Framework for A 21st Century Lake Murray Shoreline Management Plan

By John Frick - stakeholder

What is the most essential element for Shoreline preservation?

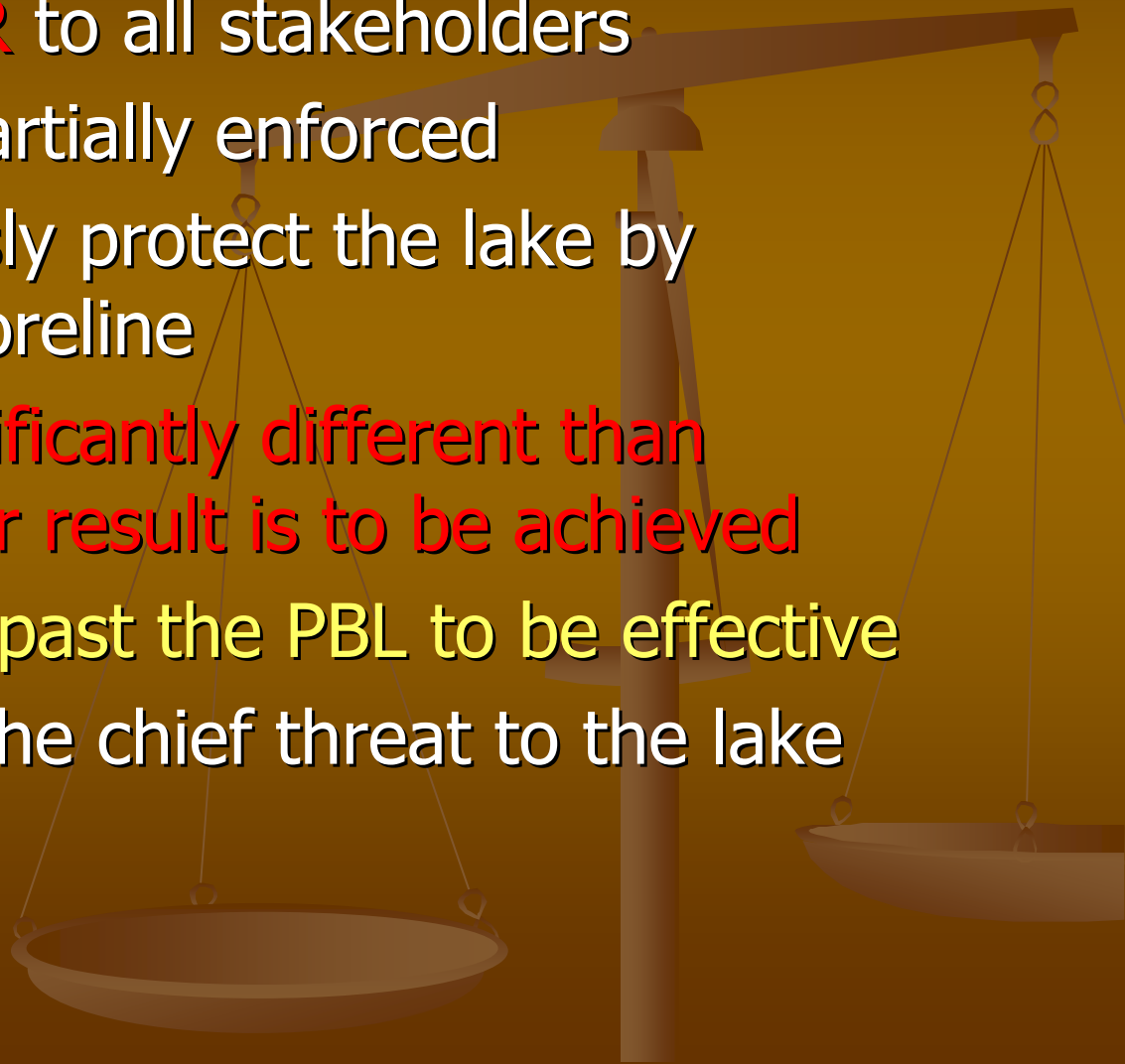
- Acceptance and Support by all Stakeholders

Who comprises this Group?

- General Populace
- SCANA
- Back Property Owners
- Local Governments
- State Government
- Federal Government

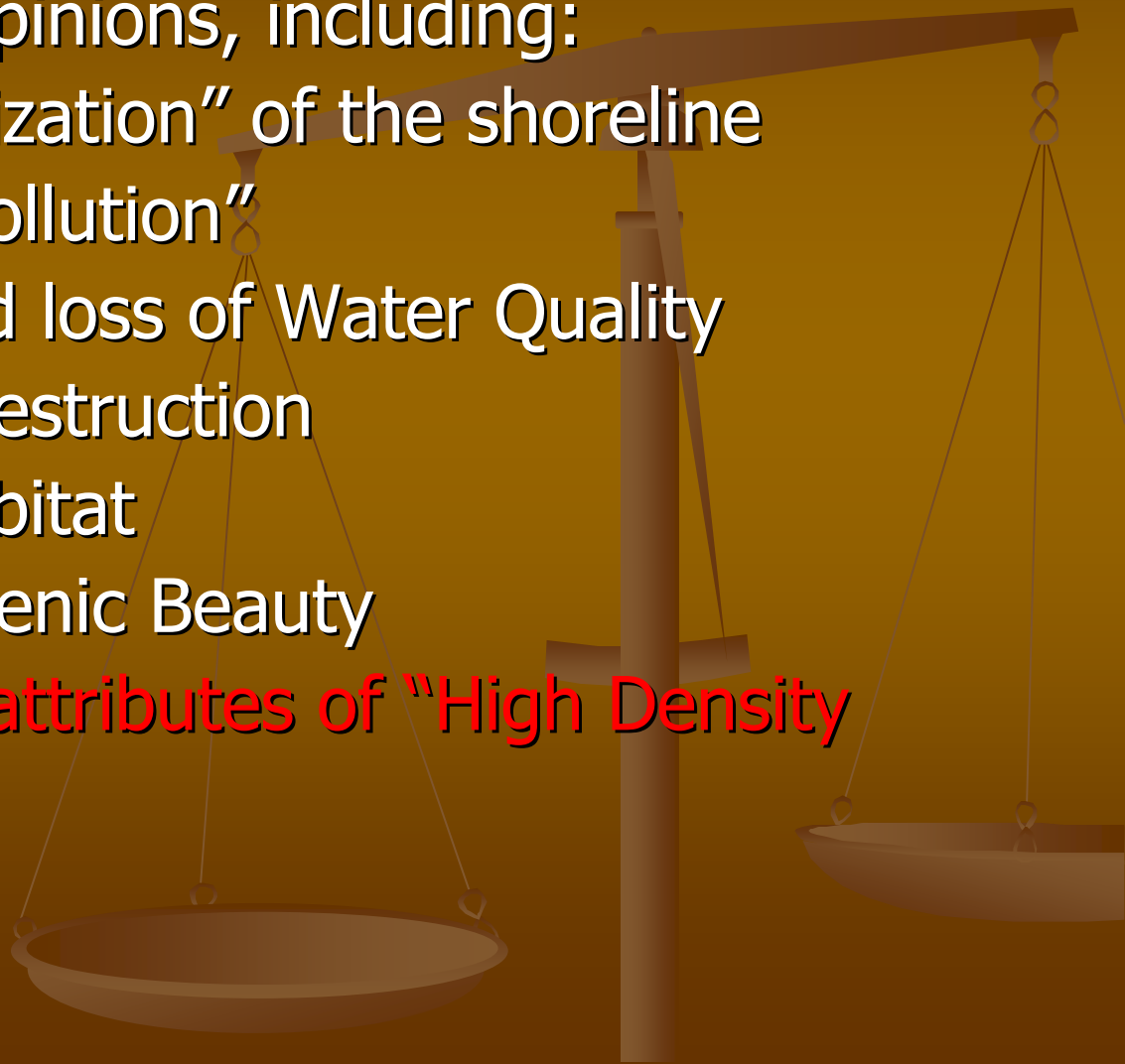
What Plan Attributes are required to achieve acceptance?

- Plan must be FAIR to all stakeholders
- Plan must be impartially enforced
- Plan must obviously protect the lake by preserving the shoreline
- Plan must be significantly different than existing…..if better result is to be achieved
- Plan must extend past the PBL to be effective
- Plan must nullify the chief threat to the lake



What are the biggest threats to the Lake?

- There are many opinions, including:
- Continued "Urbanization" of the shoreline
- "Urban Sourced Pollution"
- Sedimentation and loss of Water Quality
- Shoreline buffer destruction
- Loss of wildlife habitat
- Loss of Natural Scenic Beauty
- All the above are attributes of "High Density Development"



Is there a Plan that will meet all Stakeholders needs and Protect the Lake?

- YES!

Framework for an Acceptable Plan

- Protect every remaining tract of undeveloped shoreline
- Require a uniform buffer independent of the PBL to provide an effective wildlife corridor and sustainable habitat for small and large species
- Eliminate private docks to maximize undisturbed shoreline
- Give all Back Property Owners boating access with multi-slip docks and boat ramps
- Protect property values to the benefit of back property owners and local governments
- Eliminate Current Classifications

How can this be Accomplished?

- Multi-slip docks and ramp in exchange for the following Deed Restrictions
- Deed Restrictions to create and protect a uniform buffer
- Deed Restrictions to facilitate "Low Density Development"
- Eliminate current classifications….All tracts to be protected

Benefits of this Plan

- Large Net Gain in conserved acreage
- Conservation of Resources necessary for wildlife preservation
- Protection of water quality
- Enhancement of the aesthetic scenic beauty of the shoreline
- Protection of property values
- Protection of tax base for local governments
- Enhanced public compliance

Welcome to Wingfield – by Dee

Dee Simmons

Wingfield

…a new vision
for Lake Murray living

Why is Wingfield different?

Wingfield vs traditional lake developments

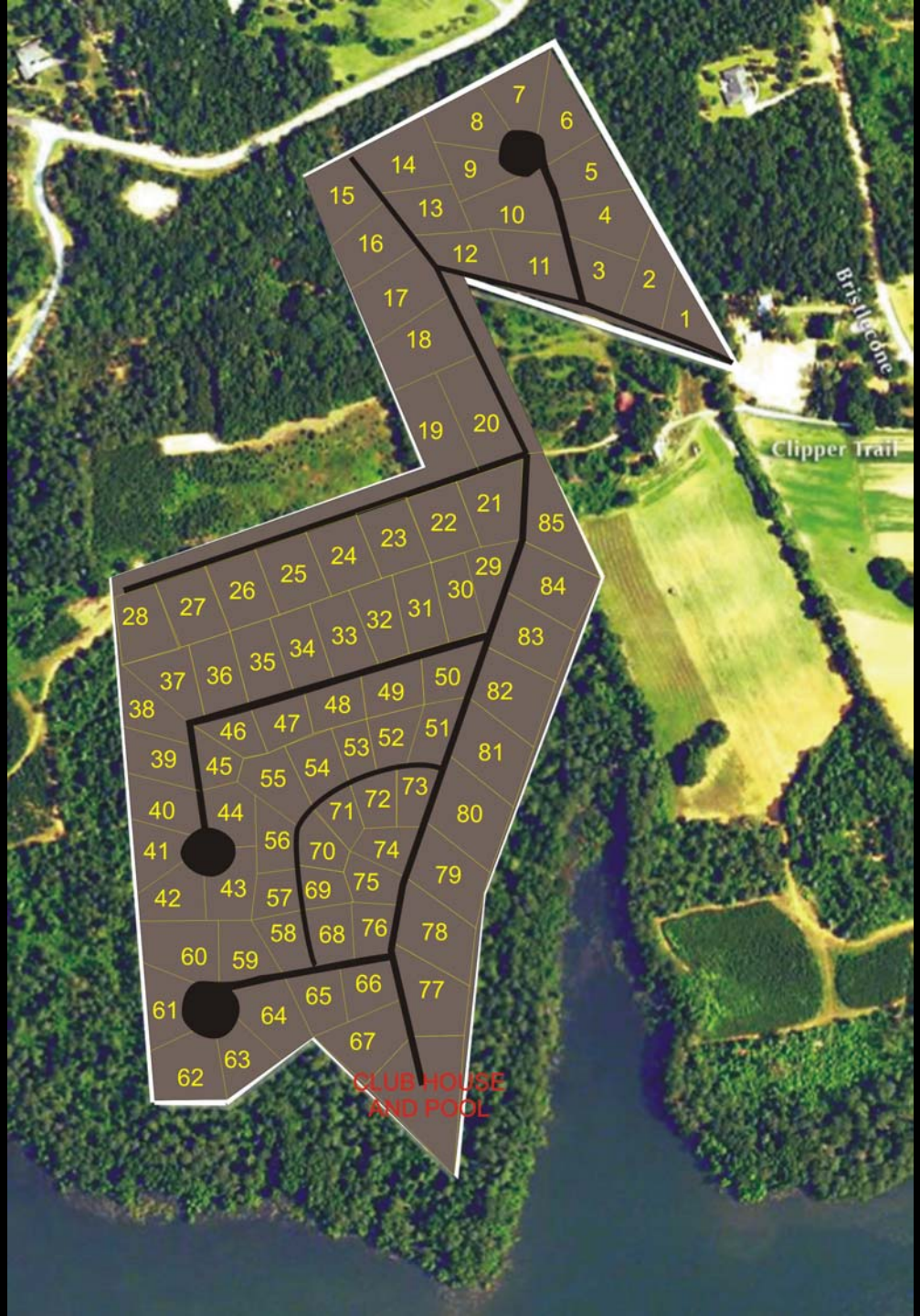
32 acres

2200 feet shoreline

High Density - 85 lots
(not the maximum number of lots allowed in this area)

22 individual docks*

**This does not take into consideration other restrictions imposed on the property such as ESA's.*



Wingfield

Low Density
(11 homes on 32 acres)

10 slip boat facility

Ramp

Dry Boat Storage located on property

Wingfield vs traditional lake developments

Wingfield

- Low Density
- 10 slip facility
- Ramp so boats can be removed
- Dry storage on property
- Natural Habitat Area (NHA) surrounding perimeter of every lot which can not be touched by homeowner*
- Heavy restrictions on clearing of lot
- Less than 2% of "fringe land" disturbed
- Wildlife preserved
- Shoreline, lake, and ESA's protected

Traditional Developments

- Highest Density Possible
- 22 docks (accommodating 44 boats)
- Boats not removed from lake unless necessary
- Land is clear cut at the beginning of the construction with no regard to wildlife or resources lost
- No restriction on lot clearing
- Majority of "fringe land" cleared
- ESA's destroyed
- Lake polluted
- Shoreline vegetation and wildlife destroyed

Wingfield is different from traditional developments on Lake Murray because it:

- *does not pollute the lake*
- *conserves the shoreline / "fringe" land*
- *protects the natural wildlife*
- *preserves the way of life for Wingfield residents*

Wingfield…

A place where

people and nature

can live in harmony.

Conservation is the cornerstone of this pristine community.

Wingfield development plan preserves the fringe land by:

Low Density:
limiting the number of homes on the back property therefore decreasing the amount of pass through traffic over the fringe land as well as at the waters edge

Wingfield development plan preserves the fringe land by:

Low Density: limiting the number of homes on the back property therefore decreasing the amount of pass through traffic over the fringe land as well as at the waters edge

Natural Habitat Area:
placing restrictions on the homeowners ability to clear land that touches the fringe land preventing people from crossing over onto SCE&G property with the clearing of their land. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

Lot 8 property lines

Shaded area represents NHA

Wingfield development plan preserves the fringe land by:

Low Density: limiting the number of homes on the back property therefore decreasing the amount of pass through traffic over the fringe land as well as at the waters edge

Natural Habitat Area: placing restrictions on the homeowners ability to clear land that touches the fringe land preventing people from crossing over onto SCE&G property with the clearing of their land. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

Restricted Clearing:

restricting the size of the trees that can be cleared from the property will keep the larger trees in place to preserve the natural inhabitants as well as keeping the shoreline more natural in appearance with just glimpses of homes. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

Wingfield development plan preserves the fringe land by:

Low Density: limiting the number of homes on the back property therefore decreasing the amount of pass through traffic over the fringe land as well as at the waters edge

Natural Habitat Area: placing restrictions on the homeowners ability to clear land that touches the fringe land preventing people from crossing over onto SCE&G property with the clearing of their land. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

Restricted Clearing: restricting the size of the trees that can be cleared from the property will keep the larger trees in place to preserve the natural inhabitants as well as keeping the shoreline more naturesque in appearance with just glimpses of homes. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

NHA and Restricted Clearing:

These two will work together to keep the fringe land cleaner because the restrictions will prevent additional runoff containing soils, fertilizers, pesticides, herbicides, etc... by both decreasing the amount of land to be landscaped as well as creating a "buffer zone" which will allow water space to soak into the ground before exiting the home site.

Wingfield development plan preserves the fringe land by:

Low Density: limiting the number of homes on the back property therefore decreasing the amount of pass through traffic over the fringe land as well as at the waters edge

Natural Habitat Area: placing restrictions on the homeowners ability to clear land that touches the fringe land preventing people from crossing over onto SCE&G property with the clearing of their land. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

Restricted Clearing: restricting the size of the trees that can be cleared from the property will keep the larger trees in place to preserve the natural inhabitants as well as keeping the shoreline more natural in appearance with just glimpses of homes. This will be enforced by the HOA and the Estate Keeper and there are penalties for not abiding.

NHA and Restricted Clearing: these two will work together to keep the fringe land cleaner because the restrictions will prevent additional runoff containing soils, fertilizers, pesticides, herbicides, etc... by both decreasing the amount of land to be landscaped as well as creating a "buffer zone" which will allow water space to soak into the ground before exiting the home site.

One 10 slip facility vs 22 individual docks:
Allowing one access area with 10 slips will prevent additional traffic through the rest of the property keeping the fringe land cleaner and less disturbed than if there were one dock every 100 feet. There is over 2200 feet on the water so the theoretical potential would be 22 docks* which would mean at least 22 paths through the fringe land.

**This does not take into consideration other restrictions imposed on the property such as ESA's.*

Wingfield development plan protects the lake and shoreline by:

Low density development limits the number of homes on the back property which in turn decreases the number of "residential" boats and boat traffic in that specific area which will pull up to the shore and beach indefinitely with high density developments.

Wingfield development plan protects the lake and shoreline by:

Low density development limits the number of homes on the back property which in turn decreases the number of "residential" boats and boat traffic in that specific area which will pull up to the shore and beach indefinitely with high density developments.

Low Density Traffic: limiting the number of residence will decrease the number of people at the waters edge who could potentially destroy the existing ESA's providing habitats for various animals. Having a large housing development will bring lots of families (Chapin schools…) with lots of kids who are going to explore unsupervised, build forts, cut trees, make fires, etc..., while adults will clear land for larger yards, pet enclosures, a great swimming area, and the ESA's will eventually be destroyed. No one will be able to enforce the SCE&G rules and the developer will not care.

Wingfield development plan protects the lake and shoreline by:

Low density development limits the number of homes on the back property which in turn decreases the number of "residential" boats and boat traffic in that specific area which will pull up to the shore and beach indefinitely with high density developments.

Low Density Traffic: limiting the number of residence will decrease the number of people at the waters edge who could potentially destroy the existing ESA's providing habitats for various animals. Having a large housing development will bring lots of families and the ESA's will eventually be destroyed. No one will be able to enforce the SCE&G rules and the developer will not care.

10 slip facility: Allowing one access area with 10 slips will keep the shoreline cleaner and less disturbed than if there were one dock every 100 feet. There are over 2200 feet on the water so theoretical potential would be 22 docks* with at least one boat and possibly two at every dock for a potential of 44 boats.

