EPC staff technical findings and recommendations in response to CARE Policy 19.1 of the Comprehensive Plan

March 2007

Existing CARE Policy 19.1

- The County shall request the Environmental Protection Commission (EPC) to:
  - evaluate existing scientific studies regarding construction setback distances and buffers needed to maintain the hydrological and biological integrity of wetlands and water bodies; and
  - recommend appropriate scientifically defensible setback distances and buffers from wetlands and water bodies.

Existing Policy 19.1 (cont.)

- Within one year of such recommendations, the County shall amend its land development regulations to the extent that such setback distances and buffers are determined to be warranted

- Until amended per this policy, all current setbacks shall remain in effect.

Background

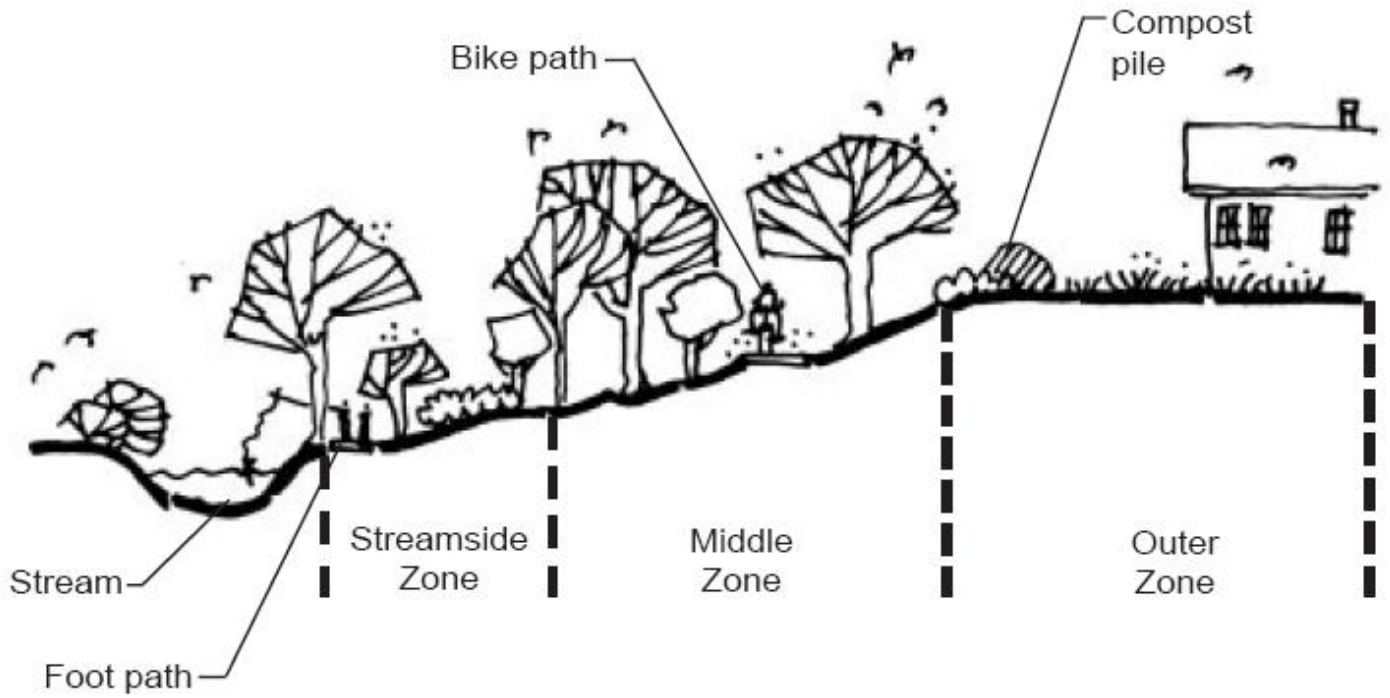
- June 24, 2005 – EPC staff received request from PGMD to conduct evaluation of existing buffer studies, pursuant to Policy 19.1
- January 26, 2006 – EPC staff provided buffer report and recommendations to PGMD and Planning Commission
- January 8, 2007 – Planning Commission workshop on buffer recommendations
- January 24, 2007 – EPC staff provided addendum report, addressing questions raised at Jan. 8 workshop
- February 5 & 28, 2007 – Planning Commission public hearing and BOCC workshop

