ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer and reclaimed water services to the Carrboro-Chapel Hill community.

MEMORANDUM

TO: **Natural Resources and Technical Systems (NRTS) Committee**

Terri Buckner (Chair)	Will Raymond
Stephen Dear	Amy Witsil
Michael Hughes	John Young
Heather Payne	Alan Rimer (*ex officio*)
Dana Raborn	

THROUGH: Ed Kerwin

FROM: Ruth Rouse

DATE: January 3, 2014

SUBJECT: January 8, 2014 NRTS Committee Meeting

The NRTS Committee will meet on Wednesday, January 8, 2014 from 5:30 to 7:00 PM in the OWASA Boardroom. Ken Loflin, Water Supply & Treatment Manager, will present information regarding lake use fees and recreation at University Lake and Cane Creek Reservoir. Ruth Rouse, Planning and Development Manager, will present information on the Long-Range Water Supply Plan (LRWSP).

Agenda

- Recreation at University Lake and Cane Creek Reservoir (30 min) – Attachment 1
  - Comparison of lake recreation fees in the region
  - Possible addition of Kayak rental
  - Recreation schedule
  - Hiking trails at Cane Creek Reservoir
  - Discussion
- Update of Long-Range Water Supply Plan (60 min) – Attachment 2 and 3
  - Core questions which will be addressed for each task
  - Subtasks
  - Resource requirements
  - Discussion
- Next meetings
  - February 5, 2014 – IT
  - March 5, 2014

Attached is summary information on recreation fees and opportunities and more details on LRWSP tasks. We look forward to seeing you on January 8.

Ruth C. Rouse

Ruth Rouse, AICP
Planning and Development Manager

c: Robert Epting, OWASA General Counsel

Attachments

Attachment 1: Summary of Recreation Fees and Opportunities
Attachment 2: LRWSP Update – Core Questions/Issues, Tasks, Resource Requirements
Attachment 3: Potential Process for Key Water Supply Planning Tasks

Attachment 1: Recreation Fees and Opportunities

Natural Resource & Technical Services (NRTS) Committee Meeting
January 8, 2013

Summary

As a follow-up to the December 4, 2013 NRTS Committee meeting discussion about the 2013 recreation season, staff has evaluated the following:

1. Recreational opportunities at similar reservoirs in the region (Attachment A) – A broad spectrum of activities are available at reservoirs in the region. Like OWASA, most reservoirs rent boats and canoes and offer access for private boats. OWASA differs from the other reservoirs in not renting kayaks, by not having a flat fee structure, by renting trolling motors, by having resident and senior discounts, and by offering season passes.

2. Fees and charges for recreational activities at similar reservoirs in the region (Attachment B) – The average boat rental fee for up to 3 people per boat at the area reservoirs is ~$14. The average canoe rental fee for up to 3 people per canoe at the area reservoirs is $19. OWASA's boat/canoe rental fee (which includes a lake use fee for one adult) plus two adult lake use fees is currently $18 ($9+2*$4.50) for Orange County residents and $24.50 ($13.50+2*$5.50) for out-of-county residents. The average private boat launch fee at the area reservoirs is $5. OWASA's private boat launch fee is currently $8 for Orange County residents and $12.50 for out-of-county residents. None of area reservoirs charge a lake use fee and very few have a charge for bank or pier fishing.

3. A breakeven analysis of lake recreation fees – Assuming the 2013 costs, attendance and utilization numbers remain the same, an across-the-board 83% increase to all fees and charges would "breakeven" (i.e. total recreation revenues = total recreation expenditures). Under those same assumptions, a 153% increase in all out-of-county fees and charges would "breakeven".

4. The expenses associated with adding kayak rentals at both lakes – The average purchase price of an open-top, single person kayak with paddle and personal flotation device is estimated to be ~$600. Staff anticipates initially purchasing 12 kayaks at a cost of ~$7,200. The average rental fee for kayaks at area reservoirs is $14 (see Attachment C), whereas OWASA's current boat/canoe rental fee (which includes a lake use fee for one adult) is $9 for Orange County residents and $13.50 for out-of-county residents. Assuming no changes to the current fee schedule and the same charges for boat/canoe rental apply, the payback for the purchase is 54 rentals per kayak.