*This does not take into consideration other restrictions imposed on the property such as ESA's.

Wingfield development plan protects the lake and shoreline by:

Low density development limits the number of homes on the back property which in turn decreases the number of "residential" boats and boat traffic in that specific area which will pull up to the shore and beach indefinitely with high density developments.

Low Density Traffic: limiting the number of residence will decrease the number of people at the waters edge who could potentially destroy the existing ESA's providing habitats for various animals. Having a large housing development will bring lots of families and the ESA's will eventually be destroyed. No one will be able to enforce the SCE&G rules and the developer will not care.

10 slip facility: Allowing one access area with 10 slips will keep the shoreline cleaner and less disturbed than if there were one dock every 100 feet. There are over 2200 feet on the water so theoretical potential would be 22 docks* with at least one boat and possibly two at every dock for a potential of 44 boats.
*This does not take into consideration other restrictions imposed on the property such as ESA's.

Ramp/Storage Area: Having a storage area on the property and a ramp will enable homeowners to remove boats from the water and place them in dry storage when not in use or when they need servicing. This will prevent possible oil/gas leaks (from various reasons) into the lake that can occur when boats sit in the water for extended periods of time with or without use. The convenience of the ramp makes this possible and will help to keep the shoreline aesthetically appealing by have a practical way of removing boats when not in use.

Wingfield development plan protects the lake and shoreline by:

Low density development limits the number of homes on the back property which in turn decreases the number of "residential" boats and boat traffic in that specific area which will pull up to the shore and beach indefinitely with high density developments.

Low Density Traffic: limiting the number of residence will decrease the number of people at the waters edge who could potentially destroy the existing ESA's providing habitats for various animals. Having a large housing development will bring lots of families and the ESA's will eventually be destroyed. No one will be able to enforce the SCE&G rules and the developer will not care.

10 slip facility: Allowing one access area with 10 slips will keep the shoreline cleaner and less disturbed than if there were one dock every 100 feet. There are over 2200 feet on the water so theoretical potential would be 22 docks* with at least one boat and possibly two at every dock for a potential of 44 boats.
*This does not take into consideration other restrictions imposed on the property such as ESA's.

Ramp/Storage Area: Having a storage area on the property and a ramp will enable homeowners to remove boats from the water and place them in dry storage when not in use or when they need servicing. This will prevent possible oil/gas leaks (from various reasons) into the lake that can occur when boats sit in the water for extended periods of time with or without use. The convenience of the ramp makes this possible and will help to keep the shoreline aesthetically appealing by have a practical way of removing boats when not in use.

NHA and Restricted Clearing: These two will work together to keep the lake cleaner because the restrictions will prevent additional runoff containing fertilizers, pesticides, herbicides, etc... by both decreasing the amount of land to be landscaped as well as creating a "buffer zone" which will allow water space to soak into the ground before exiting the home site.

Wingfield development plan protects the lake and shoreline by:

Low density development limits the number of homes on the back property which in turn decreases the number of "residential" boats and boat traffic in that specific area which will pull up to the shore and beach indefinitely with high density developments.

Low Density Traffic: limiting the number of residence will decrease the number of people at the waters edge who could potentially destroy the existing ESA's providing habitats for various animals. Having a large housing development will bring lots of families and the ESA's will eventually be destroyed. No one will be able to enforce the SCE&G rules and the developer will not care.

10 slip facility: Allowing one access area with 10 slips will keep the shoreline cleaner and less disturbed than if there were one dock every 100 feet. There are over 2200 feet on the water so theoretical potential would be 22 docks* with at least one boat and possibly two at every dock for a potential of 44 boats.
*This does not take into consideration other restrictions imposed on the property such as ESA's.

Ramp/Storage Area: Having a storage area on the property and a ramp will enable homeowners to remove boats from the water and place them in dry storage when not in use or when they need servicing. This will prevent possible oil/gas leaks (from various reasons) into the lake that can occur when boats sit in the water for extended periods of time with or without use. The convenience of the ramp makes this possible and will help to keep the shoreline aesthetically appealing by have a practical way of removing boats when not in use.

NHA and Restricted Clearing: These two will work together to keep the lake cleaner because the restrictions will prevent additional runoff containing fertilizers, pesticides, herbicides, etc... by both decreasing the amount of land to be landscaped as well as creating a "buffer zone" which will allow water space to soak into the ground before exiting the home site.

Storm water run-off controlled on property through EPSC requirements preventing erosion.

“The shoreline will remain naturally pristine as it serves as a sanctuary to the wildlife calling it home. ”

The new Wingfield…

Over 40 acres and 3500+ feet of shoreline.

This nearly doubles the shoreline conservation efforts on this property or it can have the reverse effect and be twice the destruction and lost of wildlife.

The entire cove could be destroyed or enhanced.

SUPPORT OR OBJECTIONS

Wingfield is not simply a place to reside...
it is a place to experience.

Commerce Association of Lake Murray

Commerce Association of Lake Murray

Southshore Marina
Jakes Landing
Lighthouse Marina
Lake Murray Marina & Yacht Club
Lake Murray Boat Club
Sea Ray
Sea Tow Lake Murray
HydroTech Marine
Siesta Cove
Big Birds Landing
Quality Marine
Holland's Marina
Putnam's Landing
Acapulco USA

Interested Businesses

Dockside Resturant
Palmetto Graphix
Marine Surveys Inc.
Benchmark Marine Services
Advanced Docks
Jacks Docks N Decks
Ray Clepper Inc.
Nationwide Insurance
Spinners Marina
Breakwater Docks
Carolina Boatworks
Mid Carolina Marine
Outdoor RV & Marine
Lake Tours/ / Southern Patriot

Brown Marine&LM Boat Rentals
Dexndox, Inc.
Captain's Choice Marine
Mobile Trailer Service
Turner's Point
Carolina Inboard
Southlake Marine
Columbia Powersports
Carolina Honda
Cyclone Motorsports
Palmetto EZ Dock
Lanier Sailing Academy @ Lake Murray

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

CALM

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

CALM

Mission Statement

The Commerce Association of Lake Murray provides a voice for the business community serving Lake Murray and, in doing so, we shall seek to promote and protect natural resources, promote education for safe and responsible boating, maintain and expand the economic viability of facilities and services, and act as a liaison between the boating public, and regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

Communications

One point contact to and from the business community

SCE&G
DNR
Governmental Agency's
Cap. City/ Lake Murray Country
News Media
Residents and Visitors
Homeowner's Associations
Other Associations/Clubs
Local Schools

Involvement in Issues that Impact the Lake Murray area

Re-License
Lake Access
Economic Impact of Regulations
Supporting existing Marinas and Landings
Favorable business environment
Avoid unintended consequences
Offer Help and expertise

Long Term Goals

Expand season

More activities

Promote Clean/Safe Boating

Destinations

Points of Interest

Grow Boating

Short term Goals

Clean Marina Certification
Expand group
Get the word out
Formalize organization
Align with other groups
    a. Home owners groups
    b. SC Marine Associations
    c. **Business** Associations
    d. Capital City / Lake Murray Country
    e. National Grow Boating Initiative

Commerce Association of Lake Murray

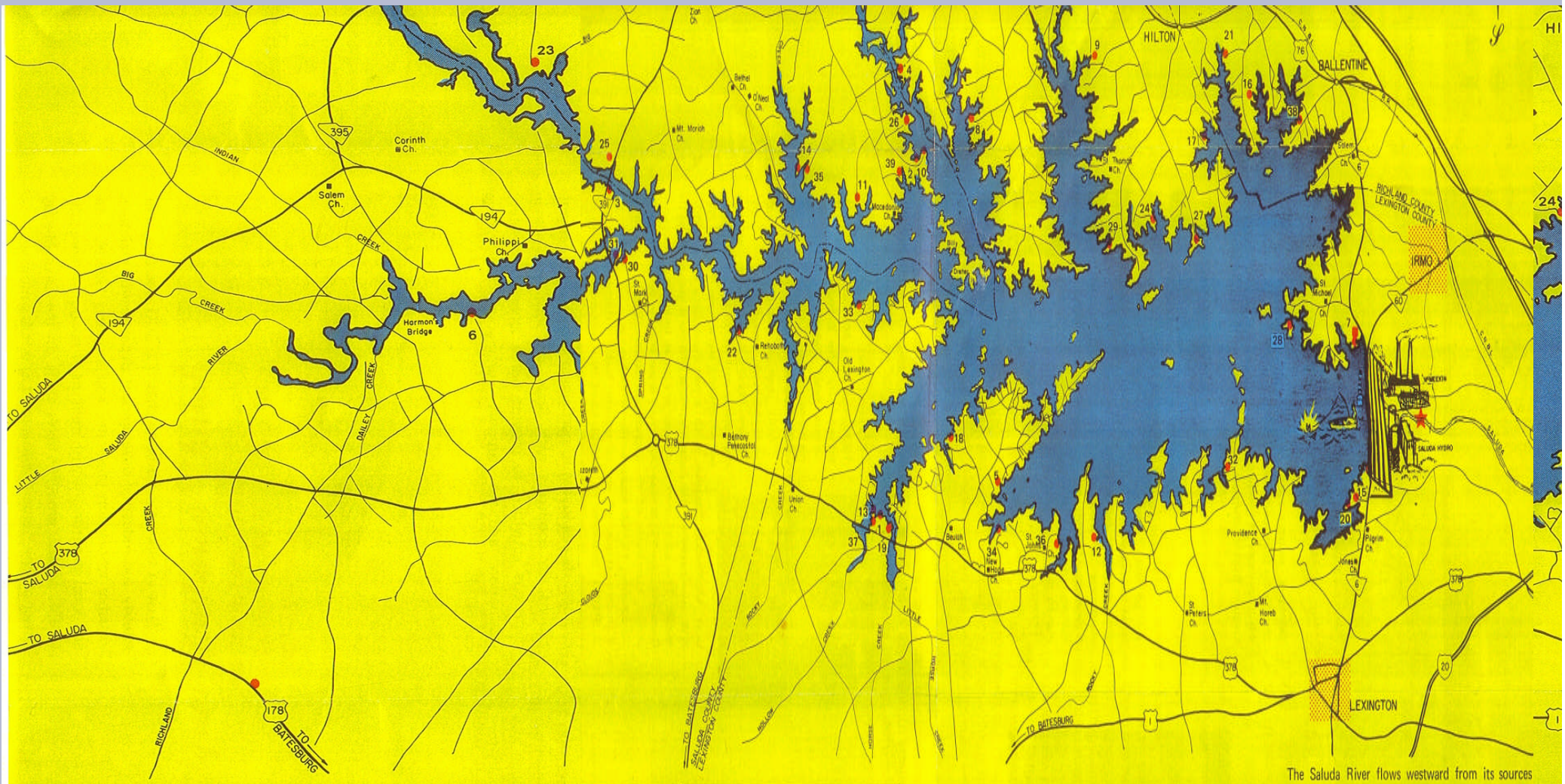
The Commerce Association of Lake Murray is committed to providing a voice for the business community serving Lake Murray and in doing so, we shall seek to, promote and protect; natural resources education for safe and responsible boating, **maintain and expand economic viability of facilities and services,** and act as a liaison between public regulators and legislators, so Lake Murray may be enjoyed by all for generations to come.

Marinas improve our economy.

Meeting the needs of
the community:

Commerce Association of Lake Murray is formally requesting that SCE&G make an amendment to the moratorium on multi slip dock permits to allow permit applications at existing commercial marinas.


Questions?



KEY TO LANDINGS AND CLUBS

1. ADAMS' LANDING	F-5	16. JOHNSON'S MARINA	I-3	31. SHEALY'S LANDING	D-4
2. AMICK'S LANDING	F-3	17. LAKE MURRAY BOAT & SPTS. CLUB *	I-3	32. SNELGROVE'S LANDING	I-5
3. BLACK'S BRIDGE MARINA	D-3	18. LAKE MURRAY FAM. CAMPGRD.	G-5	33. SWYGERT'S LANDING	F-4
4. BUCK'S MARINA	F-3	19. LAKESIDE MARINA	F-5	34. TAYLOR'S LANDING	G-5
5. CIRCLES CLUB *	G-5	20. LEXINGTON BOAT CLUB *	J-5	35. TOM'S LANDING	E-3
6. COLLUM'S LANDING	C-4	21. LOCKHART'S LANDING	I-3	36. TURNER'S LANDING	G-5
7. COLUMBIA SAILING CLUB*	J-4	22. MARTIN'S LANDING	E-4	37. WEED'S LANDING	F-5
8. CRYSTAL LAKE FAM. CAMPGRD.	G-3	23. MAYER'S LANDING	C-3	38. WELL'S MARINA	J-3
9. EPTING'S CAMP	H-3	24. MILLS' LANDING	H-3	39. WILSON'S LANDING	F-3
10. FRIENDLY BOATING CLUB *	F-3	25. MORRIS' LANDING	D-3	40. RAY'S MOTEL	F-7
11. HAMM'S LANDING	F-3	26. NEWBERRY LION CLUB *	F-3	41. NEWBERRY EXCHANGE CLUB *	F-3
12. HENDRIX'S LANDING	H-5	27. PALMETTO LANDING	I-4	42. CRAYNE'S LANDING	F-3
13. HOLIDAY SHORES LANDING	F-5	28. PINE ISLAND CLUB *	I-4	43. SNUG HARBOR	F-3
14. HOLLAND'S LANDING	E-3	29. PUTMAN LANDING	H-4		
15. JAKE'S LANDING	J-5	30. RIKARD'S LANDING	D-4	PRIVATE CLUB *	

LANDINGS AND CAMP SITES SHOWN ARE FOR GENERAL INFORMATION ONLY AND ARE IN APPROXIMATE LOCATION.

The Saluda River flows westward from its sources the Blue Ridge Mountain chain, turns south, ent Lake Murray, spins the turbines of Saluda Hydro, a winds its way to confluence with the Broad River Columbia.

MAP OF

LAKE MURRAY

AND VICINITY

SOUTH CAROLINA ELECTRIC AND GAS CO.

CORRECTED TO JUNE 1, 1968

GRAPHIC SCALE IN MILES

0 1 2 3 4

COMPILED FROM AERIAL PHOTOGRAPHS & S.C. HWY. DEPT. COUNTY MAPS

LAKE OUTLINE INDICATES 354 FOOT LAKE LEVEL

REVISED MAY 1, 1969

Map Legend

Indicates S. C. E. & G. Co.

Public Parks

McMeekin Steam and Saluda Hydro Generating Complex

Adaptive Management in the Context of FERC Licenses

Recreation RCG

February 7, 2007

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

What is Adaptive Management?

A type of natural resource management in which decisions are made as part of an ongoing science-based process.

Source: Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management

SCE&G A SCANA COMPANY

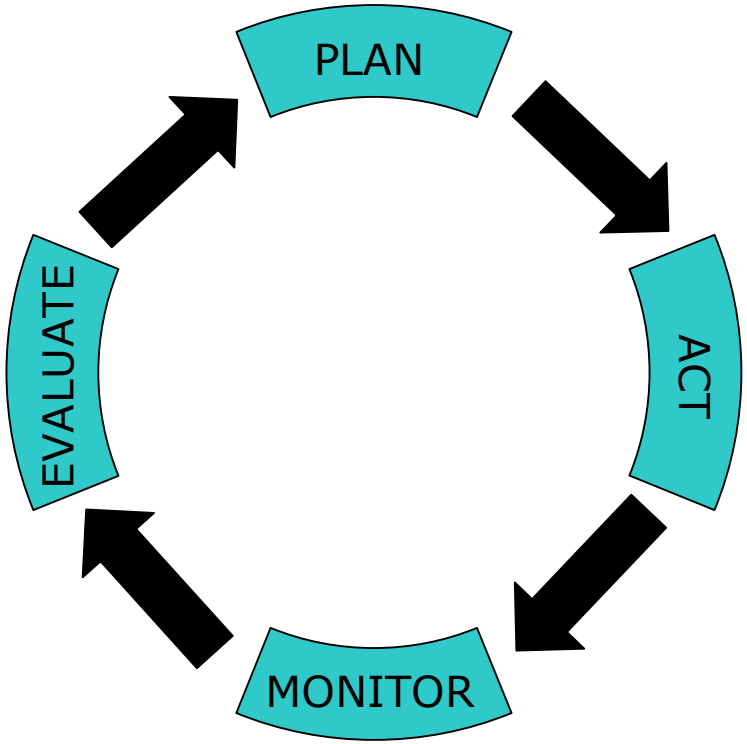
Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Adaptive Management Basic Steps

- 1. Determine the goals for the resource.
- 2. Method to test or evaluate if goals are met.
- 3. Ability to change based on evaluation.

The Cycle of Adaptive Management



Adapted from Pajak, 2000

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Plan

- Clarify goals
- Assess status and trends of related indicators
- Develop and compare management alternatives
- Seek consent and plan actions

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Act

- Implement planned actions
- Reward integrity and results

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Monitor

- Monitor all indicators
- Communicate results

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Evaluate

- Compare actual vs. planned results
- Analyze indicator relationships
- Adapt and repeat cycle

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

What does FERC think?

- "Adjustments to measures required during the license term will be based on information gleaned from ongoing monitoring or other post-license studies"

Source: Policy Statement on Hydropower Licensing Settlements

FERC License Examples

- Sinclair Project (FERC No. 1951)
- Clark Fork Project (FERC No. 2058)
- Mokelumne River Project (FERC No. 137)
- Carpenter-Remmel Project (FERC No. 271)
- Baker River Project (FERC No. 2150)

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

FERC Concerns

FERC may modify adaptive management measures to:

(i) ensure limitations on changes

(ii) provide for FERC review and approval of decisions.

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Where are we?

- Still in planning stage
- Establishing baseline of management indicators
- Planning actions

SCE&G A SCANA COMPANY

Saluda HYDRO RELICENSING

Kleinschmidt Energy & Water Resource Consultants

Rebalancing Shoreline Uses on Lake Murray: The DNR Perspective

South Carolina Department of Natural Resources

Lake Issues Related to Shoreline Classification

- Wildlife and Fisheries
- Habitat Protection
- Water Quality
- Recreation
- Aesthetics

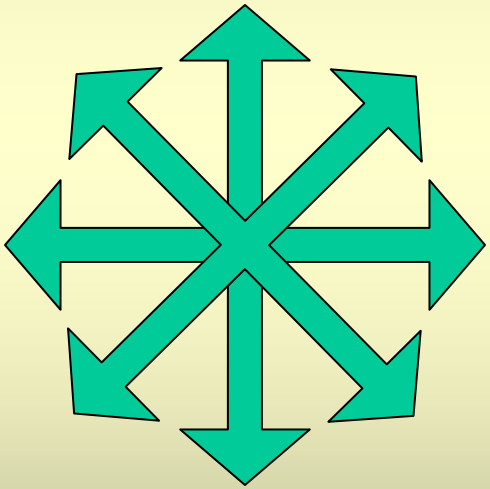
What constitutes a “good” lake shore?

Ecology

- Diverse flora and fauna
- Good breeding, foraging and nursery habitat
- Refuge for wildlife
- Rare, T & E species (sometimes)

Values

- Hunting and fishing
- Aesthetics



Functions

- Filtration
- Flood attenuation

Water Quality

- Pollution free
- Appropriate temperature
- Adequate DO levels
- No pesticides, herbicides, oil, etc…

Morphology

- Stable shoreline
- Diverse near-shore habitat

Benefits Of Riparian Setbacks

- Erosion control and sediment retention by slowing runoff.

- Surface and ground water quality protection through nutrient cycling through nitrogen fixation and the storage of sediment bound phosphorus.

