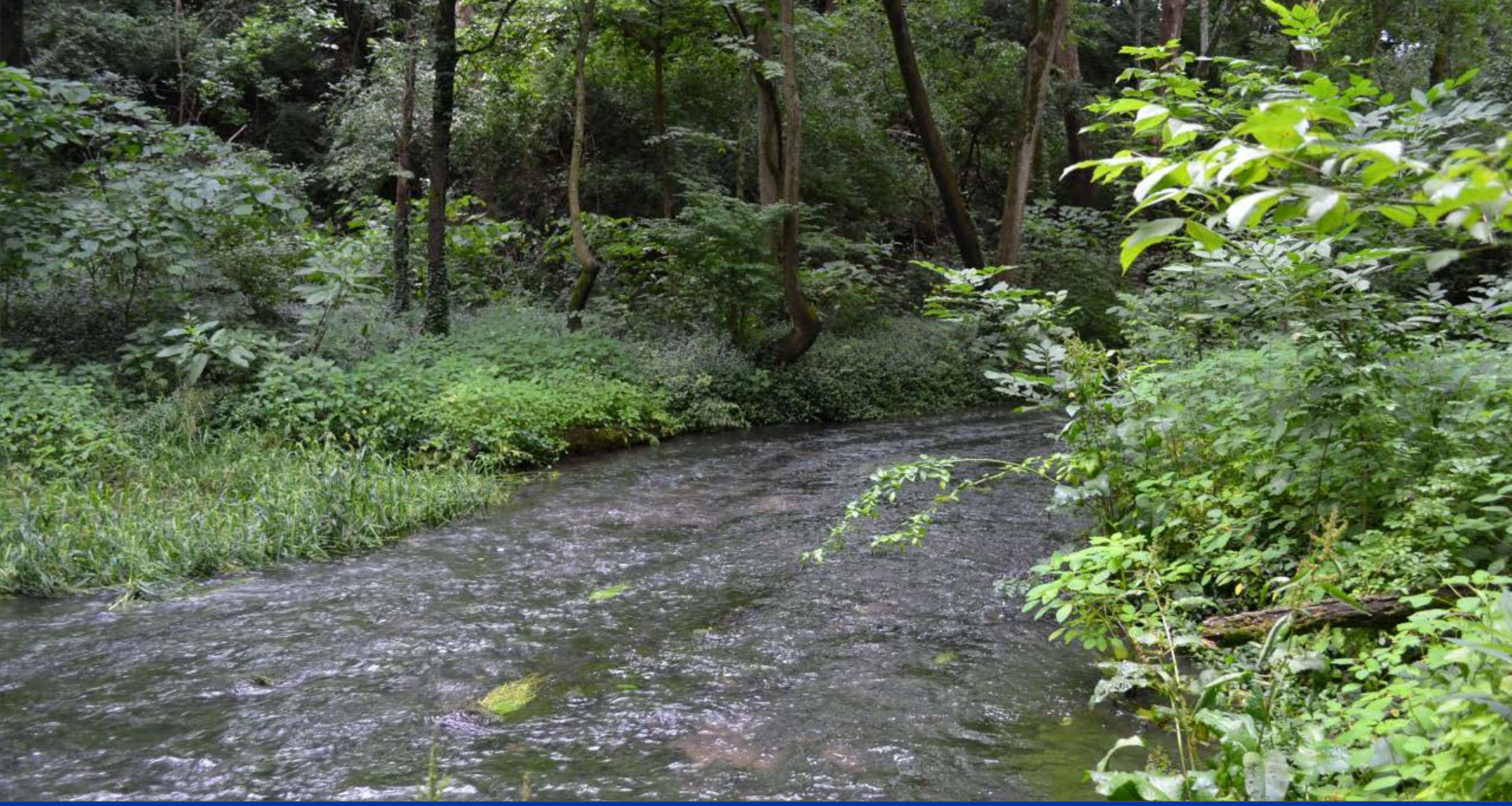

STREAM BUFFERS