5. The expenses associated with opening University Lake on Fridays – The total additional annual cost of opening University Lake on Fridays is estimated to be ~$18,000. This cost includes additional staff time, utilities, materials, supplies and wear-and-tear on

equipment. Based on historical attendance data, about $5,650 would be collected with the current fees.

6. The expenses associated with opening Cane Creek Reservoir on Sunday afternoons – The total additional annual cost of having Cane Creek Reservoir open on Sunday afternoons is estimated to be ~$15,000. This cost includes additional staff time, utilities, materials, supplies and wear-and-tear on equipment. Based on historical attendance data, about $6,850 would be collected with the current fees.

7. The potential for providing additional hiking trails at Cane Creek Reservoir (Attachments D & E) – The property OWASA owns immediately adjacent to Cane Creek Reservoir is extremely limited in several areas (see Attachment D). OWASA currently maintains 0.25 miles of hiking trails on the property located southwest of the dam (see Attachment E).

Staff Recommendation

Staff recommends the following:

- Include the cost to purchase kayaks in the proposed FY 15 budget for consideration by the full Board.
- Assuming kayaks purchases are approved, consider setting kayak rental fees at $15 for Orange County residents and $20 for out-of-county residents. These fees will be more in line with area reservoirs, provide a discount to Orange County residents and improve the payback (35 rentals per kayak)
- Improve maintenance efforts and increase awareness of the existing hiking trail system.
- Maintain the current schedule for the 2014 season so that additional data can be collected and keep expenses in line.
- Maintain the current fees and charges for the 2014 season since they are typically higher than the average fees charged by other area reservoirs.

Attachment A
Recreational Opportunities at Area Reservoirs

	University Lake	Cane Creek	Lake Johnson	Lake Wheeler	Lake Crabtree	Little River	Lake Michie	Stoney Creek	Lake Cammack	Lake Mackintosh (A)	Lake Mackintosh (G)	Lake Townsend	Lake Higgins	Lake Brandt	Farmer Lake
County	Orange	Orange	Wake	Wake	Wake	Durham	Durham	Alamance	Alamance	Alamance	Guilford	Guilford	Guilford	Guilford	Caswell
Size (Acreage)	213	540	150	650	520	N/A	540	140	840	1150	1150	1543	287	870	365
Days Open/Week	2	2	7	7	3	4	4	2	4	5	5	5	5	5	5
Boat Rental	X	X	X	X	X	X	X	X	X	X		X	X	X	X
Motor Rental	X	X	X			X	X								
Canoe Rental	X	X	X	X	X		X			X	X	X	X	X	X
Peddle Boat Rental			X	X	X					X	X				
Sail Boat Rental			X	X	X										
Kayak Rental			X	X	X					X	X	X	X	X	X
Personal Boats	X	X	X	X			X	X	X	X	X	X	X	X	X
Pier Fishing	X								X	X	X	X	X	X	
Bank Fishing		X				X	X	X	X	X	X				X
Flat Fees			X	X	X	X	X	X	X	X	X	X	X	X	X
Tiered Fees	X	X													
Senior Discount	X	X							X	X		X	X	X	X
Resident Discount	X	X				X	X								
Season Pass	X	X	X	X								X	X	X	X

Attachment B

Fees and Charges at Area Reservoirs

	University Lake, Cane Creek Reservoir (OWASA)	Lake Michie, Little River (Durham)	Lake Johnson, Lake Wheeler (Wake)	Lake Crabtree (Wake)	Lakes Higgins, Brant, Townsend (Guilford)	Lake Mackintosh (Guilford)	Lakes Mackintosh, Cammack, Stoney Creek (Alamance)	Farmer Lake (Caswell)	Average Fee (excludes OWASA)
Boat Rental[1]	$18.00	$6.00	$20.00	$20.00	$10.00	N/A	$15.00	N/A	$14.20
Non-resident	$24.50	$11.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor Rental	$15.00	$11.00	$30.00	N/A	N/A	N/A	N/A	N/A	$20.50
Non-resident	$22.00	$16.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Canoe Rental[1]	$18.00	$6.00	$20.00	$28.00	$20.00	$20.00	$20.00	$20.00	$19.14
Non-resident	$24.50	$11.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private Boat Launch	$8.00	$5.00	$0.00	N/A	$8.00	$5.00	$7.00	$5.00	$5.00
Non-resident	$12.50	$10.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

