

2019

**SPRING LAKE
LAKE MANAGEMENT PLAN**

Annual Meeting

- Agenda

Lake Management Plan

- General Provisions & Scope of Services
- Community-Based Activities & Events
- Current Fiscal Year
- Planned Treatments & Funding
- Next Fiscal Year
 - Projected Treatments & Funding
- Exhibits
 - Agenda & Notes (Prior Year)
 - Budget & Financial Summary
 - Historic Reports/Data
 - Roles & Responsibilities

SPRING LAKE ANNUAL MEETING

Date/Time/Location	: March 7, 2019 9:00am - 11:00am 200 W. County Home Rd – LMP office
Community Liaisons	: John Bandy, Dan Copeland, Jay & Rhonda Fraxedas, Brian Pelski, and Bill & Bobbi Vogel
Liaisons Present	: Brian Pelski, Bill & Bobbi Vogel, and Mel Shubert
Seminole County	: Thomas Calhoun, Joey Cordell, Gloria Eby, Kathy Moore, and Joe Saucer
Altamonte Springs	: April Verpooten (not present)
Atkins	: Joe Walters

General Topics & Updates

Lake Management Program

- Welcome
- Fertilizer Ordinance- Passed on February 27, 2017 www.seminolecountyfl.gov/fertilizer
 - Restricted Months: no fertilizing June 1st- September 30th
 - Slow Release Nitrogen: at least 50%
 - Know How Much: www.seminolecountyfl.gov/calculator
 - Buffer Zone: 15 feet from all waterbodies
- Shoreline Protection Ordinance Status
 - FWC Rule change removes permit requirements on lakes smaller than 160 acres
 - Currently drafting County Shoreline Ordinance
 - LMP will keep liaisons updated and solicit input
- Lake Status Nutrients/Habitat Scores [Bioassessment Indices - Refer to Exhibit C]
 - LVI remains in Healthy category
 - LVI/BioBase data on Watershed Atlas website:
<http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7659&wbodyatlas=lake>
 - TSI and hydrology affects
 - Erroneous data point needs to be fixed which will decrease the overall TSI score (Joey to fix)
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (early detection-rapid response) especially with water clarity increases
 - LMP will send picture of hydrilla and baby's tears for identification, residents requested to report hydrilla for rapid treatment
 - Evaluate grass carp fish effects and adjust stocking rate as necessary
- General recommendations for lake-community [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Promote "welcome packages" to new lakefront homeowners
 - LMP gave packages to Bobbi and Brian after meeting
- 2019 Shoreline Planting Event- dates available
 - To be coordinated via Thomas Calhoun
 - Dates to be forwarded to Thomas
 - Discussed re-establishing pickerelweed and introducing sensitive taxa plants to improve overall health and score of the lake
- Other
 - TGC Fish Barrier/Stocking (40)/Turtles
 - Barrier replaced after Irma, currently pending FEMA reimbursement
 - Monthly maintenance and inspection of barrier by vendor and LMP (Thomas to send Brian name of vendor) - There have been reports of trapped turtles. Barrier is inspected every 2 weeks until a device can be installed to aid turtles climbing out
 - Email Address for routine communications and important announcements
 - Nutrient Abatement/Water Quality Projects/Wymore Rd drainage pipe status
 - Pickerelweed pilot project at John Bandy's property completed
 - Spring Valley Club and Spring Lake Hills discussed coordinating newsletter communications

- Discussed Spring Valley Club retention pond structure maintenance (Joey to check STAN)
- Mel requested lake management projects in lieu of a future reduction of assessment as discussed by MSBU Program
 - Liaisons concurred with Mel adding that the funding lake services is essential to their community
 - MSBU suggested LMP provide projects to encumber contingency funds however an ordinance revision would be required- liaison expressed concerns with MSBU present
- Mel/Brian provided update in Spring Valley Hills Infrastructure Team update and list of projects including the Wetland restoration plan
- Joe Walters with Atkins gave presentation on potential water quality projects within the watershed and Hillside development
- MSBU presented on 'Right of Use' assessments for HOA parcels within boundary as information and options
- LMP proposed consolidated meeting style for the waterways (Spring/Spring Wood Lake/Springwood Wty) for next year

MSBU Program

- Financial Status [Refer to Exhibit B]
 - MSBU Program reviewed fund status and potential to reduce rate of assessment. Liaisons communicated preference to seek alternative uses of funds on-hand. MSBU Program to follow-up with CAO respective to purchasing aquatic plants and possibly planting such plants using assessment funding.