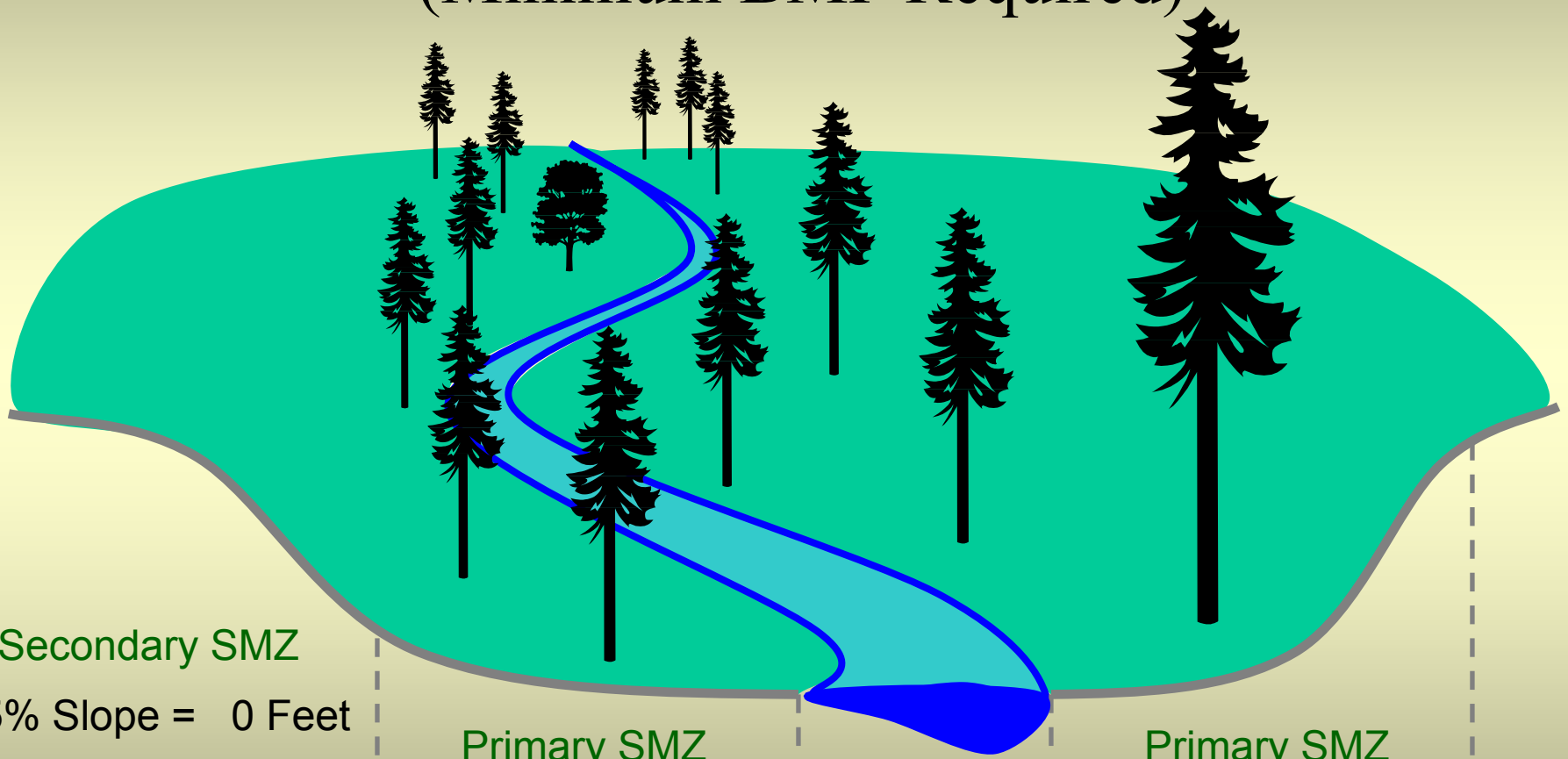
- Ecosystem protection by providing habitats for resident and transient plant and animal populations.

- Recreational services including hiking, picnicking, and the protection of resources for sport fishing.

- Cultural services by providing opportunities for noncommercial uses such as aesthetic, artistic, educational, or scientific uses.

Streamside Management Zones

(Minimum BMP Required)



Secondary SMZ

>5% Slope = 0 Feet

5% - 20% = 40 Feet

20% - 40% = 80 Feet

<40% = 120 Feet

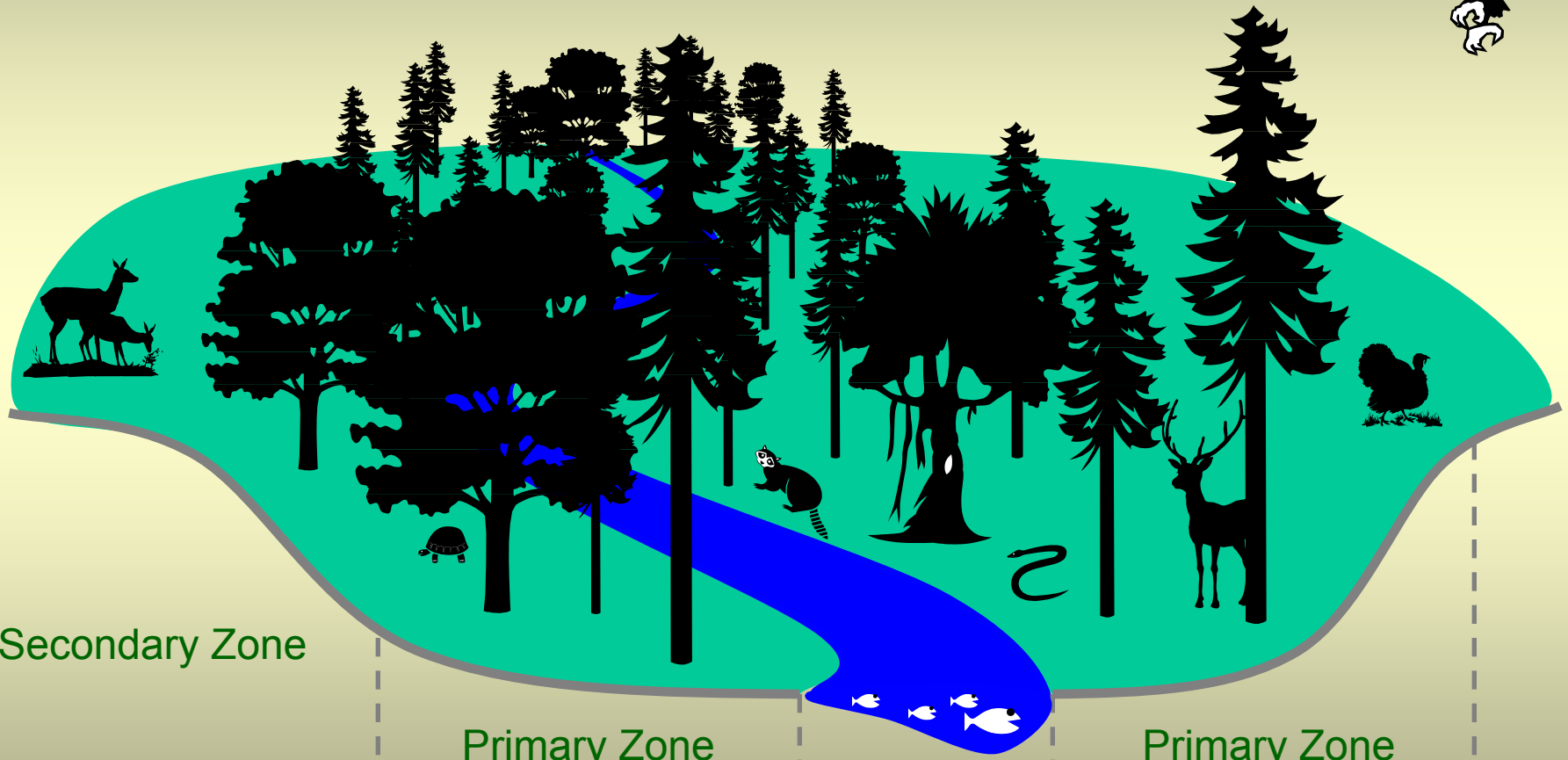
Primary SMZ

40 feet

80 feet (trout)

Primary SMZ

Buffers Maximized for Wildlife



Secondary Zone

Primary Zone
300 feet

Primary Zone
300 feet

Table 4: Recommended Buffer Width for Birds

Article	Width Studies (feet)	Minimum Width Recommendation (feet)
Hodges and Krementez (1996)	118-6849	328
Keller et al (1993)	82-2624	328
Kilgo et al (1998)	82-1640	Both Narrow and Wide
Kinley and Newhouse (1997)	46-230	230
Smith and Schaefer (1992)	65-492	No Recommendation
Spackman and Hughes (1995)	82-656	492-574
Thurmond et al (1995)	49-164	49
Triquet et al (1990)	49-75	No Recommendation

(Wenger, 1999)

Federal Power Act Considerations

Section 4(e) requires the Commission, before making a decision on land sales, to consider if the hydropower project has given "equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality."

Section 18 CFR § 2.7 (a) states that the licensee must "include within the project boundary enough land to ensure the optimum development of recreational resources afforded by the project including those for sport fishing and hunting".

Current Shoreline Protection Measures

- Protection of emergent vegetation below the 360 elevation
- 75 foot setback
- Conservation areas
- Environmentally sensitive areas
- Shoreline erosion management
- Lake elevation

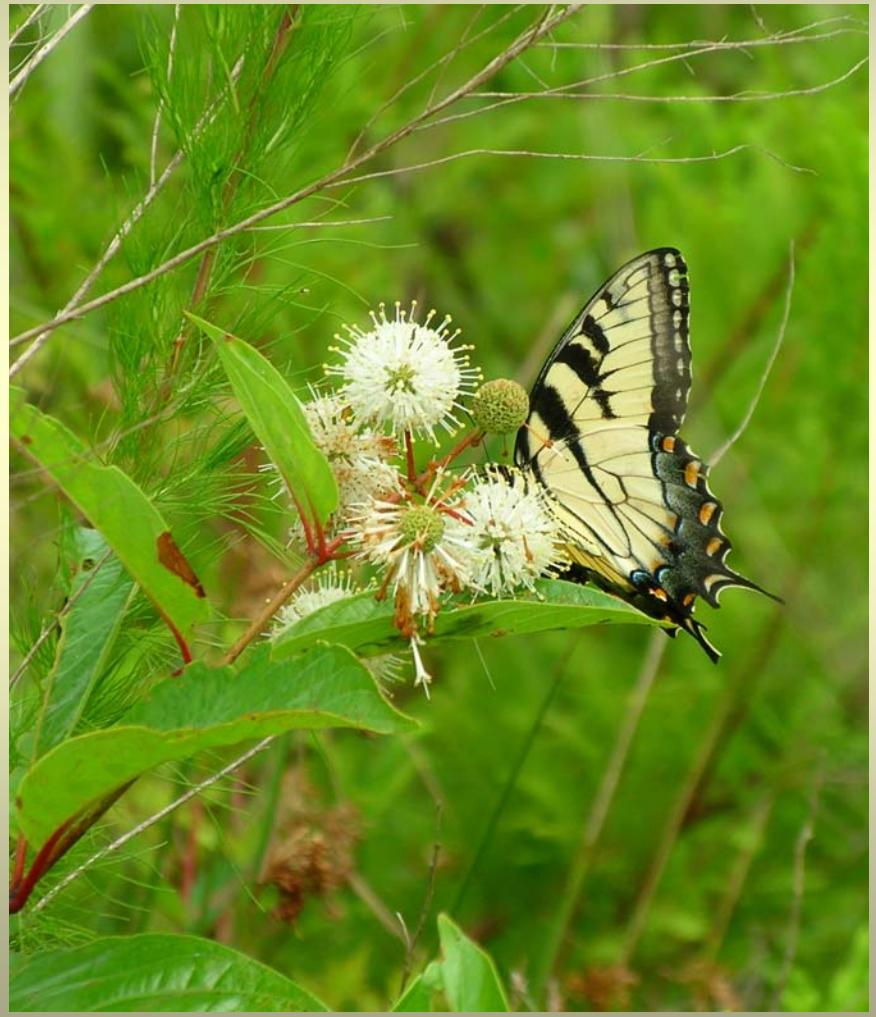
Setback after years of understory clearing and diseased and hazardous tree removal

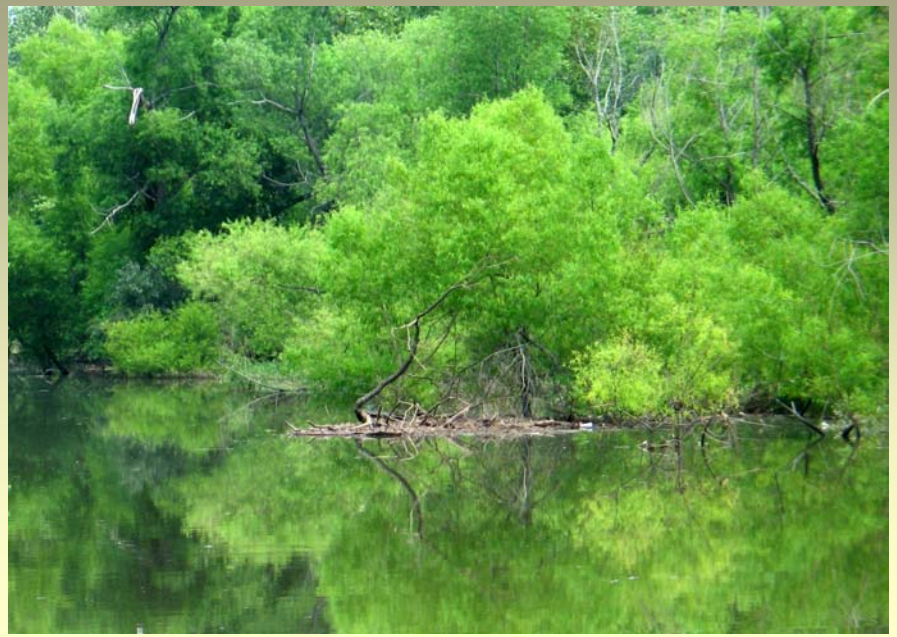
Can the 75 foot setback be improved?

- Widen to 100 feet
- Increase the “no clearing zone”
- Maintain a closed canopy by replacing diseased and hazardous trees.
- Increase penalties and fines
- Improve educational outreach
- Involve stakeholders in monitoring

Environmentally Sensitive Areas

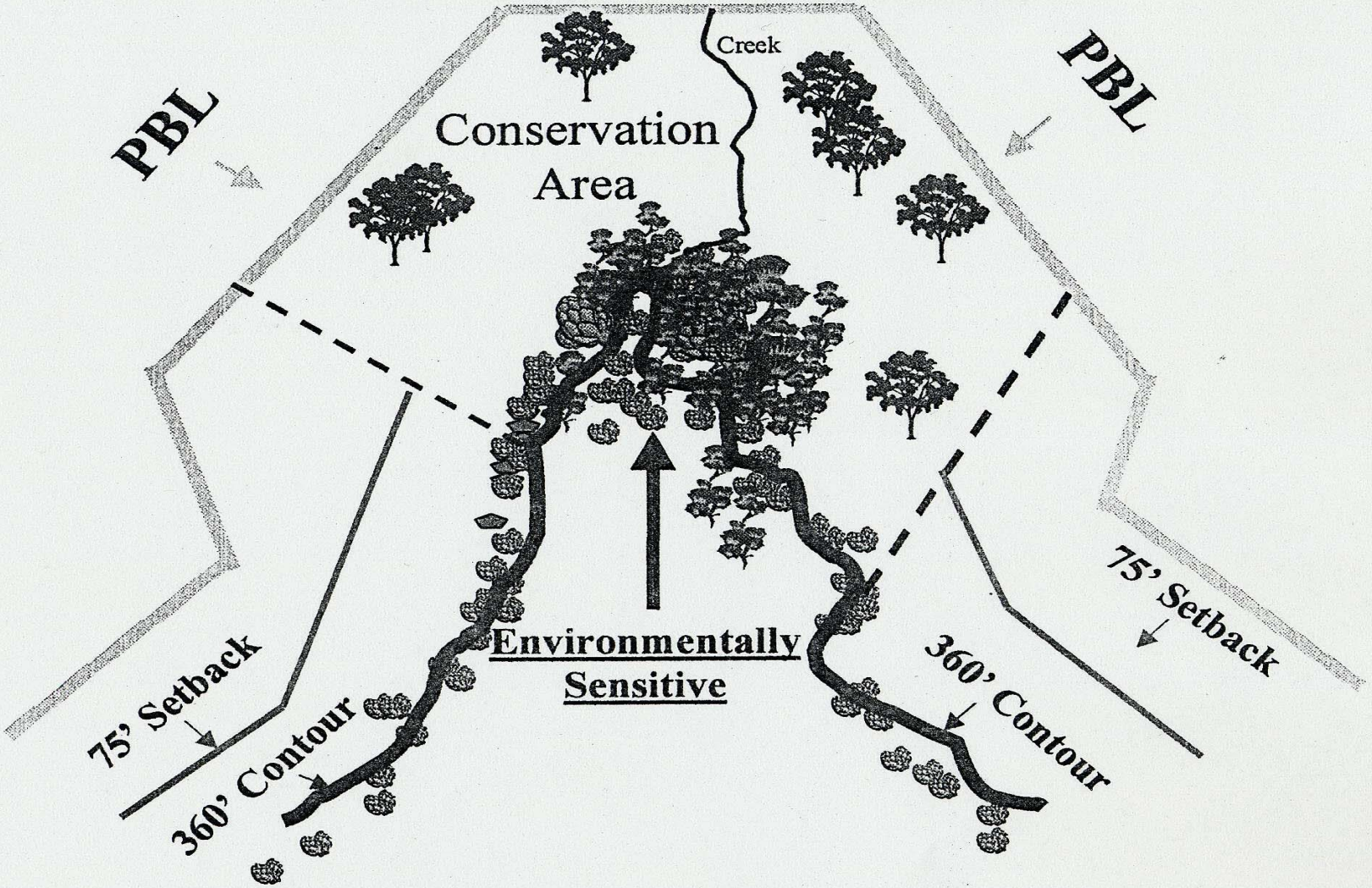
- Shallow Coves
- Bottomland Hardwood and Wet Flats
- Vegetated shoreline





Can the Vegetation be protected?