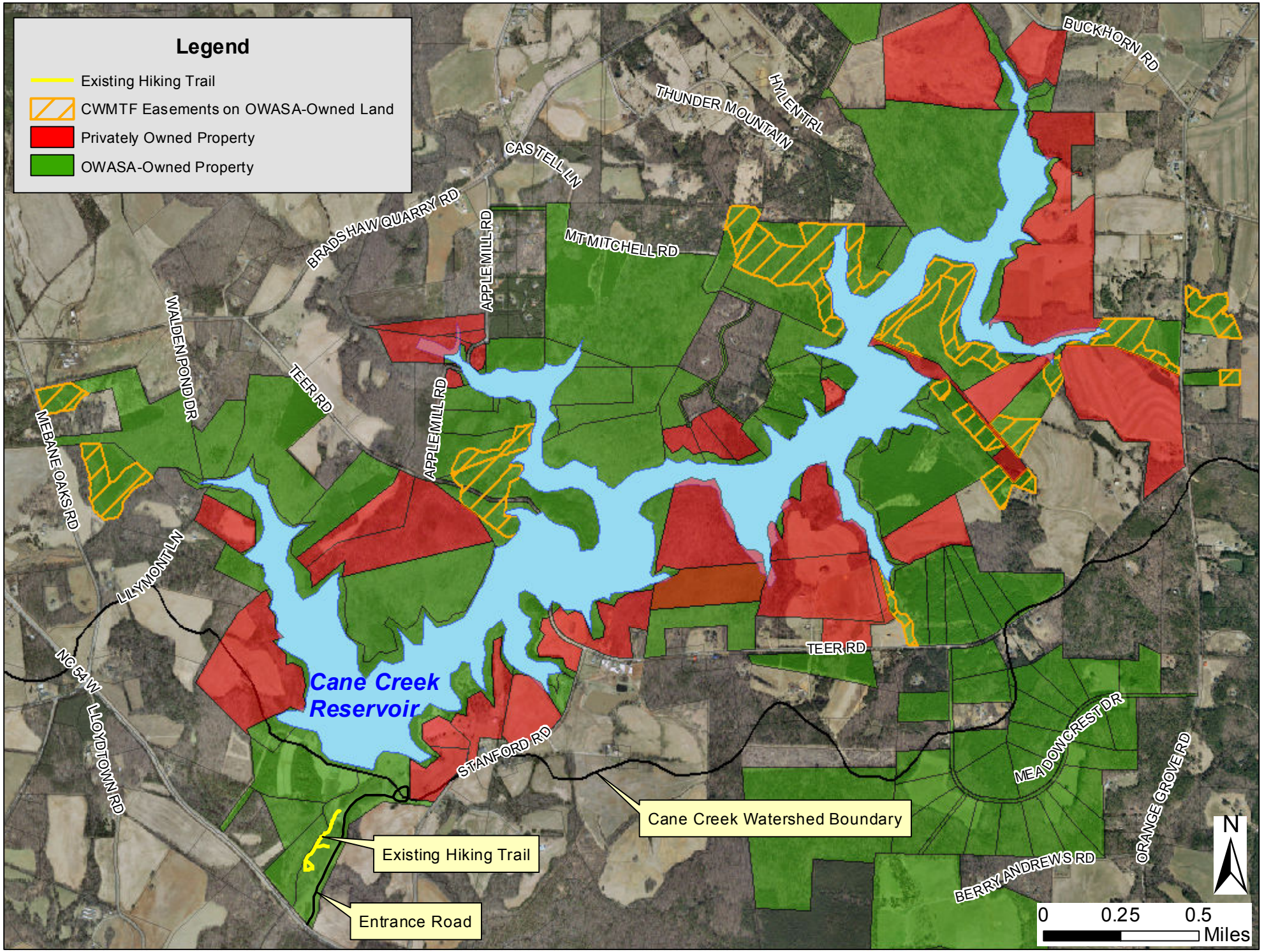
[1] Rentals are based on 3 occupants per boat