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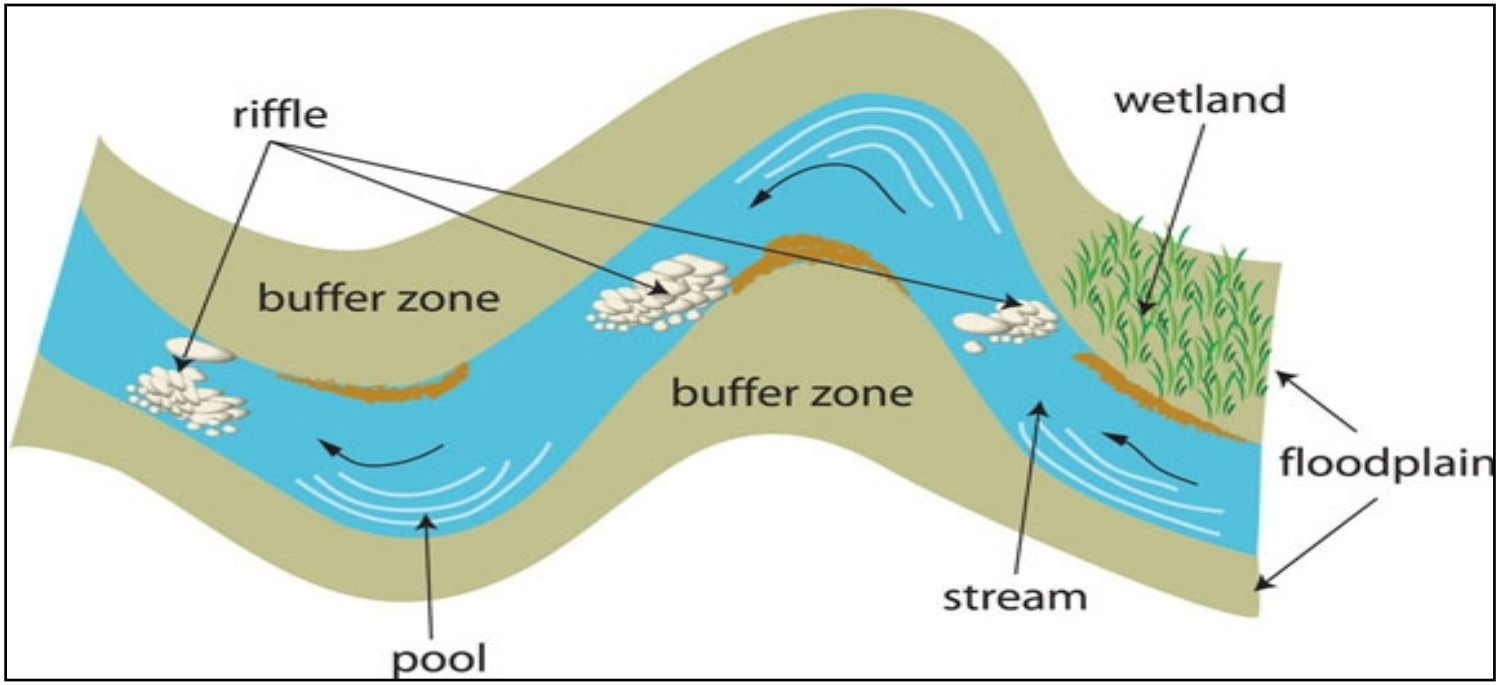
OVERVIEW