EPC staff primary findings and recommendations

- Under CARE Policy 4.11, the County currently uses “setbacks” (30 ft minimum for Conservation Areas, 50 ft minimum for Preservation Areas) to help protect its water bodies and wetlands
- To be scientifically defensible, the County should consider phasing out the use of fixed-width setbacks
- Instead of setbacks, the County should consider adopting the variable-width, site-specific, 3-zone riparian buffer approach developed by the USDA Forest Service.
- EPC staff recommends that the County consider developing a riparian buffer technical manual, similar to its existing stormwater technical manual, to make this transition

Benefits of the 3-zone riparian buffer approach

- Nationally-recognized and applied as a cost-effective BMP to support TMDL compliance in agricultural, urban and suburban areas
- Supported by research, field-testing, and expert review at the national level
- Relevant to Hillsborough County – Adopted by FDEP and FDACS (2006) as one of a group of voluntary BMPs that are “effective and practicable on-location means… for improving water quality in agricultural and urban discharges” in all parts of Florida



Three Zone Urban Stream Buffer System
Section View

Multi-species riparian buffer strip model

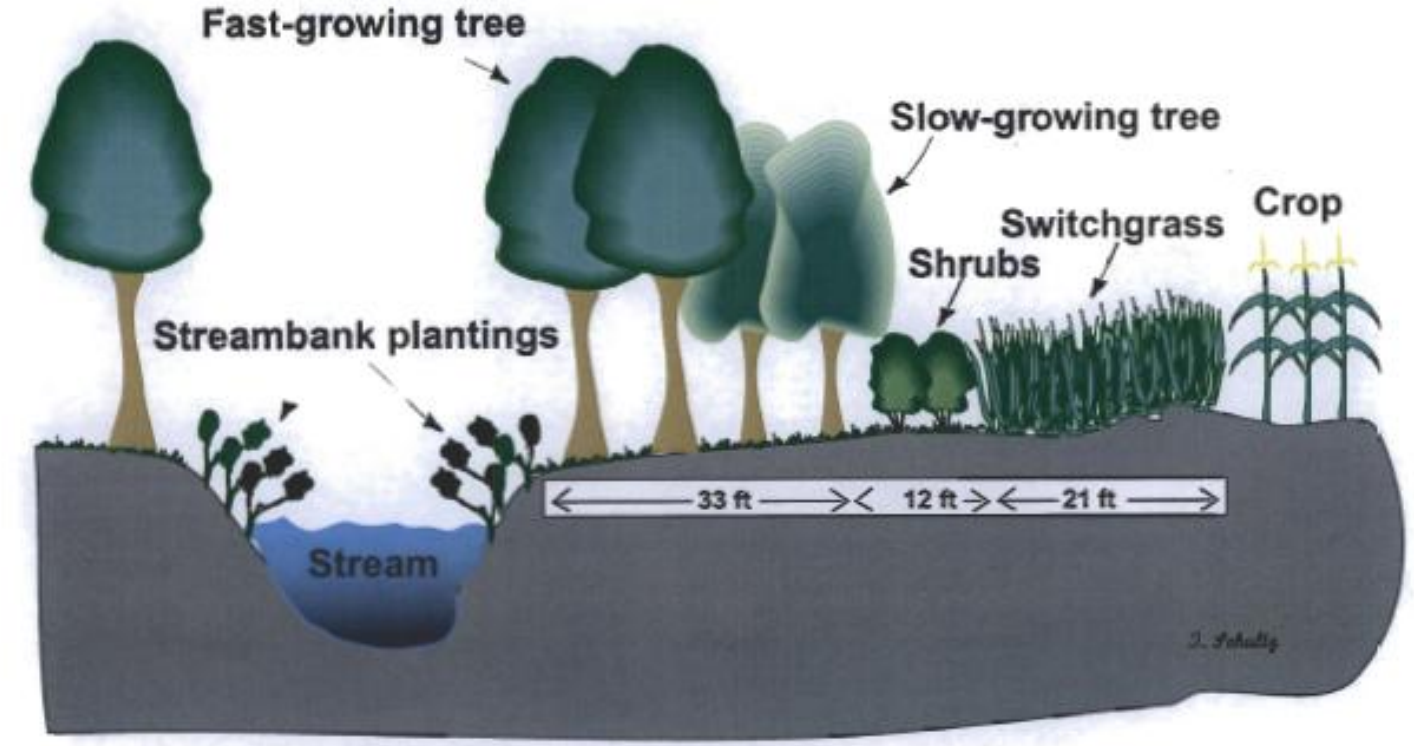