Attachment C

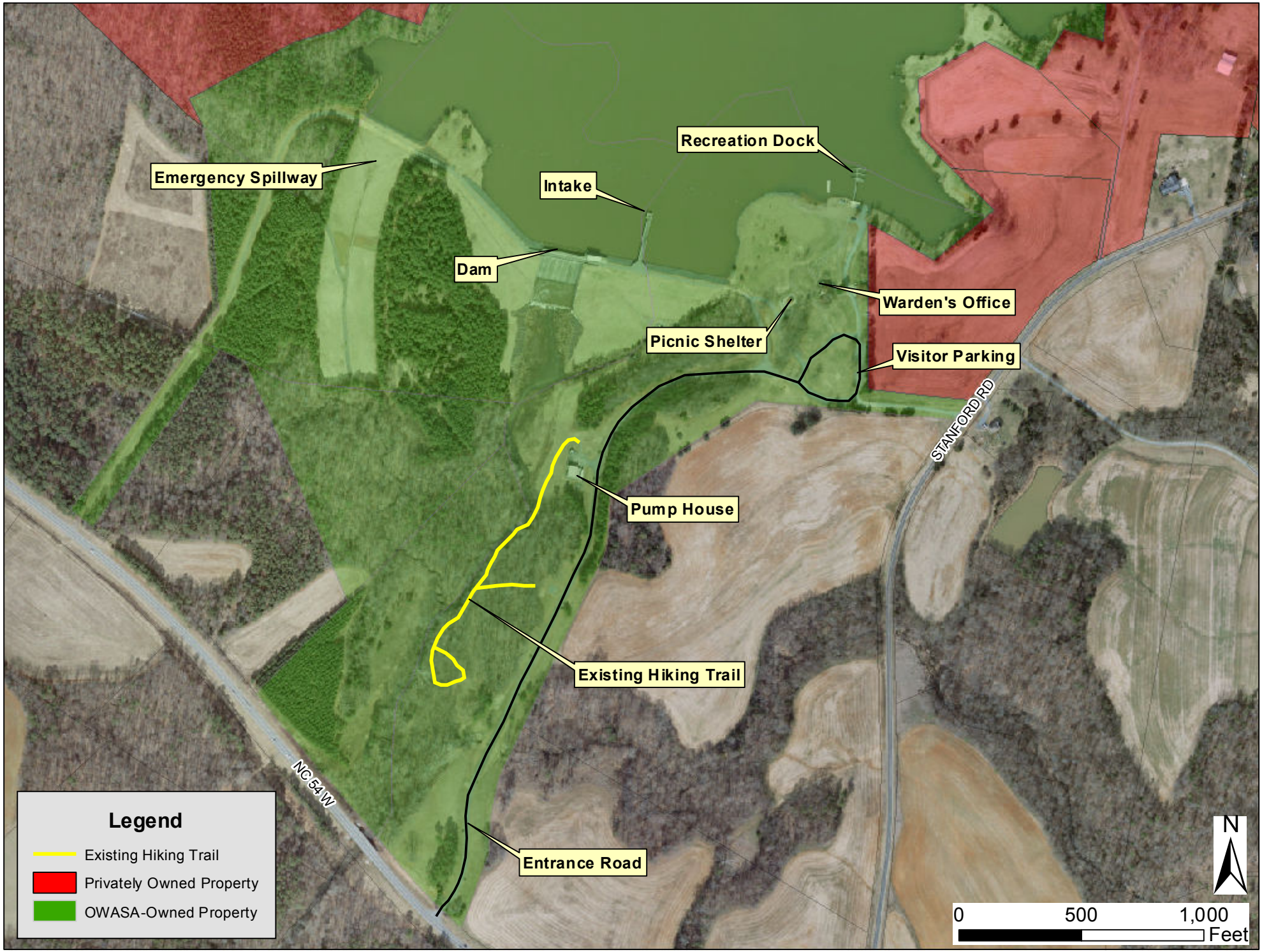
Kayak Rental Fees at Area Reservoirs

	University Lake, Cane Creek Reservoir (OWASA)	Lake Michie, Little River (Durham)	Lake Johnson, Lake Wheeler (Wake)	Lake Crabtree (Wake)	Lakes Higgins, Brant, Townsend (Guilford)	Lake Mackintosh (Guilford)	Lakes Mackintosh, Cammack, Stoney Creek (Alamance)	Farmer Lake (Caswell)	Average Fee (excludes OWASA)
Kayak Rental	N/A	N/A	$20.00	$12.00	$15.00	$15.00	$7.00	$15.00	$14.00
Non-resident	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Attachment D: Private Property Adjacent to Cane Creek Reservoir



Attachment E: Existing Cane Creek Hiking Trail Close-up



ORANGE WATER AND SEWER AUTHORITY: LONG-RANGE WATER SUPPLY PLAN UPDATE
SOME CORE QUESTIONS/ISSUES, TASKS, RESOURCE REQUIREMENTS

	PROCESS TASK*	CORE QUESTIONS/ISSUES	SUBTASK(S)	RESOURCE REQUIREMENTS
PROCESS	Task 1	**What are the goals/objectives/core values/decision criteria/planning horizon? How do we compare/weight economic and non-economic factors? What level of service is desired (conversely, what level of risk is acceptable)?**	Obtain Board's policy guidance before moving ahead	
		What is the desired process for public participation, review and comment?	Obtain Board's policy guidance before moving ahead	To be determined once guidance is received from Board
PROJECTIONS	Task 2	**What will the community's future water demands be under different growth and climate scenarios?**	Compile and analyze most up-to-date information regarding local population, employment, growth and development Get input from local governments and UNC on boundaries for low and high growth Develop estimates of how climate change may impact demands	May need consulting assistance to estimate how changing climate may impact customer demands
	Task 3	**What is the reliable yield of our local supplies under historic record and with climate change?**	Re-evaluate estimates of reliable yield of our supplies; incorporate climate change into yield estimates	May need consulting assistance to provide guidance to incorporate climate change into yield estimates