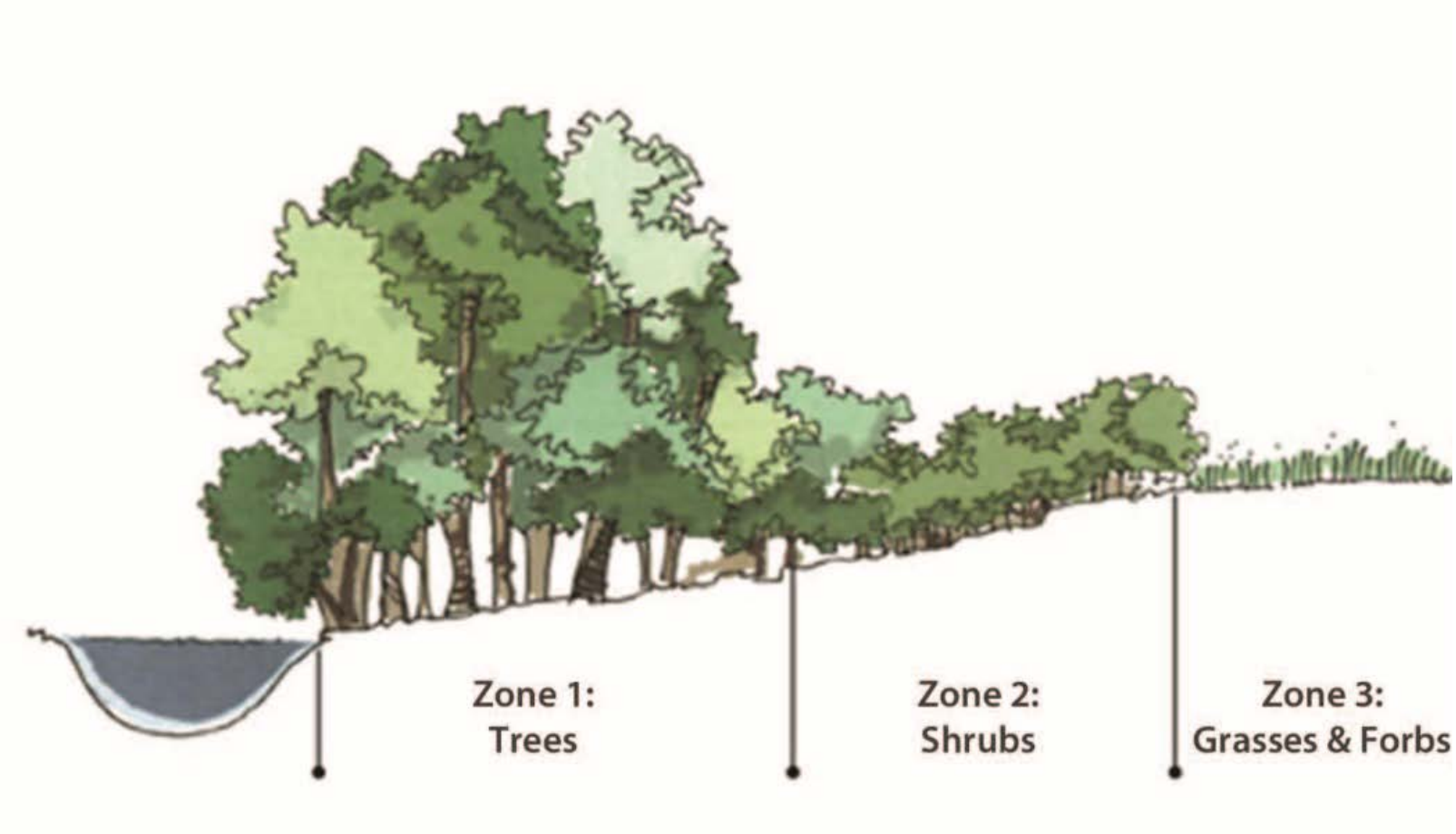
- What are stream buffers?
- Why are stream buffers important?
- How can you establish stream buffers?

WHAT ARE STREAM BUFFERS?

- Also called riparian areas, buffer zones, streamside management zones
- Transition area between water body and upland
- Vegetation includes trees, shrubs, grasses, forbs



STREAM BUFFERS - ZONES



HEALTHY STREAM BUFFER

HEALTHY STREAM BUFFER

UNHEALTHY STREAM BUFFER

UNHEALTHY STREAM BUFFER

WHY DO WE (I) LOVE STREAM BUFFERS?