SPRING LAKE LAKE MANAGEMENT PLAN

GENERAL PROVISIONS

Scope of Public Aquatic Weed/Plant Control [AWC] Services

The scope of public aquatic weed control [AWC] services funded by non-ad-valorem assessment includes those services associated with managing aquatic plant communities as deemed beneficial and/or critical to restoring, developing and/or maintaining conditions that enhance the water quality and over-all health of the waterbody; with emphasis on providing public services for public purposes which by definition of public are limited to the waterbody and respective shoreline when/where noxious and/or invasive exotic vegetation could/would threaten or impede the waterbody.

Governing documents

- Seminole County Ordinance 07-9
- Interlocal Agreement with Altamonte Springs – Authorizing Assessment Levy [01-27-2007]
- FWC Permit

Methods for Aquatic Weed Control as authorized via County Ordinance

- Chemical (herbicides)
- Biological (sterile triploid grass carp fish [TGC])
- Mechanical (harvesting, cutting, etc.)

Targeted Invasive/Exotic Aquatic Vegetation

- Cattails, pennywort, wild taro, filamentous algae, eelgrass, primrose willow, torpedo grass, and hydrilla

Frequency of AWC Treatment

AWC services are performed at the direction of the Seminole County LMP as per the Spring Lake Management Plan reviewed at the annual planning session with the expectation that the Seminole County LMP may alter anticipated treatments as merited per changing/evolving conditions noted during site inspections. Eelgrass corridor treatments are scheduled for the spring and fall of each year and are based upon merited conditions and favorable water elevation conditions.

Herbicide Treatments - Service Provider

- As determined by Seminole County

Funding

Financial management of the MSBU fund is provided by the Seminole County MSBU Program. Financial plans developed by the MSBU Program include eligible expense funding requests submitted by the Lake Management Program and other cost and revenue components typical to MSBU funds. Financial information inclusive of prior year actual outcome, current year working budget and next year budget proposal data is reported annually. Assessment levy is subject to Board approval and the standard procedures associated with non-ad valorem assessment. The financial plans may be adjusted by the County as merited per changing/evolving essential services as directed by the County and per financial planning considerations. The governing ordinance does not include assessment restrictions specific to annual adjustment amounts and/or assessment cap.

Lake Liaisons

Designated property owners provide community representation at annual planning sessions with the County and serve voluntarily as the key point of contact for community inquiries and concerns. The liaisons for Spring Lake are: John Bandy (jibir@cfl.rr.com), Dan Copeland (dcopeland@ribelin.com), Jay and Rhonda Fraxedas (jjfraxedas@gmail.com), Brian Pelski (bpelski89@gmail.com), and Bill and Bobbi Vogel (b2vogel@gmail.com).

COMMUNITY-BASED ACTIVITIES & EVENTS

LMP continues to recommend/encourage future resident-based volunteers involving native plantings along the shoreline. The intention of such an event is to transplant existing in-lake plants to various key areas in need along the shoreline. It is especially important that as aquatic invasive plants (such as torpedo grass) are being treated, native aquatic plants should be established within these areas. This also provides habitat for fish and wildlife, helps impede invasive exotics from re-establishing and reduces sedimentation into the lake due to erosion of the shoreline. All of these best lake management practices are essential to providing a more environmentally stable lake for generations to come. The key to success in lake management projects is dependent on strong participation of the Spring Lake community. Continued recommendations for community initiatives are as follows:

- 1) Continue to increase shoreline re-vegetation with beneficial native aquatic plants such as duck potato and pickerelweed; hand removal of torpedo grass from around native plants,
- 2) Consider increasing street sweeping services during times of peak leaf fall to ensure this debris does not wind up in your waterways. Leaf debris contains phosphorous and nitrogen that can impact your lakes,
- 3) Establishing a Lake Association and having at least one annual meeting with topics relevant to Spring Lake and its watershed,
- 4) Implement educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN) presentations, Lake Management Video mail-outs, and reduction of residential pollution by using low fertilizer use; phosphorous free and slow release nitrogen based fertilizers; keeping a functional shoreline with beneficial native aquatic plants; keeping grass clippings out of your storm drains leading to the lake. All these activities aid in protecting your lake! Contact Gloria Eby (407) 665-2439 or Marie Lackey (407) 665-2424 for more information and assistance, and
- 5) Provide content for the Seminole County Water Atlas Lake Management webpage for Spring Lake (such as newsletters and community updates).