Conservation Area Example

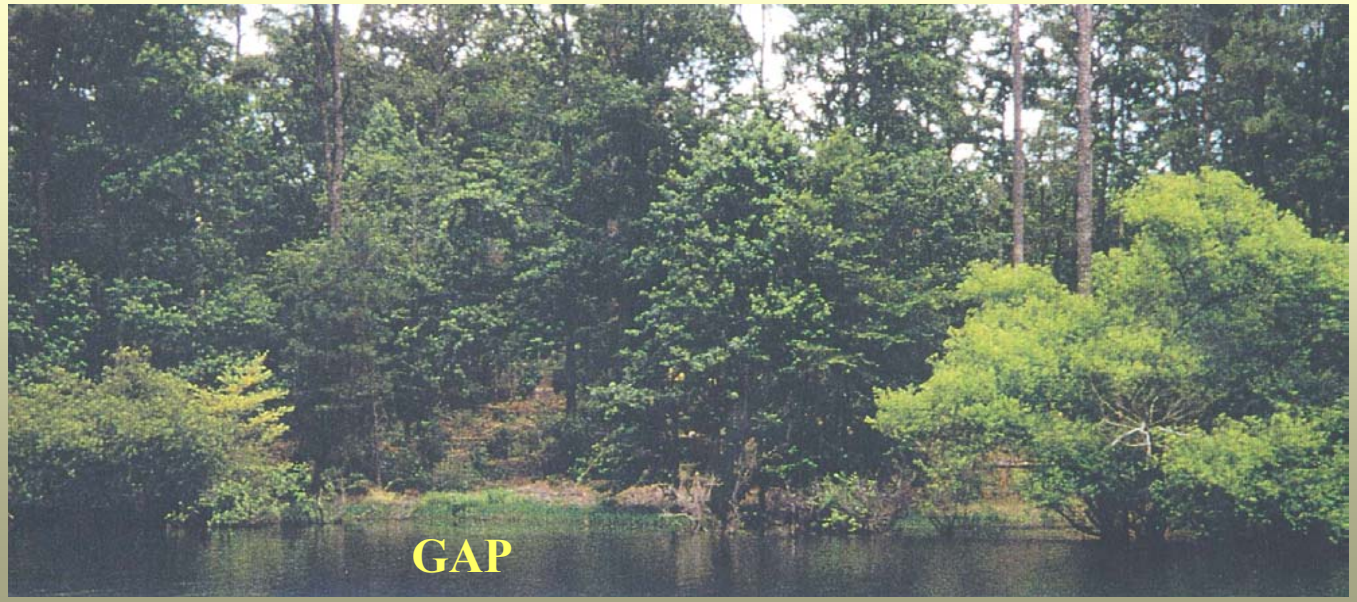


Future Development Fringeland Classification
Lake Murray (FERC Project 516)

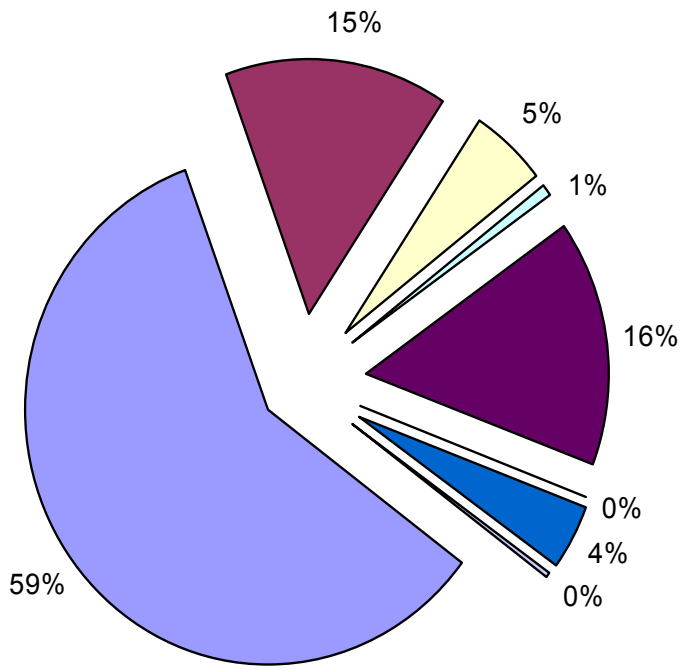
Vegetated Shoreline

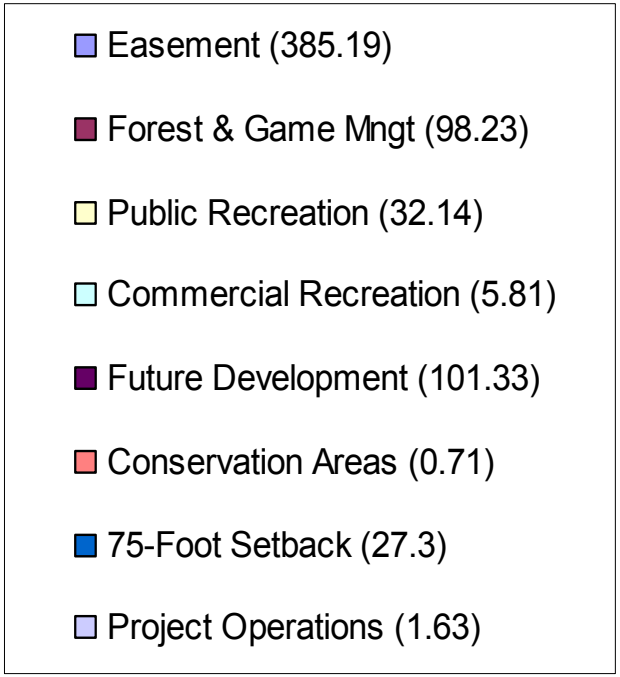
Continuous

Intermittent
(Gap = 8’ to 20’)



Shoreline Classification

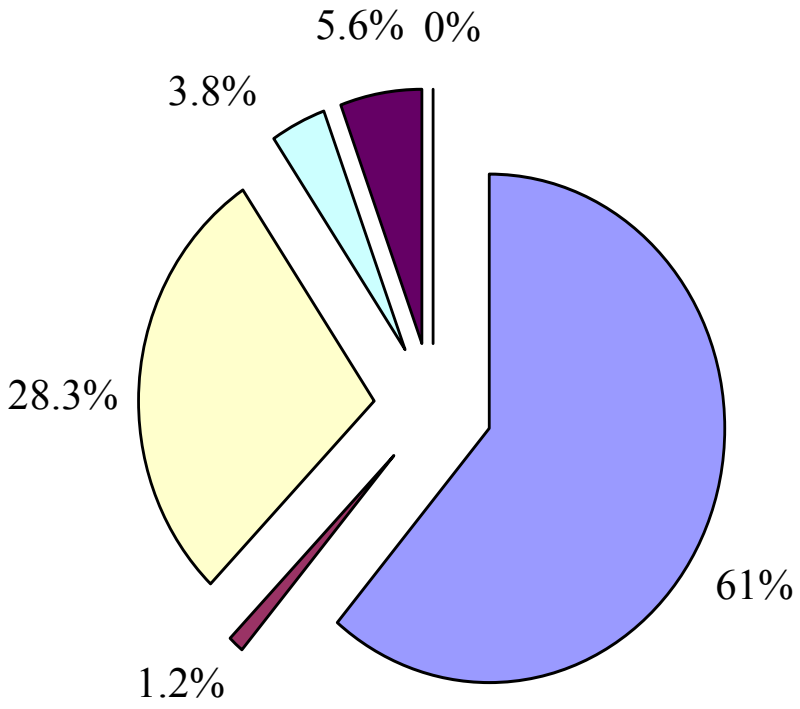




Total Shoreline = 652.34 miles

SCE&G 2006

Future Development Classification



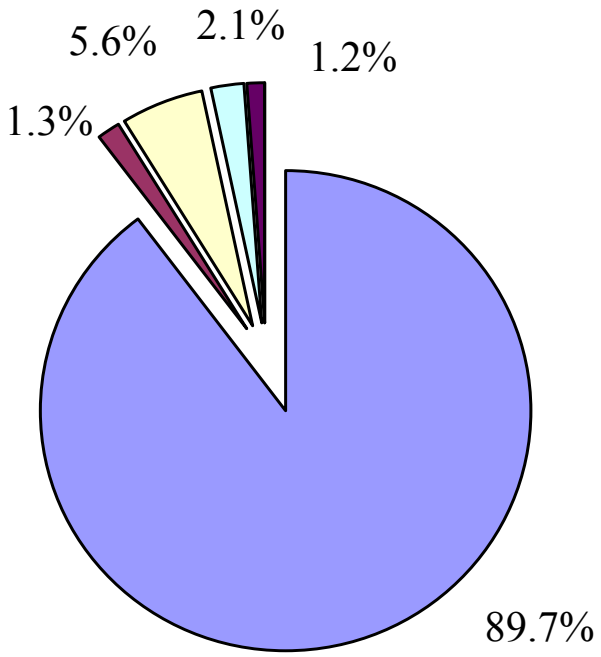
- Future Development (65.23)
- Bottomland Hardwood (1.25)
- Button Bush - Contiguous (30.29)
- Button Bush - Intermittent (4.1)
- Shallow Cove (5.96)
- Wet Flat (0.01)

Total Future Development = 106.84 Miles

Total ESA = 41.61 Miles

SCE&G 2005

Easement ESA



- Easement with no ESA (345.54)
- Bottomland Hardwood (5.2)
- Button Bush - Contiguous (21.65)
- Button Bush - Intermittent (8.19)
- Shallow Cove (4.61)
- Wet Flats (0)

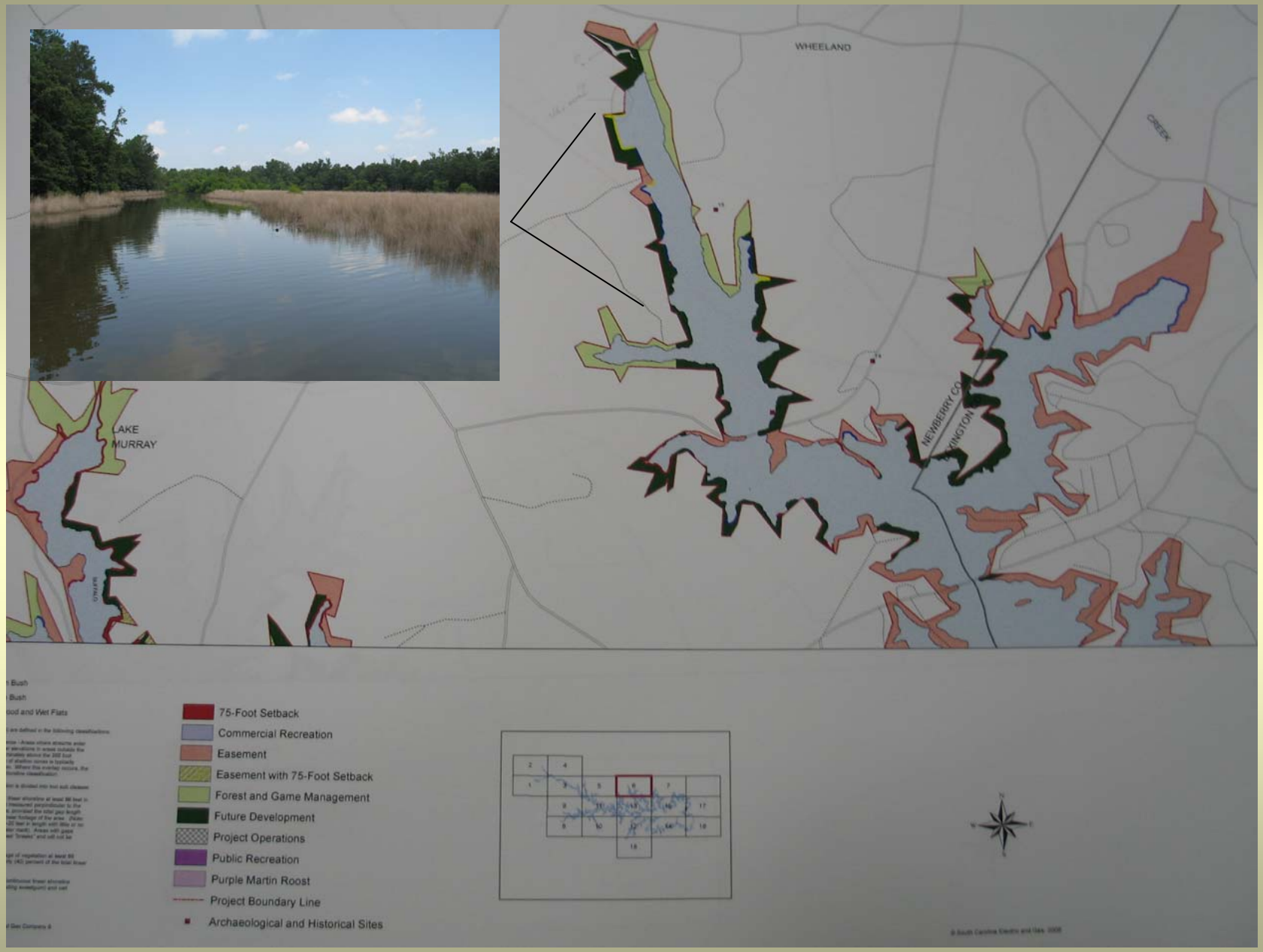
Total Easement Shoreline = 385.19 Miles
Total ESA = 39.66 Miles

SCE&G 2006

SCDNR Land Protection Proposal

Selection Criteria

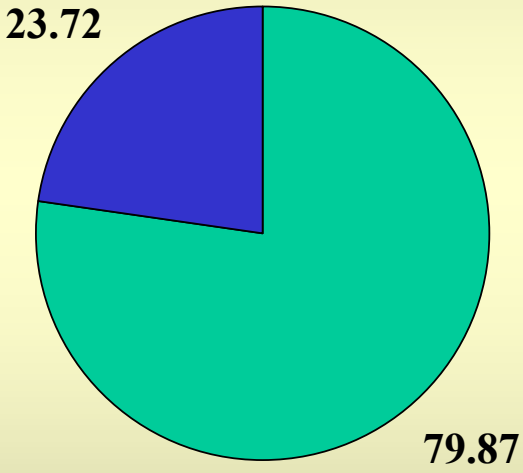
- General habitat quality
- Fish spawning and nursery habitat
- Length and depth of undeveloped shoreline
- Waterfowl hunting opportunities
- Habitat in surrounding region
- Aesthetics
- Recreational values
- Adjacency

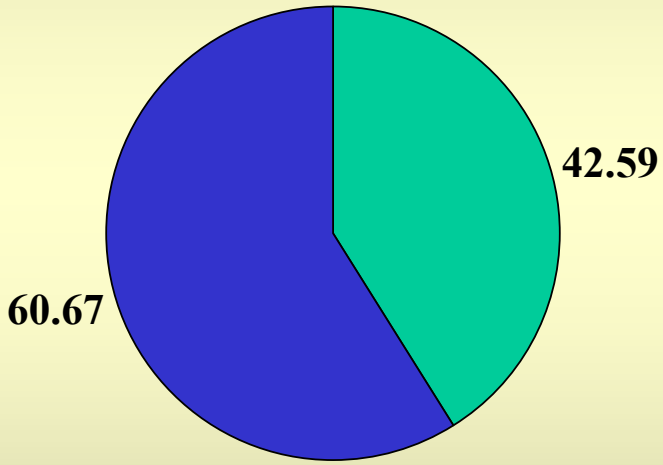


Example of a shoreline management plan (Camping Creek)

Past Rebalancing Efforts

Miles of Shoreline Classified Future Development

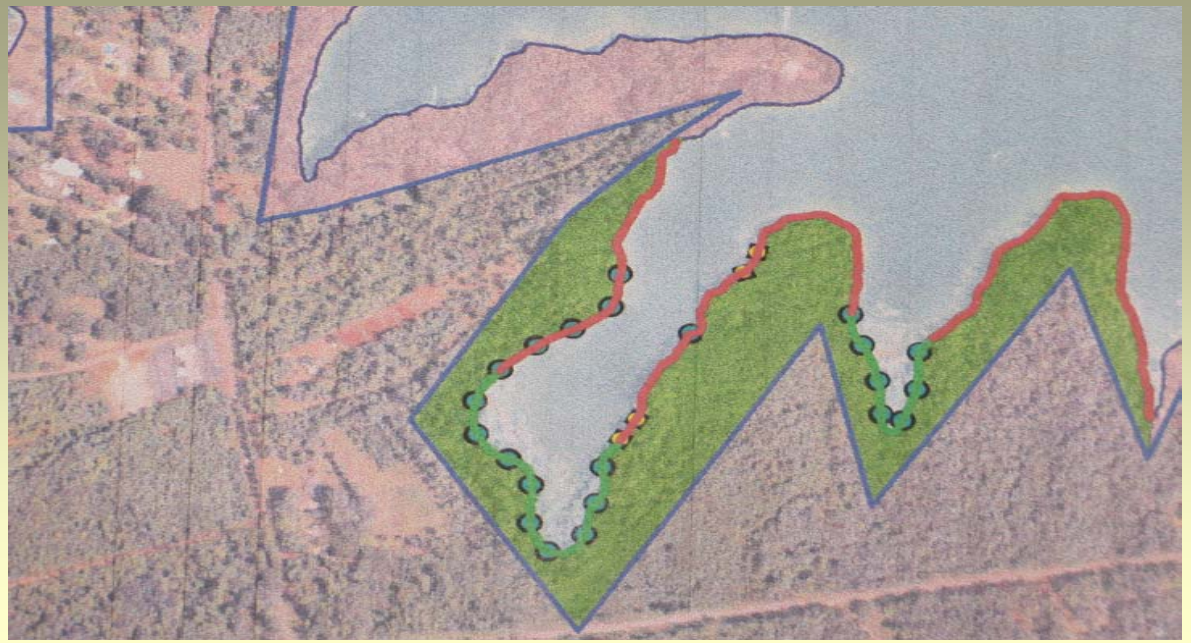




DNR proposal
(August 23, 2004)

SCE&G proposal
(April 18, 2005)

Two-bird Cove



SCE&G proposal

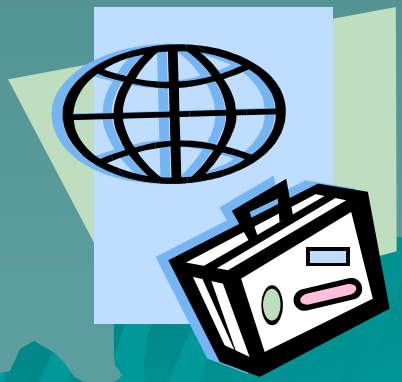
SCDNR proposal

Public Outreach Programs for Shoreline Management

Various Examples from Hydro Operators Around the United States

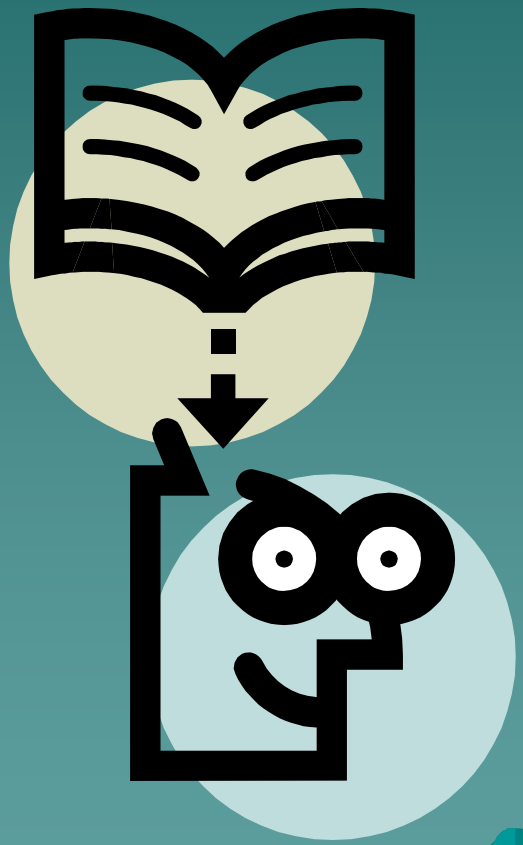
Discussion Points

- General Methods for Public Outreach
- General Examples of Public Outreach
- Public Outreach Specifically for Shoreline Management