Figure 1. The natural benefits of a riparian (or river) zone can be re-created by planting strips of trees, shrubs, and grasses, and stabilizing streambanks, shown above, as well as constructing small wetlands to capture tile flow from nearby fields. Source: Iowa State University , 1995.

Are buffers a cost-effective method of urban stormwater treatment?

According to the Chesapeake Bay Commission (2004)

- Most urban stormwater retrofits are quite expensive, with a cost per pound of nitrogen removed of “many hundreds of dollars.” “The one exception is urban forest buffer replacement; where it can be done, the cost is estimated at $53 per pound of nitrogen, making it among the most cost-effective of urban practices.”

- “Measures must be taken to protect existing (*urban forest*) buffers from development as well as to restore them where practical.”

Rural applications ?

In rural areas, according to the Florida Department of Agriculture and Consumer Services (2006)

"A riparian buffer is part of a whole-farm conservation plan or buffer system to help reduce excessive amounts of sediment, organic material, nutrients, and pesticides in surface runoff from agricultural areas. Riparian buffers are most effective when positioned next to perennial or intermittent streams, lakes, ponds (*and*) wetlands…"

Impaired Waters and TMDLs in Hillsborough County

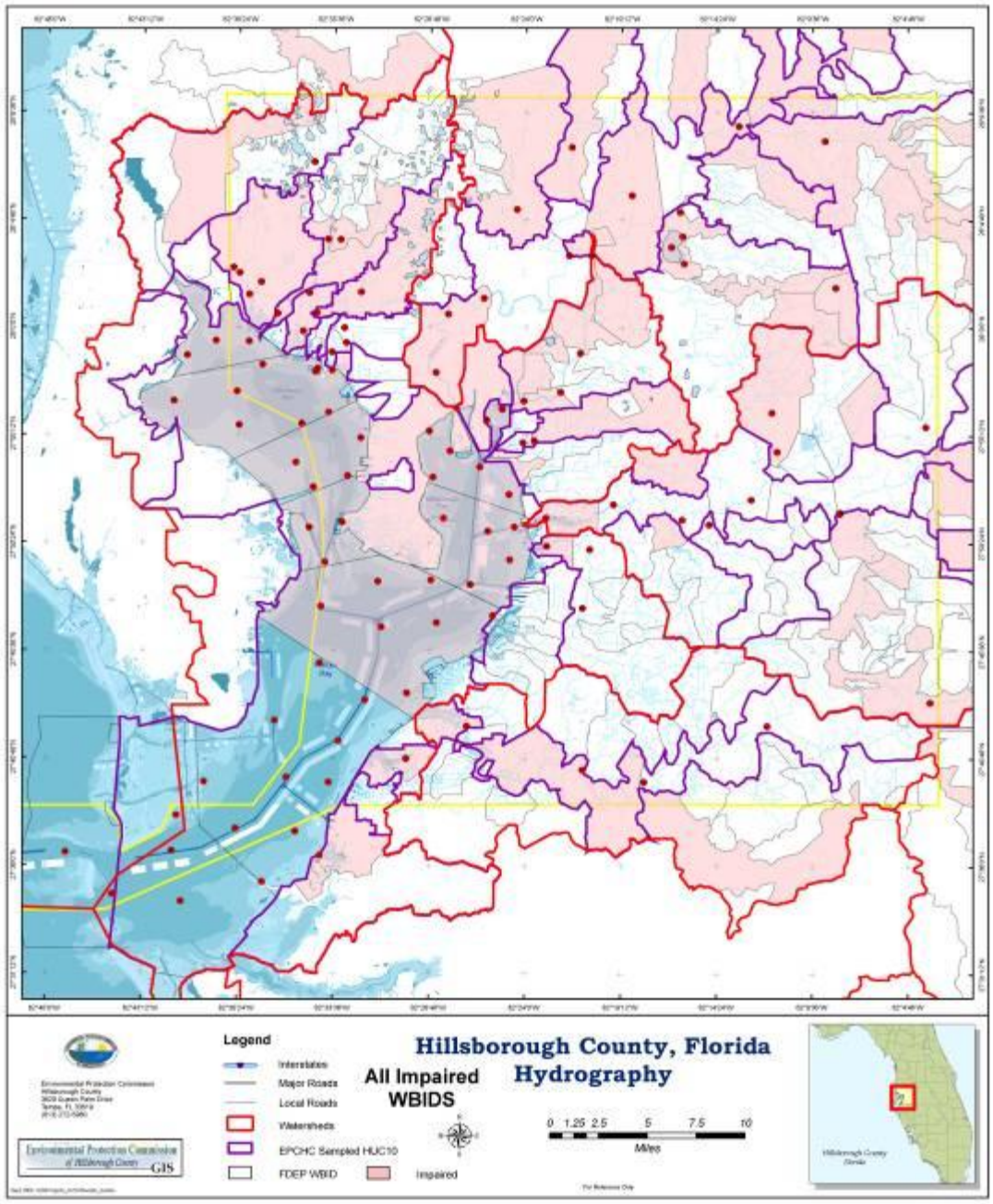
Stormwater runoff is the most common cause of impairment