(AND WHY YOU SHOULD, TOO.)

BENEFITS OF HEALTHY STREAM BUFFERS

- Filter stormwater runoff
- Uptake excess N-P-K from adjacent areas
- Protect streambanks from erosion
- Reduce flood damage
- Provide shade to streams
- Provide wildlife habitat
- Improve aesthetics

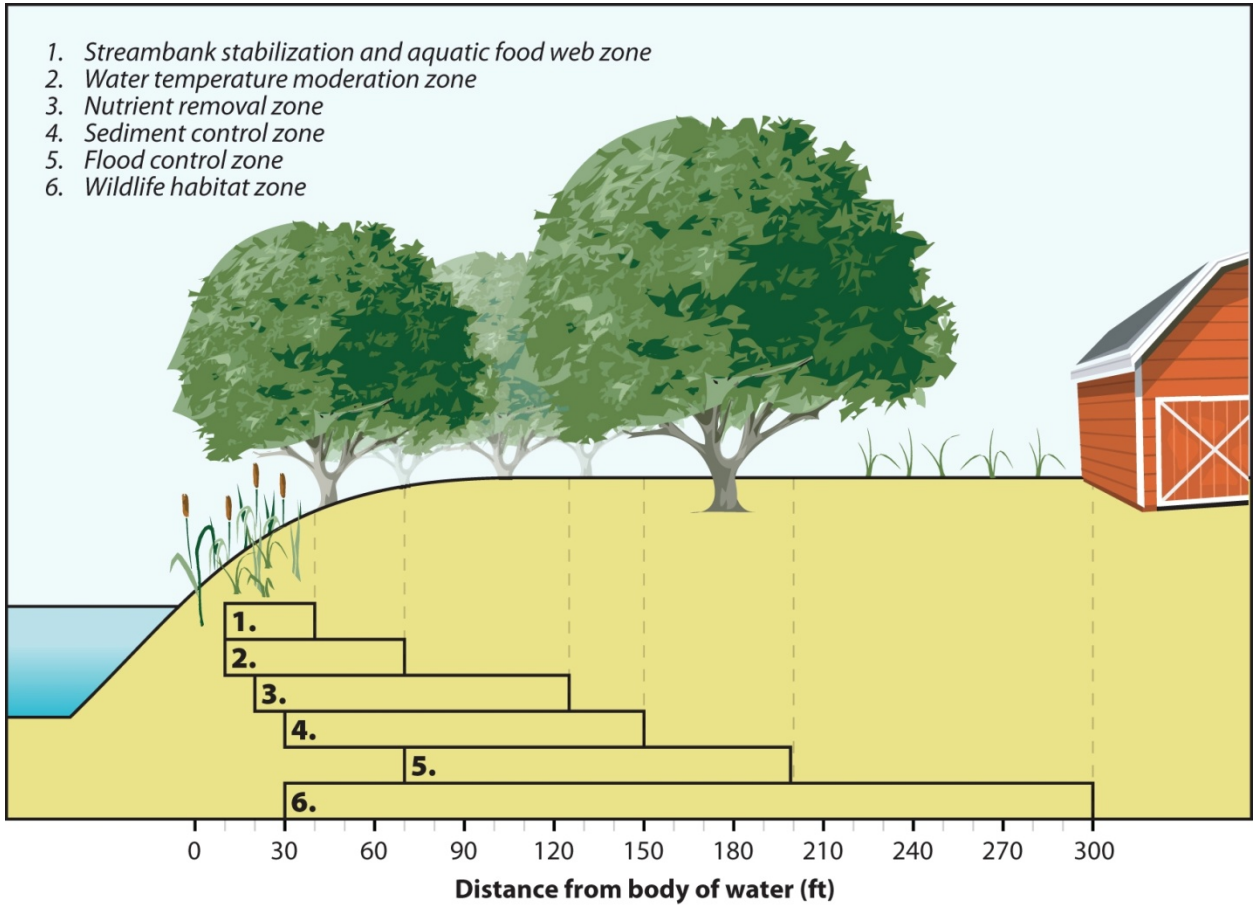
ESTABLISHING BUFFER ZONES

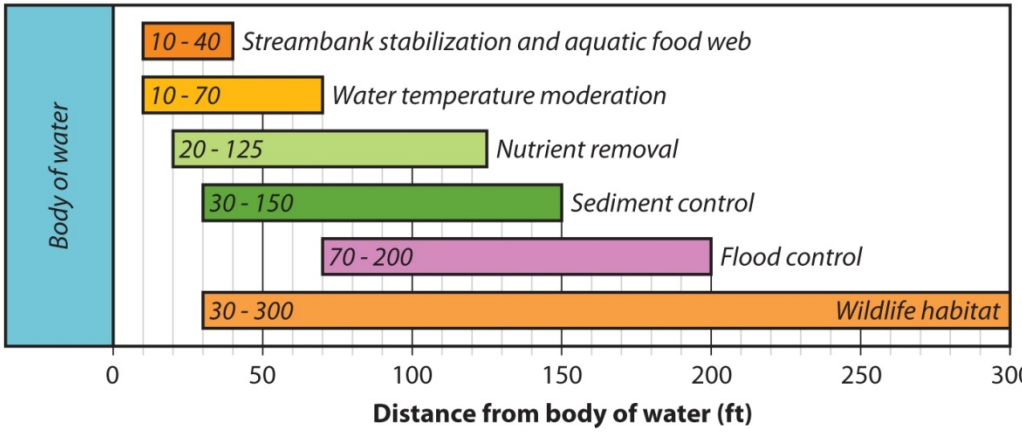
- Buffer Width
- Planting strategy
- Maintenance strategy
- Visual desires/tolerance

Determining factors = Desired Function, Time, and Resources

BUFFER WIDTH

- Width will determine benefit of buffers
- Minimum of 15-20 feet for stream bank protection
- Wider buffers provide greater benefit (100-160 feet), including nutrient and pesticide removal from runoff


1. Streambank stabilization and aquatic food web zone
2. Water temperature moderation zone
3. Nutrient removal zone
4. Sediment control zone
5. Flood control zone
6. Wildlife habitat zone
1.
2.
3.
4.
5.
6.
0
30
60
90
120
150
180
210
240
270
300
Distance from body of water (ft)


Body of water
10 - 40
Streambank stabilization and aquatic food web
10 - 70
Water temperature moderation
20 - 125
Nutrient removal
30 - 150
Sediment control
70 - 200
Flood control
30 - 300
Wildlife habitat
0
50
100
150
200
250
300
Distance from body of water (ft)

PLANTING STRATEGY

Passive – plants naturally establish by no-mow zones

Active – deliberate planting of specific trees, shrubs, grasses

PLANTING STRATEGY - PASSIVE

- Stop mowing
- Easy, lower maintenance (at first)
- Inexpensive, utilize existing seed bank and seeds dispersed by wind and water
- Unwanted plants might establish (non-native invasive plants like honeysuckle, wintercreeper, multiflora rose, poison hemlock, garlic mustard, etc.)


No Mow Zone
Cane Run
Watershed
Buffer Restoration Area

PLANTING STRATEGY - ACTIVE

- Create a planting plan
- Remove undesirable plants
- Stabilize streams and/or install erosion control materials
- Select and install desirable plants
- Maintain plant communities
- More expensive than passive
- Time/labor intensive


Containerized shrubs
Balled and burlapped tree
Perennial plugs
Willow live stakes

BUFFER ESTABLISHMENT CONSTRAINTS

- Appearance
  - Manicured
  - Intentional wildness or curated native
  - Wild and wooly
- Cost
- Maintenance