General Methods for Public Outreach

- Newsletters
- Bill Stuffers
- Videos
- Website Information
- Seminars/Tours

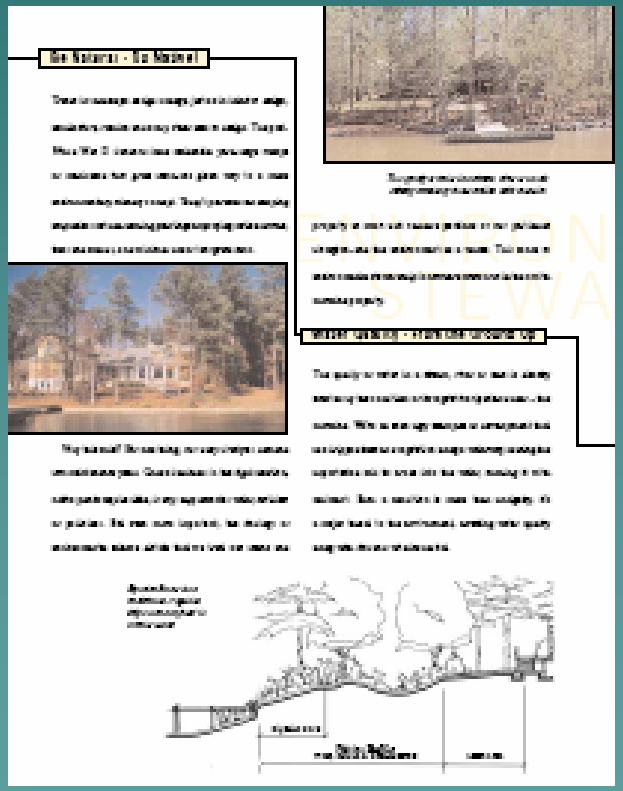


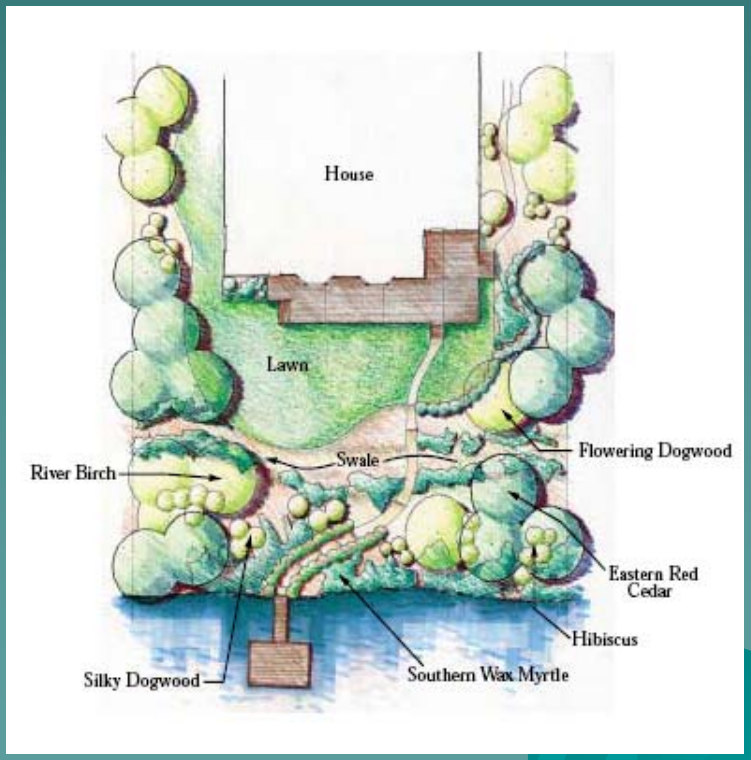
General Examples of Hydro Outreach

- Northern States Power Company
  - Winter Ice Fishing Safety Tips
- Massachusetts Electric Company
  - Bill Stuffers Detailing Recreation Opportunities
- Georgia Power Company
  - Children's Coloring Sheets Explaining Hydro
- Alabama Power Company
  - Newsletter for Lakefront Property Owners
- New York Power Authority
  - Videos Explaining the Functions of each Dam

SMP Focused Outreach: Georgia Power

- **Illustrated Shoreline Management Pamphlet**





Themes And Focal Points Of This Program

- **Focuses primarily on environmental stewardship**
  - Strongly encourages native plantings
  - Explains water quality issues and the benefits of a vegetated buffer
  - Provides landscaping and shoreline stabilization examples
  - Provides a short explanation of permitting processes and contact information. However this is not the primary focus of the document

SMP Focused Outreach: Alabama Power Company

- **Quarterly Newsletter -**Mailed to lakeshore residents

Shorelines

Third Quarter 2006

Published Quarterly by Alabama Power Company for Lakeshore Residents Vol. 13, Number 3

Company manages lake levels during drought

It's no news to anyone in Alabama that it's hot, dry, and we're in a drought.

Some areas, such as Montgomery, are almost 9 inches low on rainfall for the March to July period, as compared to its average 22.6 inches of rain for this time of year. Lack of rain is also causing lower lake levels at some Alabama Power reservoirs. For instance, on the Black Warrior River, Smith Lake is usually about 2 feet higher at this time of year, according to Andy Sheppard, Reservoir Operations supervisor, Alabama Control Center. Without sustained rainfall, lake levels on the Tallapoosa and Coosa river systems are also expected to continue to drop.

Special Operations Under Way

Since May, Alabama Power has been adjusting its reservoir operations to try to ease the effects of the hot, dry conditions on lake levels. While these actions have resulted in reduced hydrogeneration, they have proven effective in keeping lake levels higher despite the below-normal rainfall. Alabama Power must balance all of the various requirements for water and lake storage to meet the multiple uses of its hydroelectric projects. The company works with the Federal Energy Regulatory Commision, the

See Company on page 2

Lower-than-normal lake levels have been seen this summer at Logan Martin, Weiss, Smith, Harris, Martin and other reservoirs due to scant rainfall. This photo shows low levels at Logan Martin reservoir, directly below Neely Henry Hydro Dam.

Volunteers remove 7 million+ pounds of debris from waterways

To Alabama Power's Willard Bowers, there's nothing more amazing than seeing volunteers come out to clean the lakes during Renew Our Rivers events.

But on July 19, Environmental Affairs Specialist Doug Powell reported something even more astonishing: Since 2000, volunteers have removed more than 7,170,640 pounds of litter and debris from waterways in Alabama, Florida, Georgia and Mississippi. By June 17 this year, Alabama Power had already completed 16 lake cleanups.

Renew Our Rivers volunteers getting younger ... Skyler Christopher Carrillo, son of Alabama Power Communications Specialist Alice Gordon, was among 75 cleanup volunteers who gave Bankhead Lake a spring cleaning.

See Volunteers on page 4

ALABAMA HYDRO Powered By Nature

Company continued from page 1

U.S. Army Corps of Engineers and other agencies. The company also meets bimonthly with the state Office of Water Resources.

Charles Stowe, System Operations supervisor - Hydro Services, said the company is currently meeting all of its responsibilities: providing water for municipal needs; obligations on the Alabama River, to supply adequate water levels for navigation of barges and to protect jobs; and environmental requirements that protect fish, wildlife and the overall health of our watershed.

Stowe, who has worked in company Hydro Operations for 25 years, said Alabama Power is well practiced in dealing with droughts, such as those that occurred in the 1980's and in 2000, and were much worse.

"The amount of water released from company reservoirs has been reduced to the minimum amounts required by our hydro project licenses with the Federal Energy Regulatory Commission," Stowe said. "Limited flows are affecting Alabama Power's hydropower generation, which is currently producing less than half of a normal amounts for this time of year.

In efforts to deal with low rainfall, on June 21 the company suspended its weekend water releases used for recreation below Jordan Lake on the Coosa River. Since 1967, the Alabama Control Center has made those releases below Jordan Dam from mid-June to the end of October, to accommodate

Lake Jordan is awaiting summertime ... Weekend water releases below Jordan have been suspended due to scant rainfall.

baykers and other water enthusiasts, with the agreement that those releases will be suspended during times of drought.

"We're making sure we've got water for other more critical purposes later in the year," Sheppard said. "Though we recently had to terminate the weekend releases at Jordan, there were opportunities all spring for baykers to enjoy high releases, with flows increasing from 2,000 cubic square feet (cfs) to 4,000 cfs on April 1 and continuing through the first part of June."

However, Jordan Dam Superintendent Harlon Baker said that homeowners and the general public aren't seeing any differences in Jordan Lake levels.

"As a run-of-the-river dam, our levels are fed by dams upstream, including Weiss, Neely Henry and Logan Martin," said Baker, who has served as the plant superintendent 15 years. "We're maintaining the FERC-mandated minimum flows and water levels around 252 feet; any variance is less than a foot."

Tracking Weather Patterns

The National Weather Service (NWS) is keeping a close eye on the weather, said Roger McNeil, service hydrologist, NWS Birmingham Office.

"We've been in a dry weather pattern so far this summer – you don't go into a drought overnight and, normally, you come out of a drought gradually," McNeil explained. "It will take substantial rainfall to get us back in the right direction. We're seeing some signs that the dry weather pattern may be starting to ease up, with periodic precipitation expected during the next couple of months. During August to September, we're hoping to get back into a normal pattern of rainfall."

Protect your reservoir's lake bed

As a lake resident, you are probably familiar with seasonal lowering of lake elevations conducted by Alabama Power as a flood-control measure under the directions of the U.S. Army Corps of Engineers.

While lower water levels make way for the usual winter and spring rains, they sometimes expose the lake beds to undesirable activities – ATVs, dirtbikes, four-wheel-drive trucks and other motorized vehicle use – in areas usually covered by water, said Alabama Power Environmental Affairs Vice President Willard Bowers.

With concerns about the increasing use of all-terrain vehicles in the beds, Bowers has discussed the fact that the lake beds are owned by Alabama Power and these unauthorized users are trespassing. Bowers has noted that these activities are damaging the lake bottoms and, in some cases, are damaging piers and other facilities permitted by Alabama Power.

"It is our responsibility to protect the overall integrity of our lakes for public use and all-terrain vehicle riding is not one of these uses," Bowers said. "In reality, these activities interfere with those uses which are authorized for our projects."

Accordingly, the company will prosecute anyone using its lake beds for recreational riding. If this occurs in your area, please call the Corporate Real Estate representative for your lake at the appropriate phone number under "Call Before you Build" in this publication. You can also report the activity to Alabama Power by calling 1-800-LAKEST1, using the number(s) for your lake under the section entitled "Lakeshore Use Program."

Themes And Focal Points Of This Program

- **Focuses primarily on lake management with recreation components**
  - Provides updates on lake levels
  - Provides updates of volunteer efforts
  - Every issue includes a section pertaining to permitting, with contact information for lake management personnel

SMP Focused Outreach: Duke Energy

- **SMP "Quick Tips"**

Duke Energy and the Catawba Riverkeeper Foundation are providing this document as a way to encourage lake residents and business entities (contractors, landscapers, builders, etc.) to conduct activities around the lake responsibly. This document should be used as a guide to better understand how to protect the shoreline and who to contact prior to doing any work around the lake. The brochure does not replace Duke Energy's Shoreline Management Guidelines (SMG), the Shoreline Management Plan (SMP) or state and local regulations. The SMG and SMP will be used by Duke Energy Lake Management to evaluate any requests for activities within the project boundary.

Duke Energy

Catawba RIVERKEEPER

Duke Energy operates the Catawba-Wateree Hydroelectric Project with a license granted from the Federal Energy Regulatory Commission (FERC). FERC is responsible for issuing licenses for the construction, operation and maintenance of lakes and hydroelectric facilities not owned or operated by a federal agency.

The Federal Energy Regulatory Commission gives Duke Energy the authority and responsibility to manage "project" and "non-project" uses within the project boundary of the lake. Project uses include hydroelectric facilities operation, public recreation access and certain wildlife enhancements. Non-project uses include activities such as piers, docks, marinas, excavation and conveyances such as line crossings and shoreline stabilization.

The "project" boundary is a geographic boundary *(generally represented on Catawba River lakes by "100 feet" or the "full pond" elevation around the lake)* which outlines the hydroelectric project property. To identify the project boundary line on your property, Duke Energy recommends referencing the registered survey of your property. Project boundary questions can also be directed to Duke Energy's Lake Management representatives by calling 1-800-443-5193.

Through the Shoreline Management Guidelines and Shoreline Management Plan, Duke Energy allows property owners and other interests to apply for a permit for certain activities within the project boundary. These activities include but are not limited to:

- Multi-slip marina facility construction and operation.
- Residential facilities – private access from a lot adjacent to the lake boundary.
- Private facilities (i.e., piers) construction.
- Shoreline stabilization – rip-rap, seawalls, bio-engineering, etc.
- Excavation – removing material from within the lake boundary.
- Conveyances – bridge crossings, water intakes, utility line crossings, wastewater outfalls, etc.
- Miscellaneous lake uses – fish attractors, water ski courses, etc.

Prior to conducting any activity within the project boundary, Duke Energy Lake Management should be notified.

Protect the Lake – Preserve the Riparian Zone!

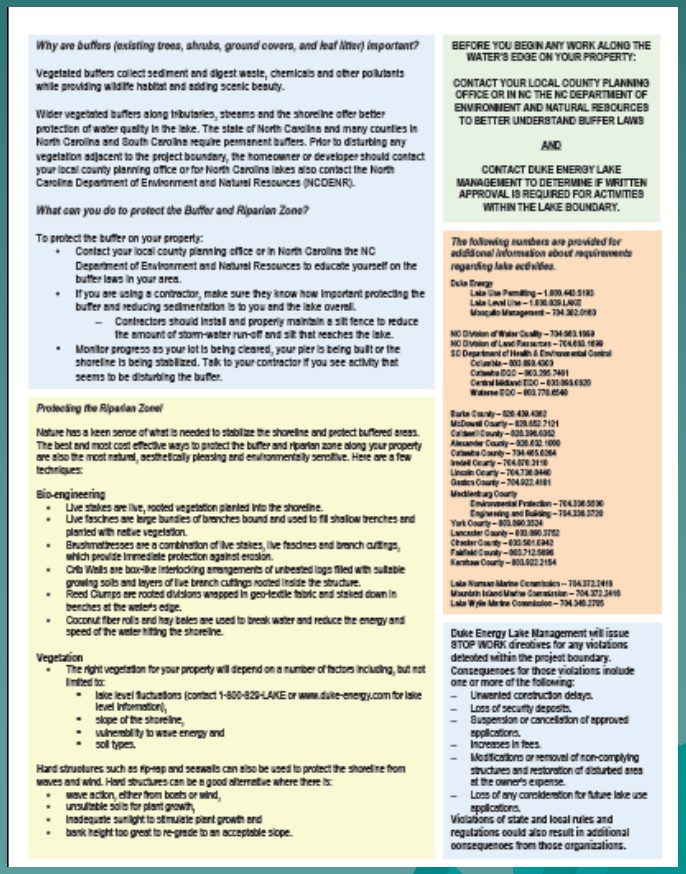
The Riparian Zone is the vegetated area adjacent to the lake. The Riparian Zone consists of four zones: submersed (underwater), emergent (usually underwater), shrub (underwater only part of the time) and terrace (rarely underwater). The Riparian Zone provides critical habitat to fish and wildlife, helps reduce erosion of soils into the water and serves as a filter for runoff of fertilizers and other chemicals. Several counties and the state of North Carolina have a buffer ordinance that regulates activities outside the project boundary that may impact activities an individual may desire to conduct on their property. Only through direct written authorization does Duke Energy allow vegetation to be removed from within the project boundary.

*The following activities within the project boundary require **PRIOR WRITTEN APPROVAL** from Duke Energy:*

- beginning any shoreline stabilization activity,
- clearing or cutting trees, shrubs or other vegetation within the project boundary,
- beginning construction or rebuilding piers or any other structure,
- planting or introducing vegetation and
- all excavation.

*Generally, the following activities are **NOT ALLOWED** within the project boundary of Duke Energy lakes:*

- advertising signs, except for inconspicuous manufacturer's labels on permitted structures or "For Sale" signs on boats,
- depositing any refuse (trash), leaves or burnt brush,
- satellite antennas/dishes or other fixed communications antennas,
- any part of a permanent dwelling,
- swimming pools,
- earth fill,
- septic tanks and associated drain fields,
- abandonment of personal property including, but not limited to cars, boats, boat trailers and building materials,
- pens, kennels or other facilities for the housing or care of pets,
- fences, except to confine live stock,
- wells,
- planting any plant that is not native to North Carolina and/or South Carolina and
- any other use determined unacceptable by Duke Energy.



Why are buffers (existing trees, shrubs, ground covers, and leaf litter) important?

Vegetated buffers collect sediment and digest waste, chemicals and other pollutants while providing wildlife habitat and adding scenic beauty.

Wider vegetated buffers along tributaries, streams and the shoreline offer better protection of water quality in the lake. The state of North Carolina and many counties in North Carolina and South Carolina require permanent buffers. Prior to disturbing any vegetation adjacent to the project boundary, the homeowner or developer should contact your local county planning office or for North Carolina lakes also contact the North Carolina Department of Environment and Natural Resources (NCDENR).

What can you do to protect the Buffer and Riparian Zone?

To protect the buffer on your property:

- Contact your local county planning office or in North Carolina the NC Department of Environment and Natural Resources to educate yourself on the buffer laws in your area.
- If you are using a contractor, make sure they know how important protecting the buffer and reducing sedimentation is to you and the lake overall.
  - Contractors should install and properly maintain a silt fence to reduce the amount of storm-water run-off and silt that reaches the lake.
- Monitor progress as your lot is being cleared, your pier is being built or the shoreline is being stabilized. Talk to your contractor if you see activity that seems to be disturbing the buffer.

Protecting the Riparian Zone!

Nature has a keen sense of what is needed to stabilize the shoreline and protect buffered areas. The best and most cost effective ways to protect the buffer and riparian zone along your property are also the most natural, aesthetically pleasing and environmentally sensitive. Here are a few techniques:

Bio-engineering

- Live stakes are live, rooted vegetation planted into the shoreline.
- Live fascines are large bundles of branches bound and used to fill shallow trenches and planted with native vegetation.
- Brushmattresses are a combination of live stakes, live fascines and branch cuttings, which provide immediate protection against erosion.
- Crib Walls are box-like interlocking arrangements of unbarked logs filled with suitable growing soils and layers of live branch cuttings rooted inside the structure.
- Reed Clumps are rooted divisions wrapped in geo-textile fabric and staked down in benches at the water's edge.
- Coconut fiber rolls and hay bales are used to break water and reduce the energy and speed of the water hitting the shoreline.

Vegetation

- The right vegetation for your property will depend on a number of factors including, but not limited to:
  - lake level fluctuations (contact 1-800-829-LAKE or www.duke-energy.com for lake level information),
  - slope of the shoreline,
  - vulnerability to wave energy and
  - soil types.

Hard structures such as rip-rap and seawalls can also be used to protect the shoreline from waves and wind. Hard structures can be a good alternative where there is:

- wave action, either from boats or wind,
- unsuitable soils for plant growth,
- inadequate sunlight to stimulate plant growth and
- bank height too great to re-grade to an acceptable slope.

BEFORE YOU BEGIN ANY WORK ALONG THE WATER'S EDGE ON YOUR PROPERTY:

CONTACT YOUR LOCAL COUNTY PLANNING OFFICE OR IN NC THE NC DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO BETTER UNDERSTAND BUFFER LAWS

AND

CONTACT DUKE ENERGY LAKE MANAGEMENT TO DETERMINE IF WRITTEN APPROVAL IS REQUIRED FOR ACTIVITIES WITHIN THE LAKE BOUNDARY.

The following numbers are provided for additional information about requirements regarding lake activities.