≈ 77 “impaired waters” are present in the County

6 major categories of pollutants (nutrients, biological/chemical oxygen demand, bacteria, turbidity, mercury, other metals)

Many impaired waters have multiple impairments

≈ 180 TMDLs currently anticipated by US EPA


Legend
Interstates
Major Roads
Local Roads
Waterbodies
EPCHC Sampled HUC10
FDEP WBID
Impaired
All Impaired WBIDS
Hillsborough County, Florida
Hydrography
0 1.25 2.5 5 7.5 10
Miles
Environmental Protection Commission of Hillsborough County
GIS

Recommended Minimum Buffer Widths
(Source: Chesapeake Bay Riparian Handbook)

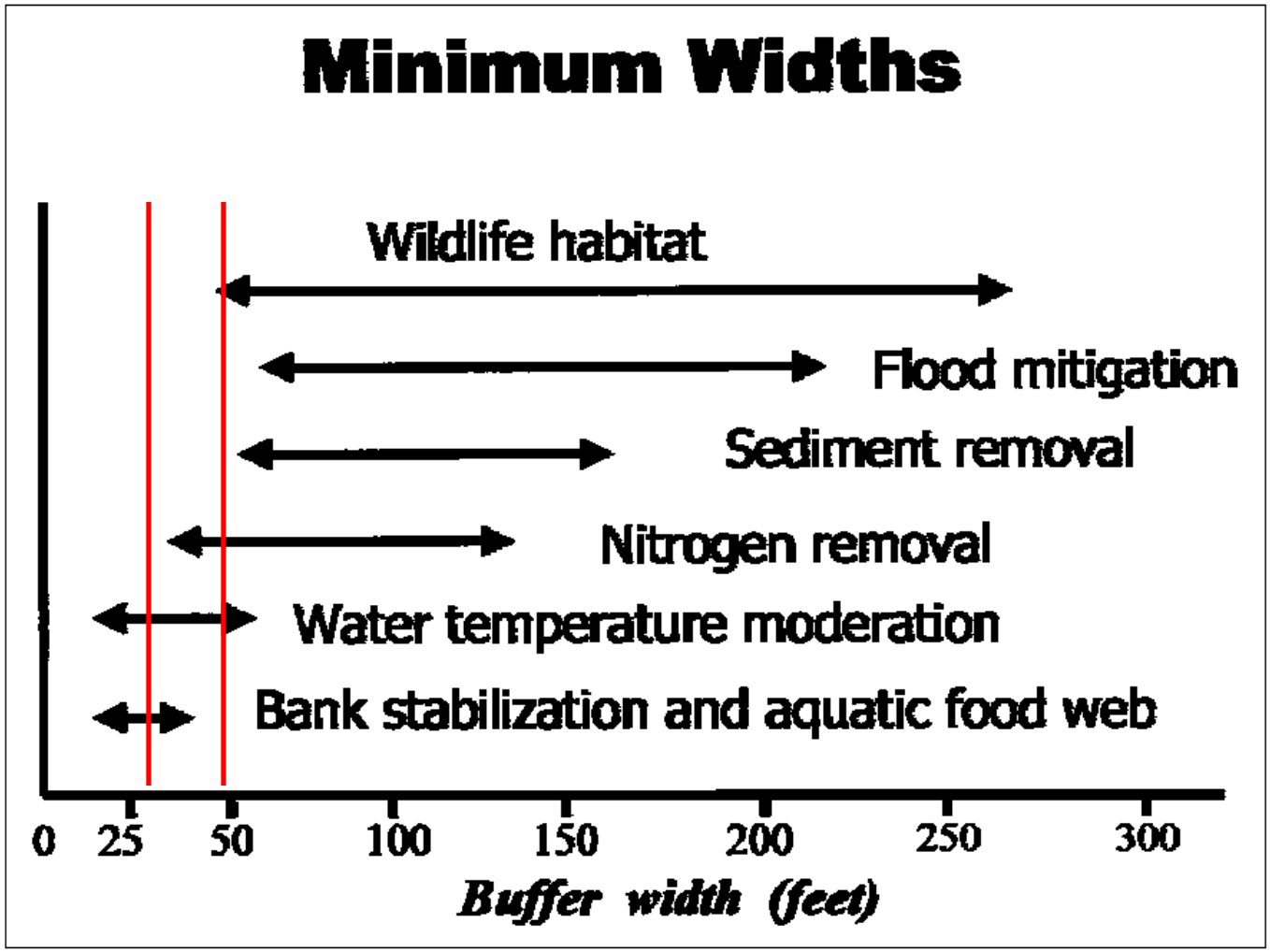


Figure 6 - 3. Range of minimum widths for meeting specific buffer objectives.

Additional EPC staff findings in response to CARE Policy 19.1

- Existing technical studies appear to support a minimum 50-foot buffer width in order to help protect water quality in lakes, streams, rivers and wetlands

- The County currently applies a 50-foot minimum setback to water bodies and wetlands that are classified as “preservation areas”. A 30-foot setback is currently applied to water bodies and wetlands that are classified as “conservation areas.”

EPC staff interim recommendation in response to CARE Policy 19.1

To assist the County in meeting its wetland protection goals and TMDL compliance requirements -- during the interim period when the Riparian Buffer Technical Manual is being developed -- the County should also consider extending its existing 50-foot minimum setback to all water bodies and wetlands (both “conservation” and “preservation” areas)

Some potential policy questions to consider regarding this technical recommendation:

- Should impaired and non-impaired water bodies be treated differently?
- Should isolated wetlands be treated differently than lakes, streams, rivers and non-isolated wetlands?
- How to maintain flexibility to meet landowners' needs?
- How to maintain consistency with existing State law (e.g., Right-to-Farm, Burt Harris, incentive-based agricultural BMPs)?

Is it critical to pursue the interim recommendation ?

- Several stakeholder groups have expressed concerns about adopting interim 50’ setbacks for some or all “conservation areas”
- There has not been an opportunity to have a broad-based discussion of the technical, economic and policy issues involved, or to reach consensus on those issues
- The technical and policy evaluations needed to make a decision on the interim 50’ setbacks could delay progress on the site-specific buffer technical manual
- The timeframe (June 2009) currently proposed for developing the technical manual appears to make the adoption of interim 50’ setbacks unnecessary
- Going forward, EPC staff recommend that efforts be focused on the development of the technical manual, rather than interim 50’ setbacks

Are other Florida counties or agencies using setback or buffer widths that equal or exceed the 30’ and 50’ currently used by Hillsborough County ?