	Task 4	**Do we anticipate any projected shortfalls in supply that need to be addressed through increases in supply and/or reductions in future demands? If so, when do we expect those will occur and what is the projected magnitude and duration of the shortfalls?**	Compare projected demands vs. estimated capacity for the various scenarios to be considered	

ORANGE WATER AND SEWER AUTHORITY: LONG-RANGE WATER SUPPLY PLAN UPDATE
SOME CORE QUESTIONS/ISSUES, TASKS, RESOURCE REQUIREMENTS

	PROCESS TASK*	CORE QUESTIONS/ISSUES	SUBTASK(S)	RESOURCE REQUIREMENTS
IDENTIFICATION AND EVALUATION OF OPTIONS	Task 5	**What potentially viable supply alternatives should we consider?** - Jordan Lake - mutual aid - Jordan Lake - agreement with Cary - Jordan Lake - western intake and treatment - Quarry Reservoir - deep option - Quarry Reservoir - mine longer - Haw River - temporary intake - Reclaimed water - Other	Review supply options evaluated in 2010 LRWSP Update; decide if any are to be added or deleted Present supply alternatives to evaluate to Board Evaluate alternatives to determine potential yield and cost	Consulting assistance to update capital, operating and maintenance costs of the alternatives
		What potentially viable demand management alternatives should we consider? - Toilet replacement program - WaterSense homes program - Greater reliance on mandatory use restrictions - Other	Review demand management options evaluated in 2010 LRWSP Update; decide if any are to be added or deleted Present demand management alternatives to evaluate to Board Evaluate demand management alternatives to determine potential demand reduction and cost	May need consulting assistance in evaluating capital, operating and maintenance costs of the alternatives
		Do we need to modify our pricing structure?	Evaluate pricing with the demand management scenarios to determine impact on revenue Present alternative pricing structures to Board	
	Task 6	**Do the alternatives meet agreed-upon criteria?**	Develop short-list of potentially feasible options to meet water supply needs	
	Task 7	**What are the advantages and disadvantages of the different supply and demand management alternatives which meet the agreed-upon criteria?**	Evaluate and rank the alternatives against the different evaluation criteria and weighting factors established at the outset	Consulting assistance to evaluate the advantages and disadvantages of the alternatives