Duke Energy
Lake Use Permitting – 1.800.443.5193
Lake Level Line – 1.800.829.LAKE
Mosquito Management – 704.382.0163

NC Division of Water Quality – 704.663.1699
NC Division of Land Resources – 704.682.1636
SC Department of Health & Environmental Control
Columbia – 803.898.4300
Catawba EQC – 803.285.7461
Central Midlands EQC – 803.896.0620
Wateree EQC – 803.776.8540

Burke County – 828.439.4362
McDowell County – 828.652.7121
Caldwell County – 828.396.4362
Alexander County – 828.632.1000
Catawba County – 704.465.8264
Iredell County – 704.878.3118
Lincoln County – 704.736.8440
Gaston County – 704.922.4181
Mecklenburg County
Environmental Protection – 704.336.5696
Engineering and Building – 704.336.3720
York County – 803.980.3524
Lancaster County – 803.990.3702
Chester County – 803.581.6942
Fairfield County – 803.712.5696
Kershaw County – 803.822.2154

Lake Norman Marine Commission – 704.372.2416
Mountain Island Marine Commission – 704.372.2416
Lake Wylie Marine Commission – 704.340.2705

Duke Energy Lake Management will issue STOP WORK directives for any violations detected within the project boundary. Consequences for those violations include one or more of the following:

- Unwanted construction delays.
- Loss of security deposits.
- Suspension or cancellation of approved applications.
- Increases in fees.
- Modifications or removal of non-complying structures and restoration of disturbed area at the owner's expense.
- Loss of any consideration for future lake use applications.

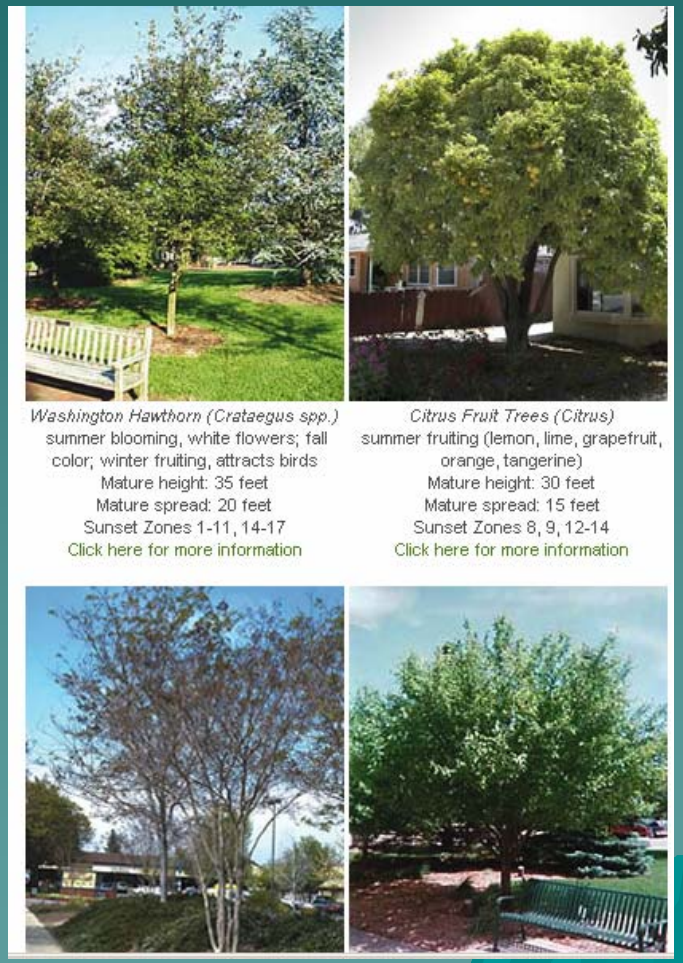
Violations of state and local rules and regulations could also result in additional consequences from those organizations.

Themes And Focal Points Of This Program

- **Focuses primarily on permitting policies, however includes an emphasis on buffer zone protection and shoreline stabilization**
  - Explains permitted and non-permitted activities within the project boundary
  - Includes contact information for Duke Energy and local agencies
  - Explains why buffer zones are beneficial and includes buffer zone protection measures
  - Describes a variety of bank stabilization measures

SMP Focused Outreach: Southern California Edison

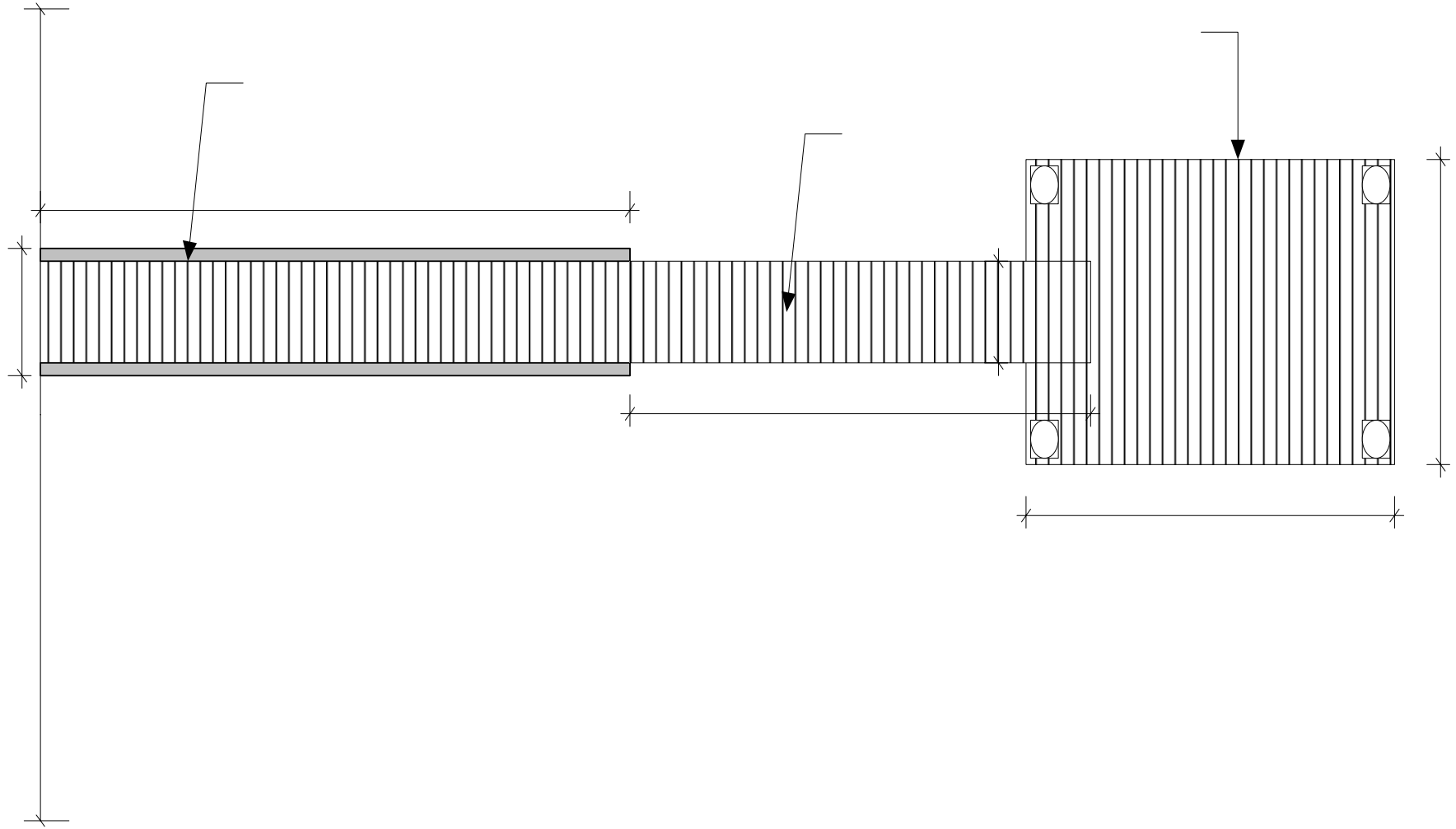
- Tree Care Information
  - Included on company website
  - Provides information on proper planting techniques and care
  - Includes a "Photo Gallery" of recommended species



Questions?