Alachua County	Variable widths 50 - 150 ft averages Depending on water/wetland type
Brevard County (commercial/industrial land uses)	Isolated wetlands 15 ft Non-isolated wetlands 50 ft
Gadsden County	50 ft minimum for all rivers, lakes, streams and wetlands
Leon County	Variable site-specific widths based on soils, slopes, proposed land use
Martin County	Surface waters 75 ft Connected wetlands 75 ft Isolated wetlands 50 ft

Seminole County	50’ average, 25’ minimum for all wetlands and water bodies outside urban service area
Wakulla County	75’ undisturbed natural buffer for all water bodies and wetlands larger than 1,000 sq ft
Suwannee River Water Management District	75’ natural buffer for the Suwannee, Santa Fe, Alapaha, Aucilla and Withlacoochee rivers
Saint Johns River Water Management District	200’ natural buffer for the Wekiva River and associated wetlands 50’ average (25’ min.) for the Econ River

Are economic incentives available to assist in buffer implementation ?

Agricultural (from Chesapeake Bay manual)

- Federal, state and local incentive programs can reduce landowner costs for restoring riparian buffers on their land.

- Cost-share and incentive programs can lead to break-even or better over a 20-year period (based on Chesapeake Bay study results).

- However, crop income opportunity is still lost as time goes on.

- Riparian forests can provide additional and diversified economic returns to the agricultural producer. For example, allowing hunting access can provide lease fees, and timber that is selectively harvested from buffer strips can provide income.

Are economic incentives available to assist in buffer implementation ?

Silvicultural (from Chesapeake Bay manual)

- For private landowners, federal programs exist which cost-share reforestation, best management practices (BMP), and establishment of riparian forest buffers. These programs can frequently be combined, or "piggy-backed," with state or local programs into a financial assistance package.

- Existing federal programs include the Stewardship Incentive Program: 65% cost-share (includes riparian zone enhancement); Conservation Reserve Program: 50% cost-share (new added incentive for riparian areas); Environmental Quality Incentives Program: 75% cost-share (includes riparian forest buffers); Public Law 96-451: 10 percent investment tax credit up to $10,000 for reforestation

Other potential incentives on rural lands ?

- Added incentives such as preferential tax treatment of riparian areas and conservation easements that allow selective harvest of streamside timber would reduce costs further.

- Allowing forest management within the riparian forest buffer is an effective way to protect water quality and provide economic return to private landowners. Forestry activities are a compatible land use with environmental protection and open space retention, keeping land economically viable and providing multiple benefits.

Are economic incentives available to assist in buffer implementation ?

Urban/Suburban development

- Alternative platting rules can minimize loss of lots due to buffer implementation

- Local subdivision rules allowing for clustering, or zoning rules allowing for density compensation for buffers (i.e. allowing the same number of slightly smaller lots to be platted than would be allowed if no buffers were implemented), could further reduce the risk of lost lots.

- In some areas, market research indicates that the value of lots where buffers are present is often 5% or higher than the value of lots where no buffers are present. That would result in a premium for each lot sold adjacent to the buffer, helping to reduce economic impacts of buffer implementation to developers

Local ordinances and zoning tools in use elsewhere to assist buffer implementation

- Fee simple acquisition
- Easement purchase
- Transfer of development rights
- Clustering
- Overlay zoning
- Streambank Buffer or Resource Protection zones

bottom line…

- Riparian forest buffers have been identified as cost-effective pollutant load reduction tools, when used in conjunction with other watershed management practices
- For this reason, riparian forest buffers have also been identified as key areas for protection and restoration at the national level
- A three-zone system has been developed by the USDA Forest Service to help plan riparian forest buffers.
- The three-zone approach is intended to be flexible, and can be combined with financial incentives to help achieve both water quality and landowner objectives.