Important to Note: When herbicides are applied along the shoreline to invasive plants (such as torpedo grass), overspray onto adjacent desirable vegetation may occur. In order to avoid damage to desired vegetation, manual (by hand) removal (by property owner) of the undesirable species from among the desirable species along the shoreline is advised. If the invasive plants are removed by this method, spraying the area can be reduced, thereby offering greater protection to the desirable species. The physical removal of dead/decaying aquatic plant material will reduce the volume of decomposing vegetation on the lake bottom (muck layer) and will increase the success of the efforts to limit the re-growth of the invasive plants. The presence of submerged aquatic vegetation (“SAV” such as hydrilla) should be communicated to your lake liaison for their reporting to the County so appropriate treatment of SAV can be provided.

COUNTY SERVICES – Lake Management & Supplemental Programs

LMP provides continued evaluation of the aquatic plant species, such as hydrilla, and provides community updates on the status of treatments and waterbody bioassessments. In addition, LMP offers free aquatic plant material (as available) for sponsored restoration events and local community volunteers coordinated through the county’s Seminole Education and Restoration Volunteer (SERV) Program. While the MSBU assessment includes a nominal charge for administering the MSBU, the amount charged does not cover all the expenses incurred by the County on behalf of the waterfront property owners. Spring Lake is monitored by LMP to assess the aquatic plant growth. Many of the services provided by the LMP are made available to support community riparian stewardship without additional charges being assigned to the MSBU budget.

CURRENT FISCAL YEAR – Planned Treatment & Funding

Primary Aquatic Plant Management Expectations

Hydrilla growth in Spring Lake has likelihood to increase, however, the timing and extent of hydrilla re-growth is affected by multiple natural and environmental factors that cannot be controlled or predicted with certainty. While extensive growth of hydrilla is possible at any point in time; it is anticipated that routine spot treatments of hydrilla with herbicides and continuous biological control pressures from the triploid grass carp fish will be sufficient to manage hydrilla re-growth during the current FY. The anticipation of spot treatments for the current fiscal year takes into consideration the historic trend of hydrilla management required at Spring Lake, as well as current conditions observed at lake and dominant presence of eelgrass providing competition. As with any lake with a history of hydrilla infestation, long-term planning to include financial preparation for whole lake treatment is advised.

Primary expectations are as follows:

- 1) Monitor hydrilla (re-growth from tuber production*)
- 2) Conduct spot treatments of hydrilla if required
- 3) Treat other invasive aquatic plants – herbicides
- 4) Conduct Alum treatment per recommendation documented in Nutrient Study

*LMP will continue to closely monitor and gauge hydrilla in Spring Lake. This invasive exotic's re-growth is sparsely present in both shallow and deep water, mostly on the western side of the lake. Even though this re-growth is minimal, it is LMP's objective to keep the re-growth in check.

Funding Expectations

Refer to current fiscal year data provided in Exhibit B.

NEXT FISCAL YEAR – Projected Treatment & Funding

Primary Aquatic Plant Management Expectations

The projected treatment plans for the next fiscal year remain consistent with the plans and expectations noted for the current fiscal year. Primary expectations are as follows:

- 1) Continued monitoring of hydrilla (re-growth from tuber production)
- 2) Conduct spot treatments of hydrilla if required
- 3) Continued treatment of other invasive aquatic plants
- 4) Future grass carp stockings as needed
- 5) Continue Alum treatment per recommendations and prior year activities

Funding Expectations

Refer to next fiscal year data provided in Exhibit B.

Exhibits

A – Agenda & Notes from Prior Year Planning Session

B – Financial Summary

C – Historic Reports/Data

D – Roles & Responsibilities

Exhibit A – Agenda & Notes (Prior Year Planning Session)

Date, Time & Location	: February 28, 2018, 2:00 p.m., 200 W. County Home Rd – LMP office
Community Liaisons	: John Bandy, Dan Copeland, Jay & Rhonda Fraxedas, Brian Pelski, and Bill & Bobbi Vogel
Liaisons Present	: John Bandy, Brian Pelski, Mel Schubert, and Bill & Bobbi Vogel
Seminole County	: Edward Bass, Thomas Calhoun, Joey Cordell, Gloria Eby, Kim Ornberg, Joe Saucer and Kathy Moore
Altamonte Springs	: April Verpooten (not in attendance)

General Topics & Updates [Meeting Notes provided by respective Programs]