PLANT SELECTION ASSISTANCE

University of Kentucky Extension publications

- ID-242 Central Kentucky Backyard Stream Guide
- IP-73 Living Along a Kentucky Stream
- ID-185 Planting a Riparian Buffer

Lexington-Fayette Urban County Government

- Plant by Numbers program

WETLAND PLANTS

- May be planted in or very near the water's edge

MOISTURE-TOLERANT PLANTS

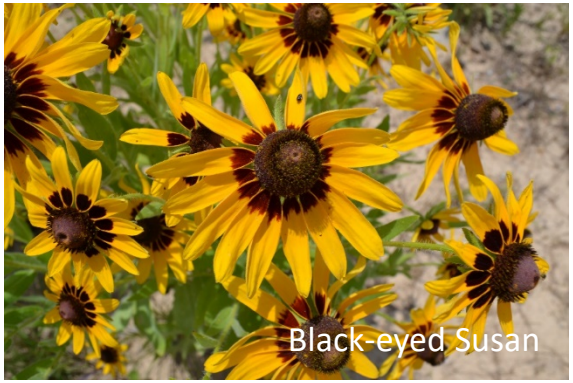
- Can be planted right on the streambank, 6 inches to 5 feet away from the water's edge

MODERATE-TO-DRY SOIL PLANTS

- Planted more than 5 feet away from the water's edge


Redbud


Little bluestem


Black-eyed Susan


Wild bergamot (bee balm)

DESIGN ELEMENTS

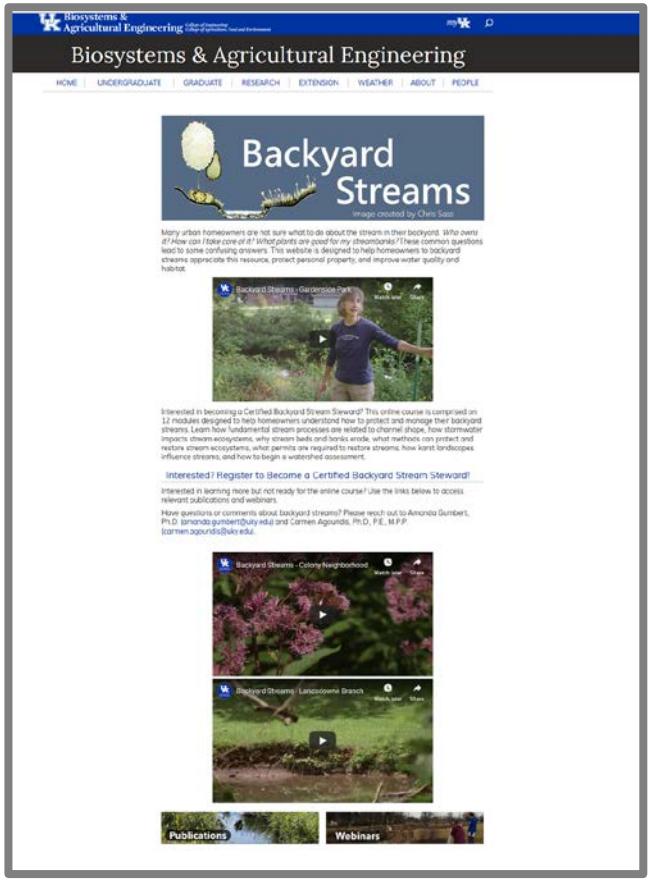
- Think ahead: trees and shrubs will grow and fill the space
- Think in three dimensions: horizontally and vertically
- Preferences: color, seasonal interest, texture, shape
- Mass plants together for large swaths of color

MAINTAIN YOUR STREAM BUFFER

- Inspect your stream regularly
- Remove litter after storm events
- Remove invasive plants annually
- Prune trees and shrubs as needed
- Remove previous year's growth from perennials in late winter/early spring

www.uky.edu/bae/backyardstreams

- Publications
- Online course
- Workshops



KYH2O Podcast

- Available on iTunes and Podbean

QUESTIONS?

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