Lake Murray Dock Permitting

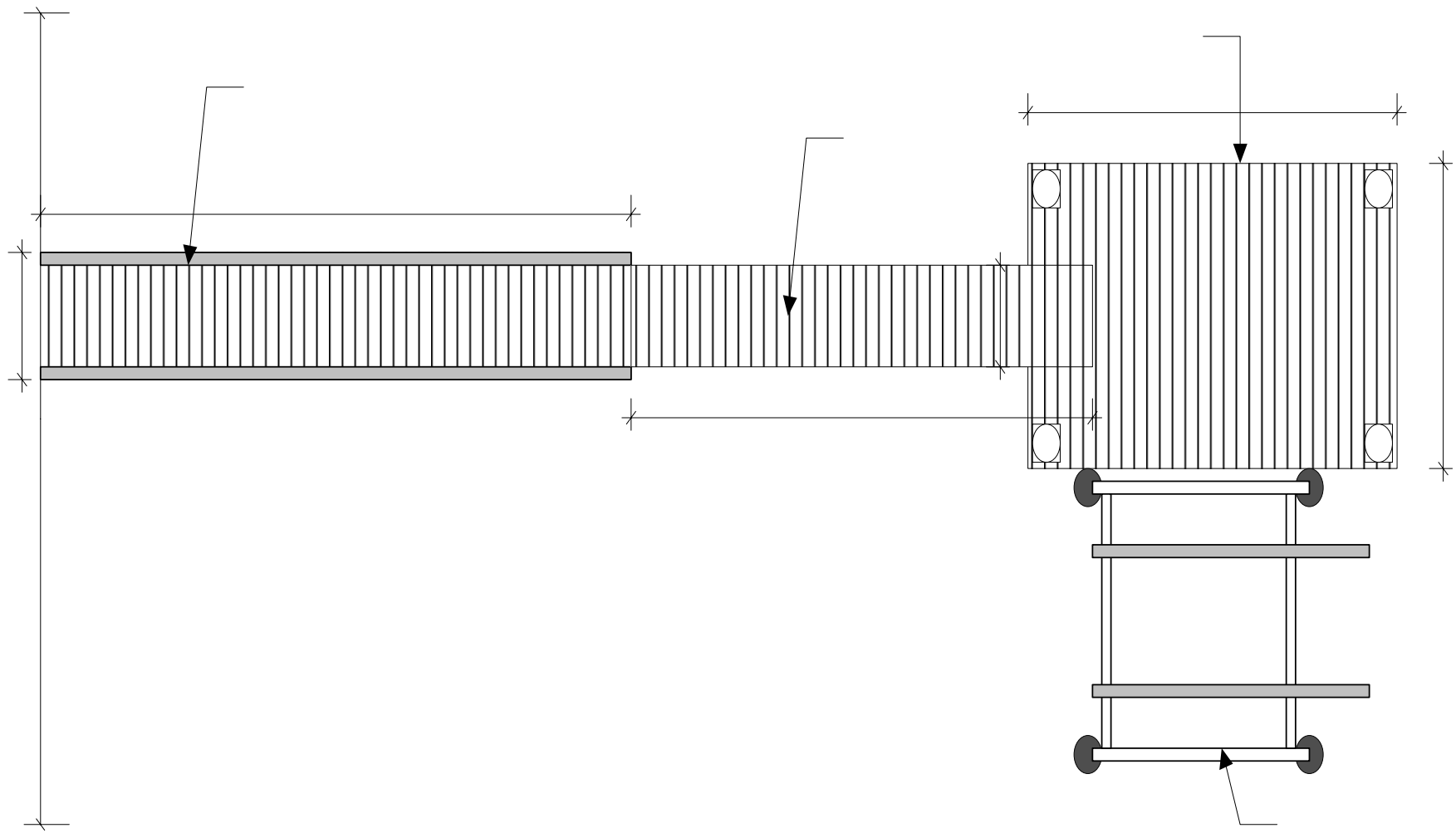
Project 516




2001 7 17

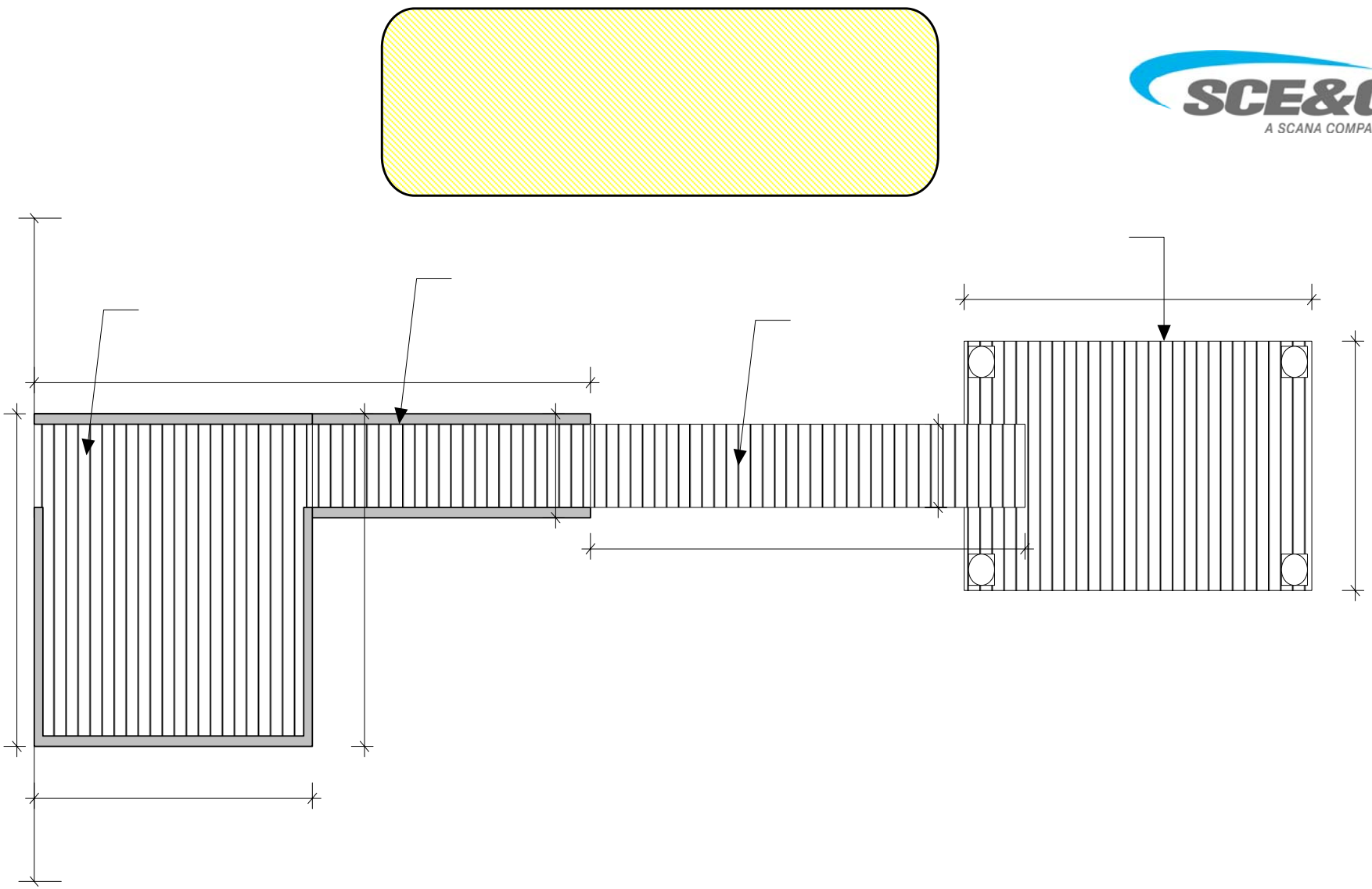

2001 5 21


2001 9 10




2001 8 27


2001 8 22



TOUR

SEATING AREA

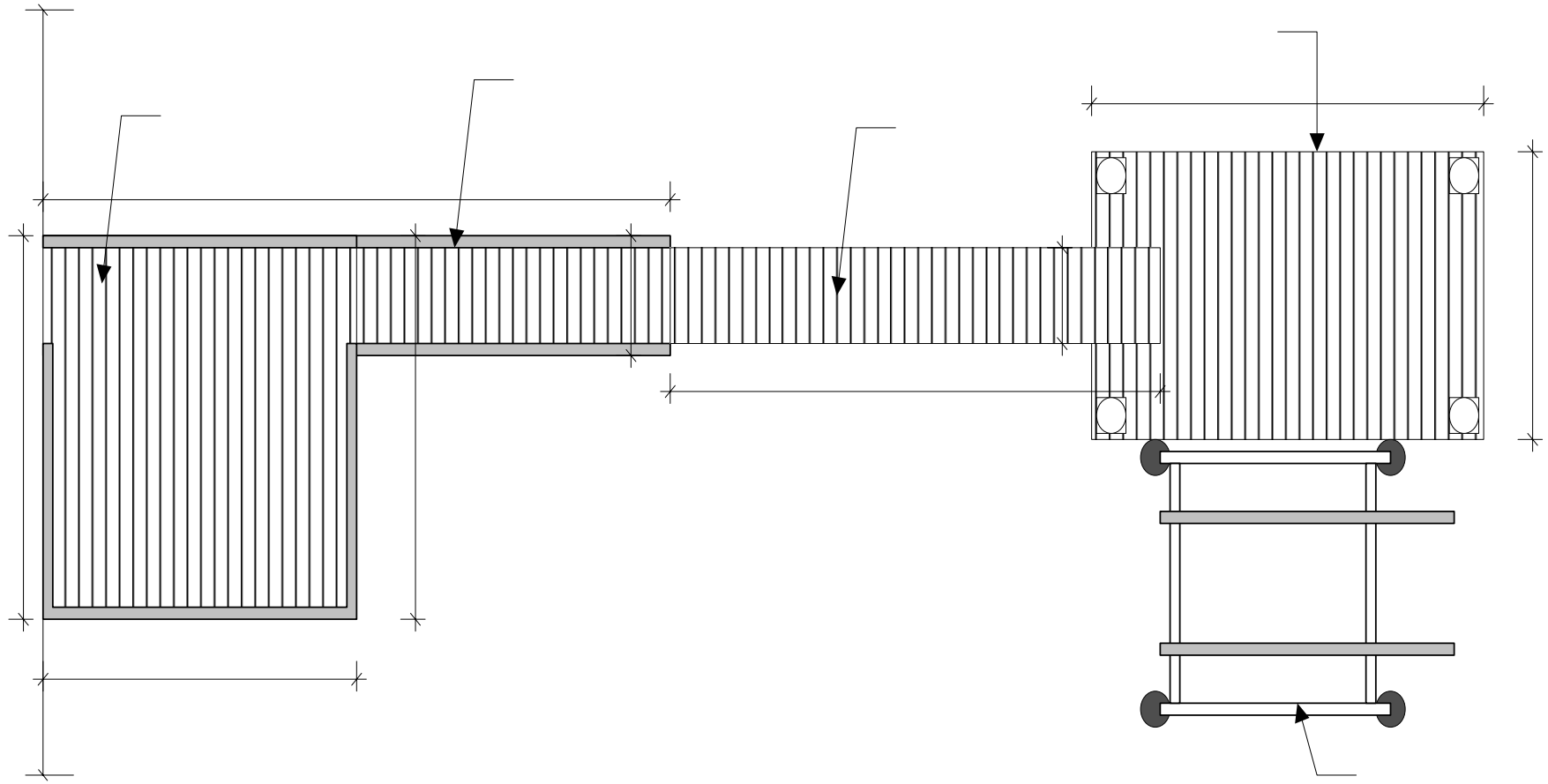

2001 7 31


2001 7 12


2001 7 31


2001 8 27


2001 7 31



ONTOUR

SEATING AREA


2001 8 27

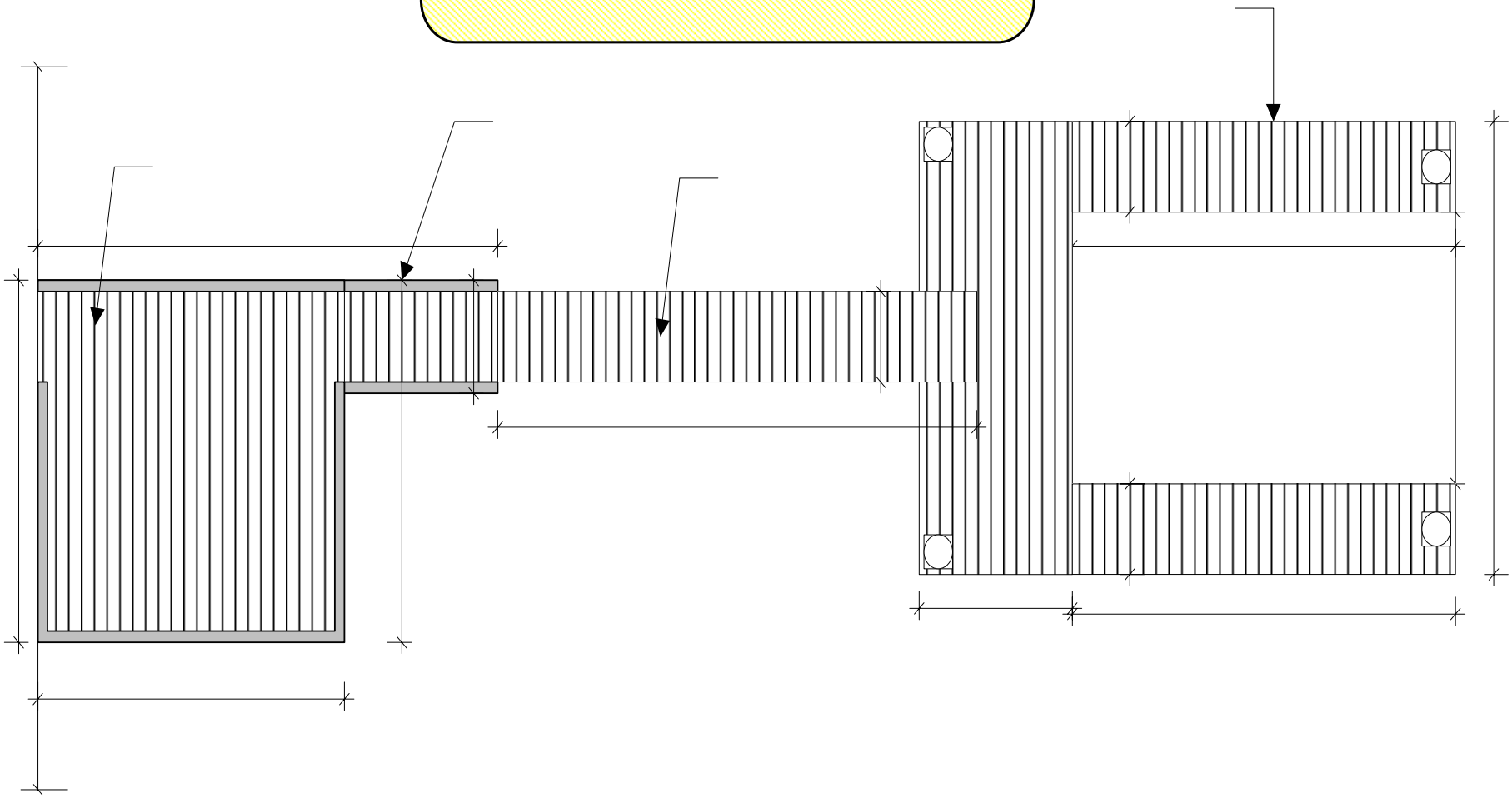

2001 8 22


2001 7 31


2001 8 22


2001 8 22

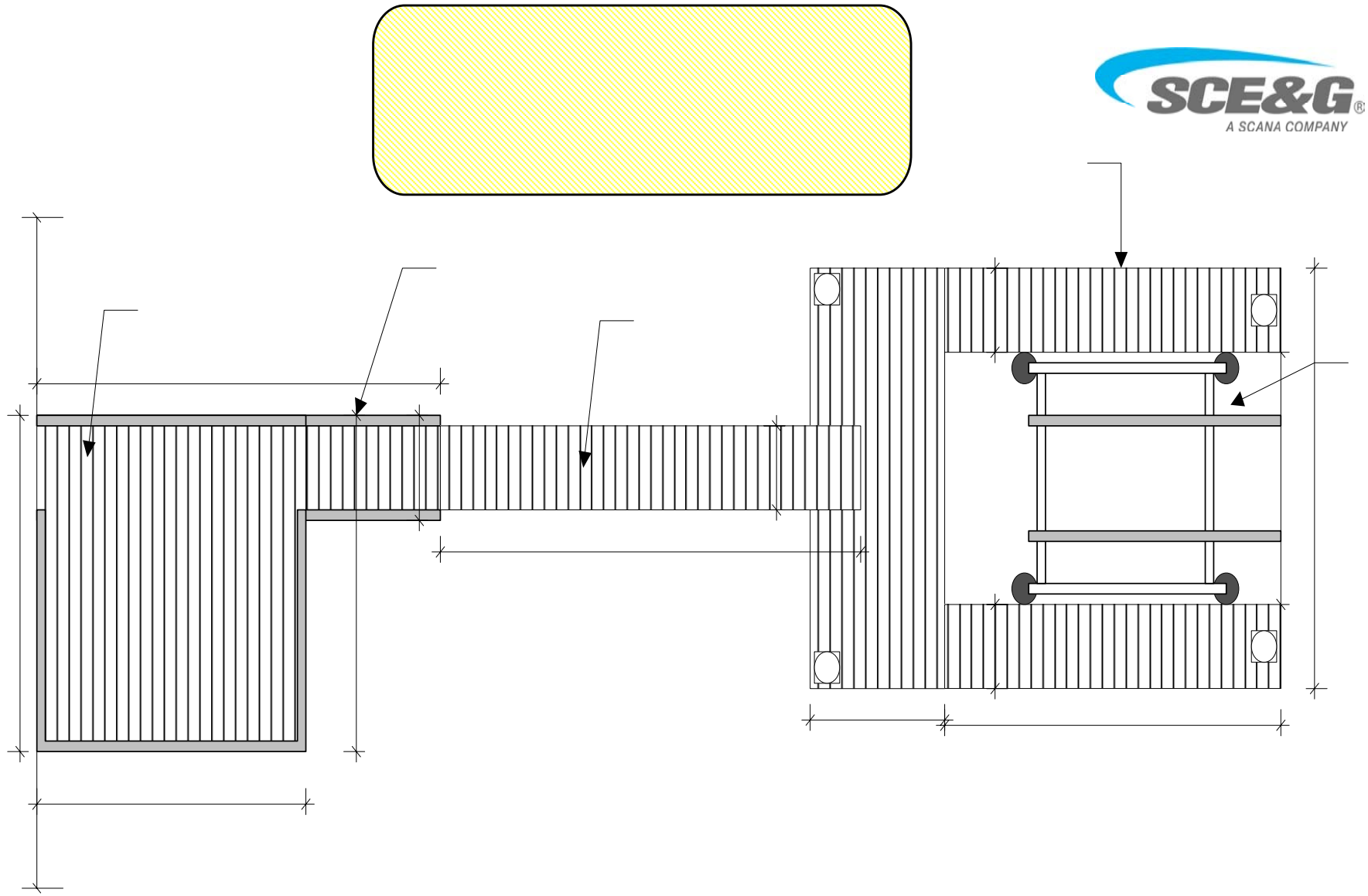

2001



ONTOUR

SEATING AREA


90
12 12:42 PM



SCE&G
A SCANA COMPANY

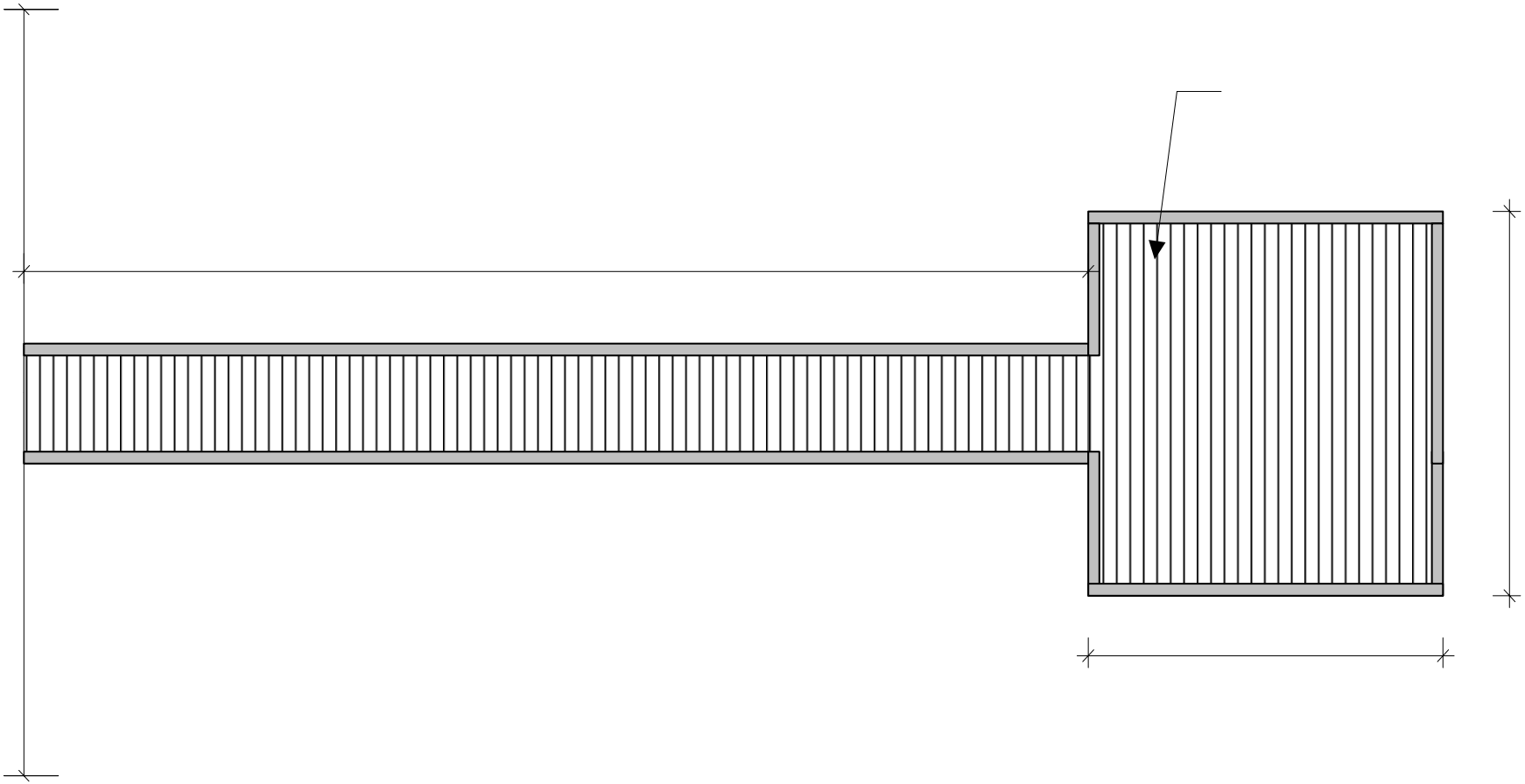
CONTOUR

SEATING AREA

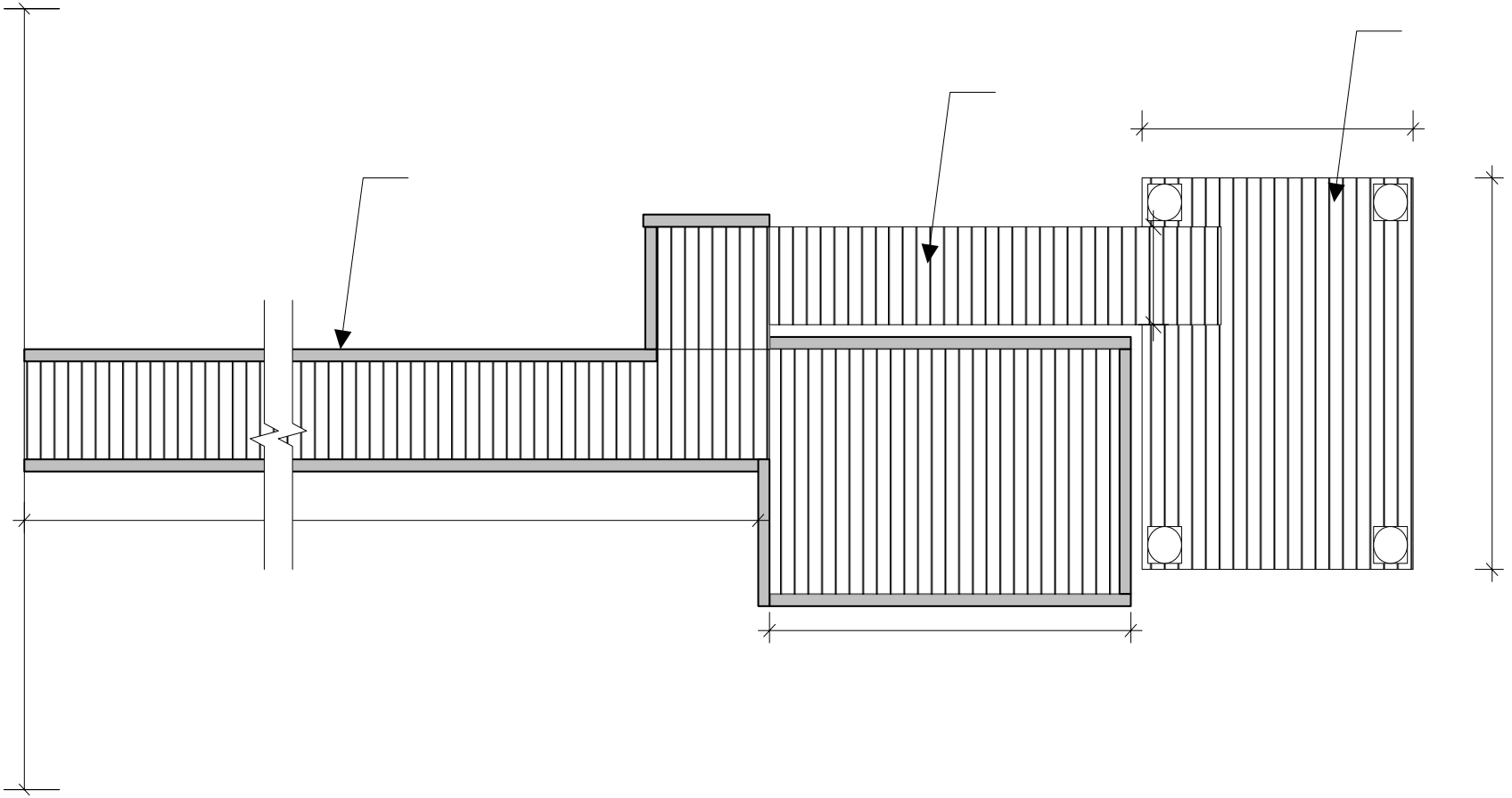
S


5 12:34 PM


5 10:02 AM




12 12:53 PM



Do

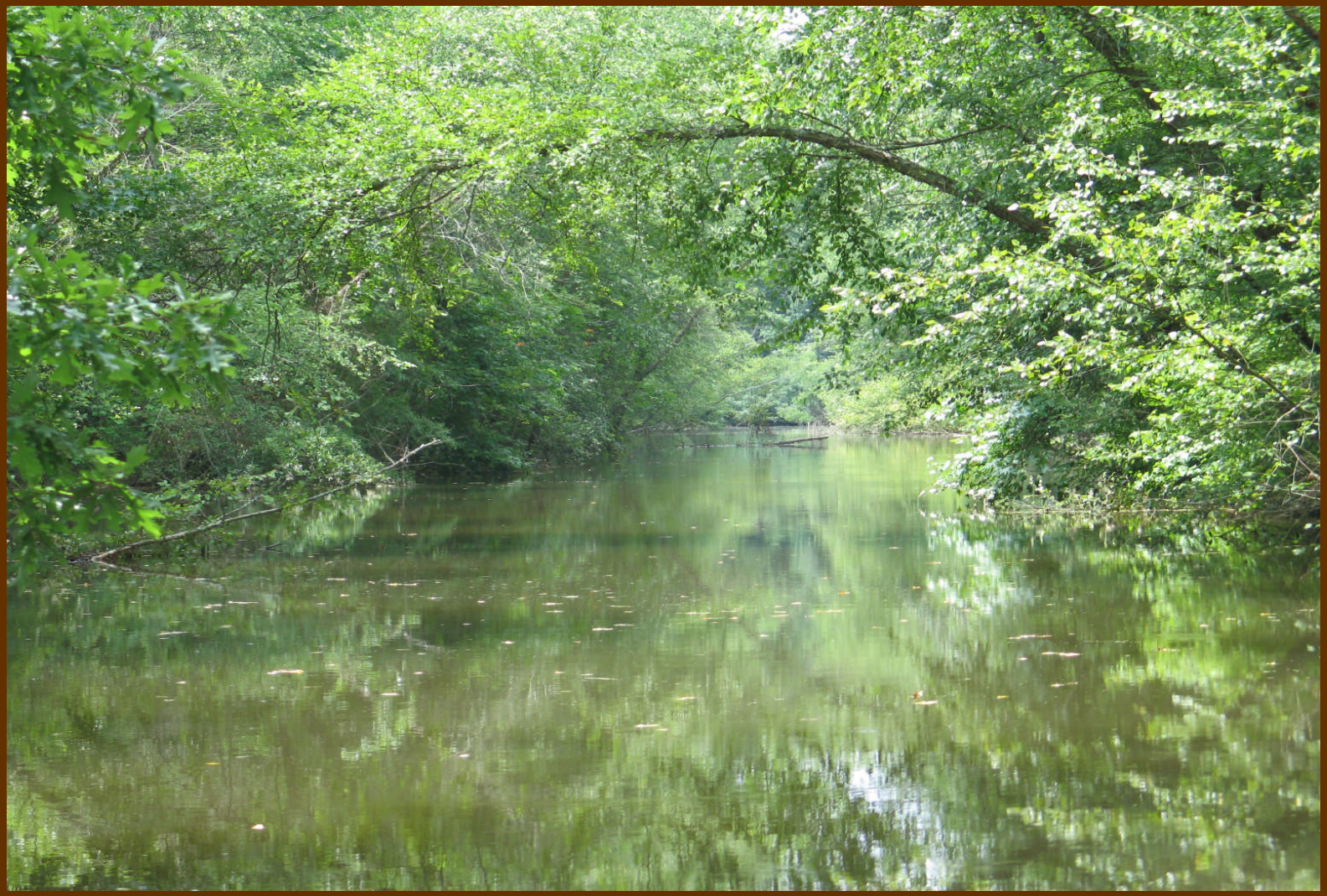

812 OLD FORGE RD.
10 8:57 AM


2001 8 10


5 9:23 AM

Environmentally Sensitive Areas

- **Shallow Coves with Stream Confluence**
- **Bottomland Hardwoods and Wet Flats**
- **Vegetated Shoreline**
  - **Continuous**
  - **Intermittent**