Lake Management Program

- Welcome
- Fertilizer Ordinance- Passed on February 27, 2017. www.seminolecountyfl.gov/fertilizer.
 - Fertilizer containing nitrogen or phosphorous cannot be applied to turf during the restricted season from June 1st – September 30th. Fertilizers containing Iron, Manganese and other "micronutrients" also referred to as "summer blends" can be applied during the restricted.
 - Fertilizer containing nitrogen that is used during the **non**-restricted season (October 1st – May 31st) must contain *at least* 50% or more slow release nitrogen. This slow release nitrogen content will increase to 65%, three (3) years after adoption of the Fertilizer Ordinance, to allow time for educational outreach to residents and retailers.
 - Fertilizer containing phosphorus cannot be applied to turf or plants unless a state certified soil or tissue test verifies that there is a phosphorus deficiency.
 - Use of deflector shields is required when applying fertilizer with a broadcast or rotary spreader.
 - No fertilizer may be applied within fifteen (15) feet of any pond, lake, stream, canal, or other waterbody, including wetlands.
- Shoreline Protection Ordinance Status
 - Awaiting FWC Rule changes
- Lake Status Nutrients/Habitat Scores [Refer to Exhibit C: Bioassessment Indices]
 - LVI remains in Healthy category due to reduction in sensitive and native plant types
 - LVI/BioBase data on Watershed Atlas website:
<http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7659&wbodyatlas=lake>
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (early detection-rapid response) especially with water clarity increases
 - Evaluate grass carp fish effects and adjust stocking rate as necessary
- General recommendations for lake-community [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Promote "welcome packages" to new lakefront homeowners
- 2018 Shoreline Planting Event- dates available
 - To be coordinated via Thomas Calhoun
- Other
 - TGC Fish Barrier/Stocking
 - Email Address for routine communications and important announcements
 - Nutrient Abatement/Water Quality Projects
 - Email list to be sent for verification
 - Treatment of John Bandy's Eelgrass
 - Pickerelweed pilot project at John Bandy's property
 - Mel Schubert attended as new liaison
 - Discussed reducing assessment, assessment was held at current level
 - Discussed a potential planting event
 - Discussed carp barrier replacement

MSBU Program

- Financial Summary [Refer to Exhibit B]
 - Anticipating Administrative Fee increase FY19-20; tax year 2019
- Tentative date for next annual meeting: February 1, 2019 11:00AM

Exhibit B - Financial Summary

January 2019

Tax Year Assessment	2017 \$ 375.00	2018 \$ 375.00	2019 \$ 375.00
Fiscal Year	FY17-18	FY18-19	FY19-20
REVENUE	Actual	Working Budget	Proposed Budget
Beginning Fund Balance	\$ 177,123	\$ 158,841	\$ 152,516
Assessment	\$ 27,501	\$ 27,000	\$ 27,000
Other	\$ 2,805	\$ 1,200	\$ 1,000
MSBU Program Fund Advance [FEMA]	\$ -	\$ -	\$ 6,030
TOTAL	\$ 207,429	\$ 187,041	\$ 186,546
Cost Sharing Lake Management Program	\$ -	\$ -	\$ -
TOTAL	\$ 207,429	\$ 187,041	\$ 186,546
EXPENDITURE	Actual	Working Budget	Proposed Budget
County Administrative Fee	\$ 1,500	\$ 1,725	\$ 1,725
Fund Advance Repayment	\$ -	\$ -	\$ -
Contracted Services	\$ 47,087	\$ 32,800	\$ 44,100
<i>Routine Services</i>	\$ 1,666	\$ 2,000	\$ 2,000
<i>Hydrilla</i>	\$ -	\$ 3,500	\$ 3,500
<i>TGC Fish</i>	\$ -	\$ -	\$ 800
<i>Fish Barrier Services</i>	\$ 475	\$ 2,800	\$ 2,800
<i>Fish Barrier Replace/Repair</i>	\$ 6,700	\$ -	\$ -
<i>Harvesting (and Cattails/Eel Grass)</i>	\$ 38,246	\$ 24,500	\$ 35,000
<i>Nutrient Abatement</i>	\$ -	\$ -	\$ -
<i>Other</i>	\$ -	\$ -	\$ -
Reserve/Contingency	\$ 158,841	\$ 152,516	\$ 140,721
<i>Operating Contingency</i>	\$ 158,841	\$ 45,816	\$ 34,021
<i>Reserve: Hydrilla (Whole Lake)</i>	\$ -	\$ 60,000	\$ 60,000
<i>Reserve: Barrier Replace/Repair</i>	\$ -	\$ 6,700	\$ 6,700
<i>Reserve: Admin Code & Ord Amnd</i>	\$ -	\$ 40,000	\$ 40,000
TOTAL	\$ 207,429	\$ 187,041	\$ 186,546
Cost Sharing Lake Management Program	\$ -	\$ -	\$ -
TOTAL	\$ -	\$ -	\$ -
Fund Advance BB Payment (Principal)	\$ -	\$ -	\$ -
Fund Advance EB	\$ -	\$ -	\$ -
MSBU Program Administration Cost	\$ 1,723	\$ 14,723	
LM Program Administration Cost	\$ 10,000		
Restoration Event Cost	\$ 3,000		