ORANGE WATER AND SEWER AUTHORITY: LONG-RANGE WATER SUPPLY PLAN UPDATE
SOME CORE QUESTIONS/ISSUES, TASKS, RESOURCE REQUIREMENTS

	PROCESS TASK*	CORE QUESTIONS/ISSUES	SUBTASK(S)	RESOURCE REQUIREMENTS
PLAN	Task 8	**What is the preferred mix of supply and demand management alternatives?**	Select the optimium mix of alternatives that are required to meet and/or manage the projected demands	May need consulting assistance to determine the optimum mix of alternatives
		What are the projected capital and operating and maintenance costs for the preferred option(s)?		
		What actions do we and others need to take to implement the plan?		
		What will be the process and timetable for evaluating and updating the plan?		
IMPLEMENTATION	Task 9	**What resources are required to implement the plan and on what timetable?**	Board approval of investments and commitments to implement the preferred alternative and plan Staff bring resource requirements to Board annually as part of budget process	To be determined as update to LRWSP completed in Task 8
	Task 10		Implement the preferred alternative and plan	

* Corresponds to Task Number on Graphic "Potential Process for Key Water Supply Planning Tasks" dated December 6, 2013

Attachment 3: POTENTIAL PROCESS FOR KEY WATER SUPPLY PLANNING TASKS

December 6, 2013

LEGEND

DWR: NC Division of Water Resources

EMC: NC Environmental Management Commission

LRWSP: Long-Range Water Supply Plan

JORDAN LAKE ALLOCATION PROCESS (Dates shown are subject to change by DWR)

- **Draft Round 4 applications submitted to State March 1, 2014** (We will use existing projections from current LRWSP)
- **Final Round 4 allocation applications submitted to State August 1, 2014** (We will use existing projections from current LRWSP)
- **EMC approves Cape Fear/Neuse Hydrologic Model August 1, 2014**
- **DWR allocation recommendation to EMC March 11, 2015**
- **EMC issues final Round 4 allocations November 12, 2015**

LONG RANGE WATER SUPPLY PLAN UPDATE PROCESS

- **BOARD ACTION** — **TASK 1.** Establish goals and objectives, evaluation criteria, comment process, etc.
- **TASK 2.** Update water demand projections to reflect current plans, policies, trends, etc.
- **TASK 3.** Update estimates of reliable yield of existing supplies to reflect hydrologic record, potential effects of climate change, etc.
- **TASK 4.** Assess potential for supply shortfalls (magnitude and timetable)
- **TASK 5.** Identify potential water supply and demand management options
- **TASK 6.** Screen options against criteria (develop short-list of potentially feasible options)
- **TASK 7.** Evaluate supply and demand management alternatives
- **BOARD ACTION** — **TASK 8.** Selection of alternatives needed to ensure an adequate, reliable, and high quality water supply
- **BOARD ACTION** — **TASK 9.** Approval of investments and commitments necessary to implement the plan
- **TASK 10.** Implement preferred alternatives

STAFF WILL KEEP BOARD OF DIRECTORS UPDATED THROUGHOUT JORDAN LAKE ALLOCATION PROCESS AND UPDATE OF LONG-RANGE WATER SUPPLY PLAN