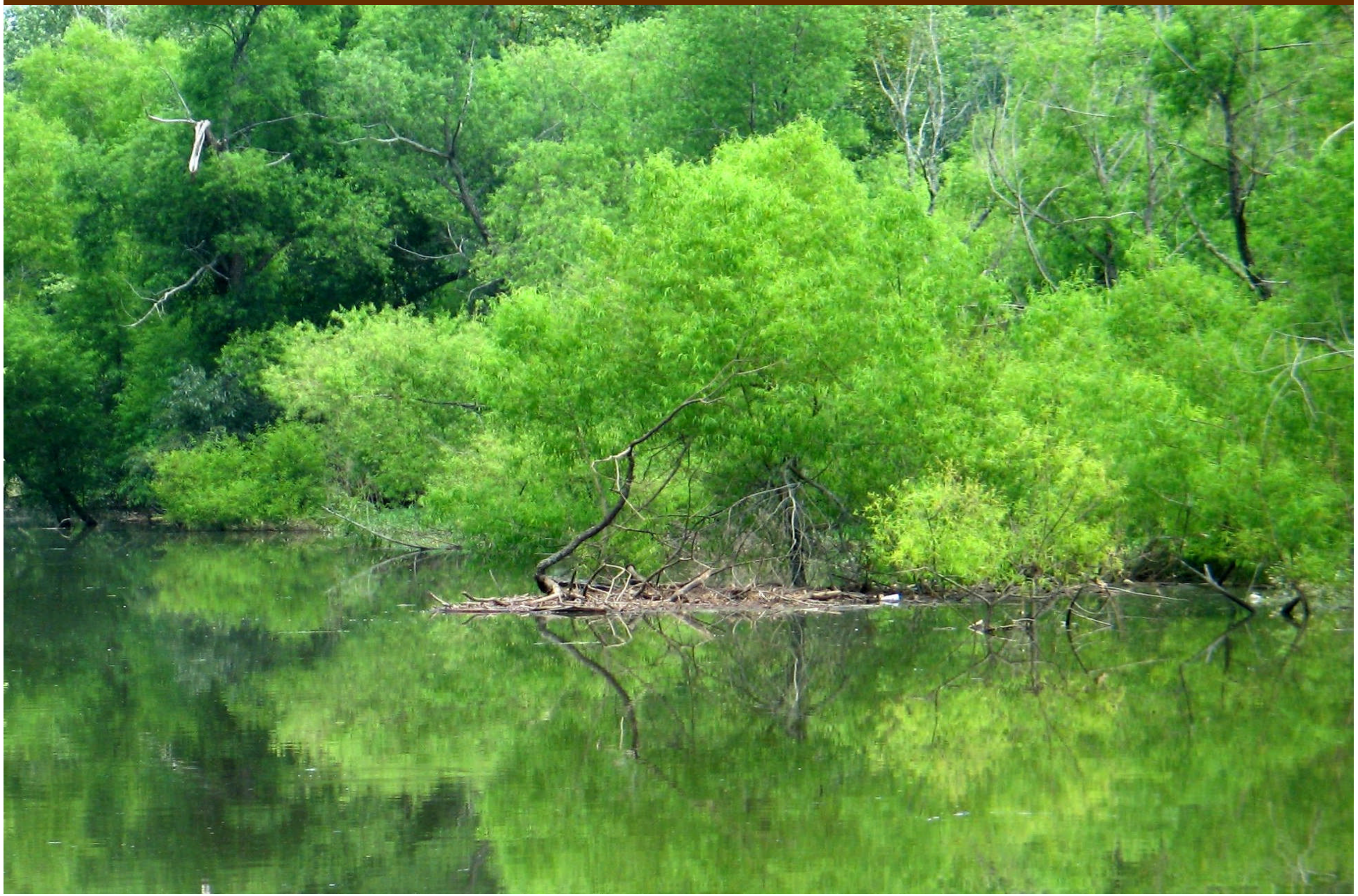


Shallow Coves with Stream Confluence – Areas where streams enter the lake and form coves where water elevations in areas outside the historical stream channel are predominately above the 355’ contour line. The upgradient portion of shallow coves is typically vegetated with button bush and willow. Where this overlap occurs, the shoreline will be given a vegetated shoreline classification

Bottomland Hardwood and Wet Flats - Continuous linear shoreline coverage of bottomland hardwood (excluding sweetgum) and wet flats at least 66’ in length.

Buttonbush

Black Willow



Continuous – Continuous vegetated linear shoreline at least 66 feet in length with vegetation >5’ wide measured perpendicular to the shoreline. This class can have gaps, provided the total gap length is less than 16 percent of the total linear footage of the area.

Intermittent – Linear shoreline coverage of vegetation at least 66’ in length where sixteen (16) to forty (40) percent of the total linear footage is gap. (Note: Gap is defined as an area at least 8-20’ in length with little or no vegetation below the normal high water mark). Areas with gaps larger than 20’in length are termed “breaks” and will not be considered vegetated shoreline.

South Carolina Electric & Gas

SHORELINE MANAGEMENT PROGRAM

Tommy Boozer

Manager

Lake Management

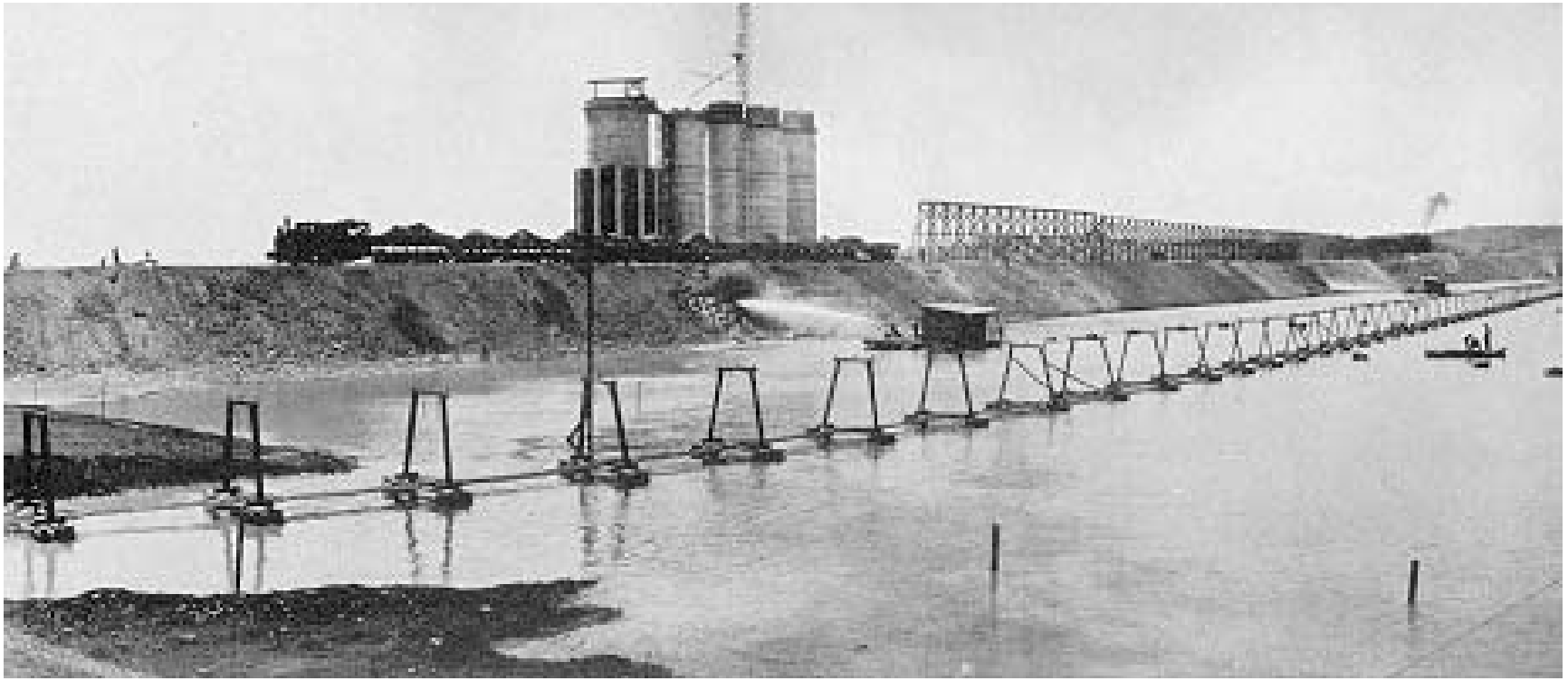
SCE&G Lake Management Programs

History

- Land purchasing and logging began in the spring of 1927.
- Work on the Dam began in September 1927.
- The Dam and power house were completed in 1930.
- First generation started at 7:00 a.m. on December 1, 1930.

Saluda Construction - Loading

Saluda Construction - Dumping



Facts About Lake Murray

- Covers 78 square miles
- 48,239 surface acres
- 41 miles long
- 14 miles wide
- Provides storage for 763 billon gallons of water
- 650 miles of shoreline

Lake Management and Recreation

- SCE&G Shoreline Management Plan was developed in 1975 with the Federal Power Commission, now the Federal Energy Regulatory Commission (FERC), to ensure compliance with the licensing requirement for the Saluda Hydro Project.

- FERC is the Federal Agency responsible for the overseeing, maintenance, and operation of the license for the Saluda Hydro Project.

SCE&G operates its shoreline permitting activities under a general permit issued by the US Corps of Engineers and the S. C. Department of Health and Environmental Control.

This permit authorizes SCE&G to be the residential permitting agency on Lake Murray.

Commercial requests are submitted and approved by DHEC, Corps of Engineers, and FERC.

Lake Murray Shoreline Permitting Requirements

- Booklet
- Permit Application
- Vegetation Protection Agreement
- Flotation Requirements

Approved Shoreline Activities

- Dock
- Dock Modification
- Boat Lift
- Boat Ramp (Concrete)
- Marine Railways
- Water Removal (for irrigation only)
- Excavation
- Limited Brushing
- Erosion Control
  - Rip-Rap
  - Retainer Wall
  - Bio-engineering


2001 8 27


2001 8 22


2001 7 31


2001 8 27


2001 5 21


2001 9 10


21 3:13PM


8 1:44PM


2003 8 18


CATERPILLAR
2003 8 20


2001 7 17


2001 9 10


2001 9 10

Lake Murray Public Recreation

Public Parks (existing)	16	408 ac.
Future Parks	11	726 ac.
Impromptu Areas	23	
Public Marinas & Landings	31	
Private Marinas/Common Areas	57	
Islands Open to the Public	65	575 ac.


21 3:37PM


21 3:37PM


2001 9 10


2001


DREHER ISLAND
South Carolina
State Park
Service
STATE
RECREATION
AREA
S.C. DEPT. OF PARKS, RECREATION AND TOURISM


STOP
Saluda Shoals
PARK


2001 9 10


2001 9 10


2001 9 10


2001 9 10


2001 9 10


2001 9 10

Land Use Management Classification

- Project Operation
- Public Recreation
- Commercial Recreation
- Forest Management
- Forest and Game Management
- Future Development
- Easement Property

Land Use Management

- **P.B.L.** - Project Boundary Line
  A property line surrounding the hydroelectric project that delineates the project boundary location and separates project property from non-project property.

- **Project Property**
  Land located within the Project Boundary Line and under the jurisdiction of the FERC.

- 360 Contour

  The high pool elevation of Lake Murray.

- Vegetative Buffer Zone or 75 Foot Setback Area

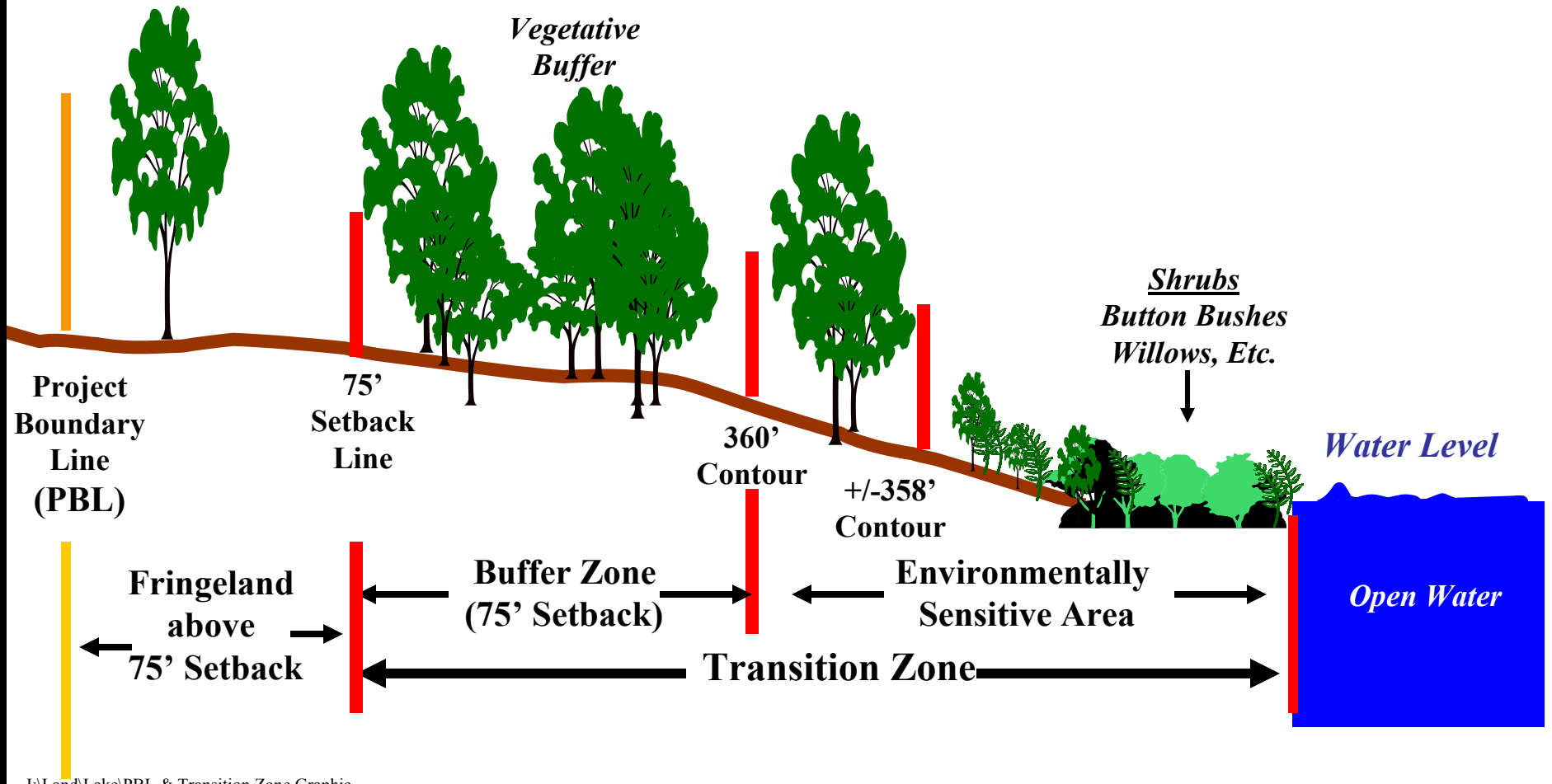
  A strip of land 75 feet wide (horizontally from the 360 contour). Creates a vegetative, aesthetic buffer along the lake shoreline.

- ESA

  Located between the 360 contour and deemed as environmentally sensitive in an extensive shoreline inventory. Developed as a reference tool to prescribe management alternatives on SCE&G-owned fringeland.


SCE&G
Vegetative
Buffer Zone
Protected Area
Lake Murray
FERC
Project 516
21 3:26 PM

Future Development Fringeland Classification Example
Lake Murray (FERC Project 516)



I:\Land\Lake\PBL & Transition Zone Graphic


2001 7 17


2001 7 31


2001


2001 7 31


2001 9 10


2001 8 10


2001 7 3

Aquatic Plant Management

- Hydrilla
- Brazilian Elodea
- Illinois Pondweed
- Yellow Primrose
- Alligator Weed
- Curly Leaf Pondweed

Control Methods

Lake Level (Draw Downs)

Herbicides Treatment

Mechanical Harvesting

Grass Carp


2001 8 14


10/11/2000 13:43


5/26/2004


10/11/2000 13:17


2003 3 24

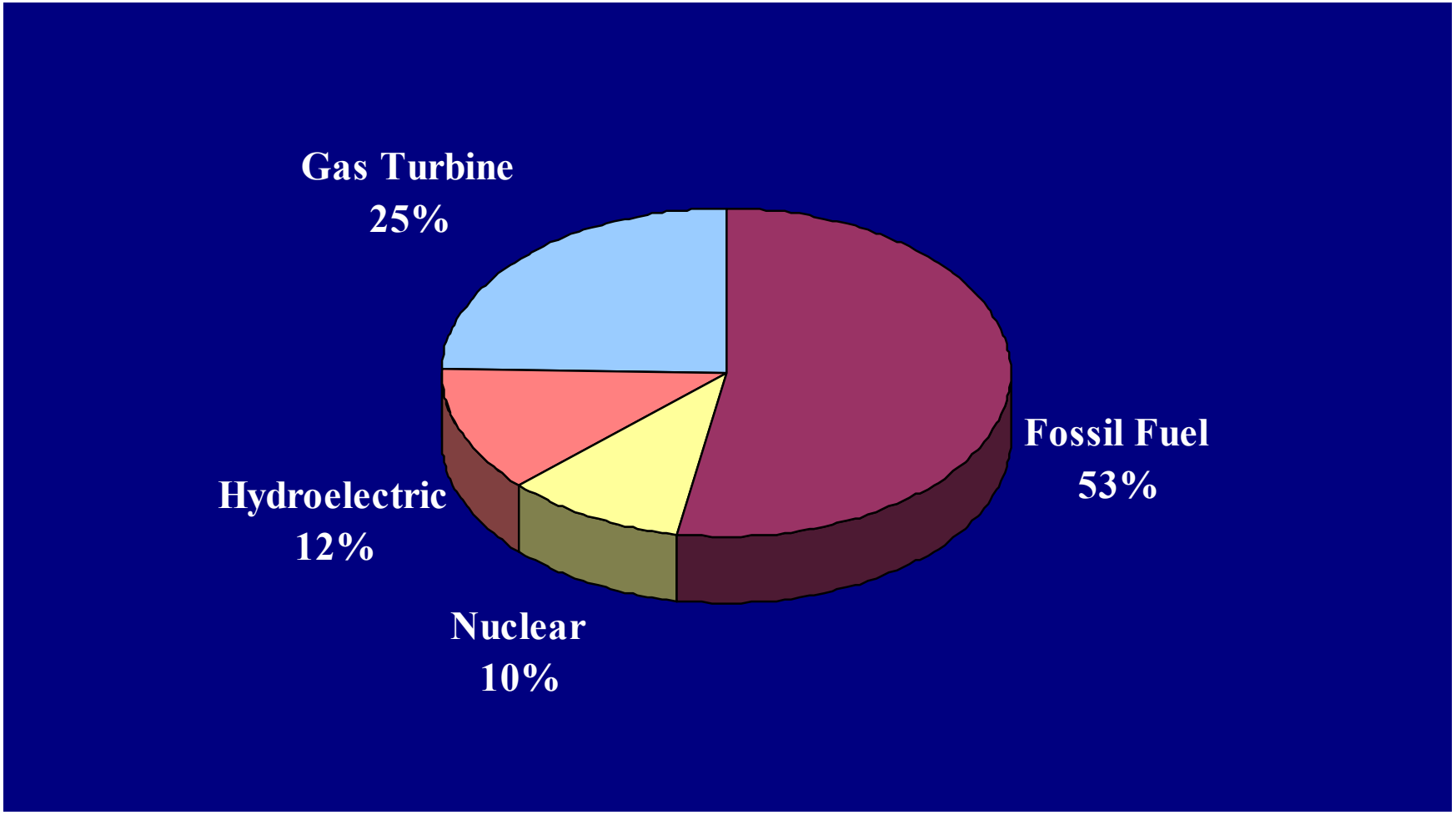
Shoreline Development

- Old Homes
- New Homes


2001 9 10


2001 8 10

South Carolina Electric & Gas Generating Portfolio



Saluda Dam Owner – SCE&G


AUG 23 2005


2001 5 21


2001 7 10


2003 2 4