Exhibit C - Historic Reports/Data

Additional information for Spring Lake can be found on the County's Water Atlas website at:

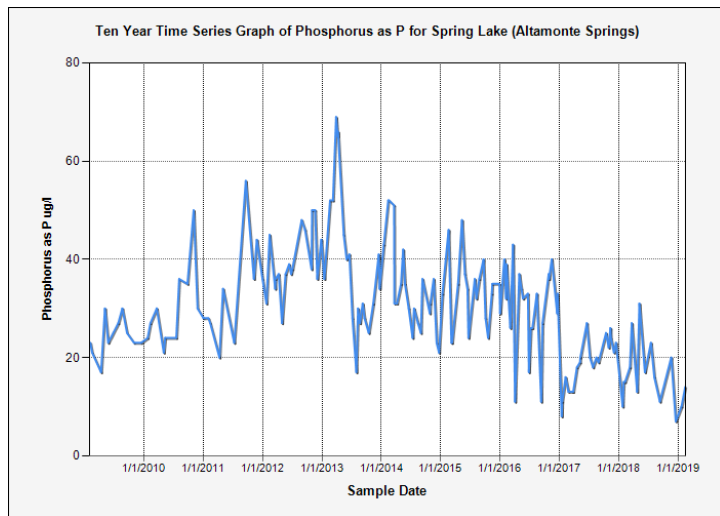
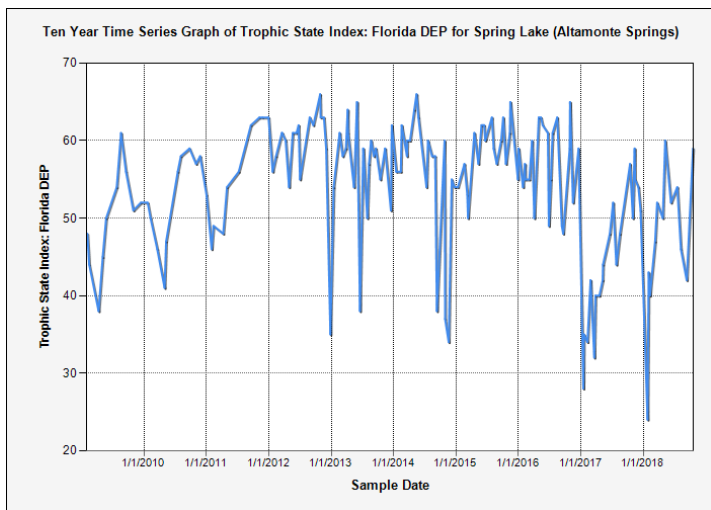
<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7659&wbodyatlas=lake>

<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7659>

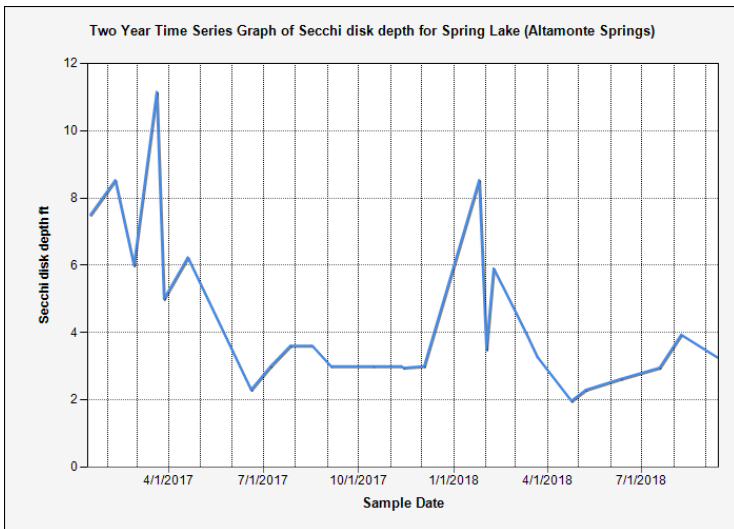
Spring Lake Water Quality Report: How Does My Lake Rank? **59 GOOD**

The Trophic State Index (TSI) is a classification system designed to "rate" individual lakes, ponds and reservoirs based on the amount of biological productivity occurring in the water. Using the index, one can gain a quick idea about how productive a lake is by its assigned TSI number. A "Good" quality lake is one that meets all lake use criteria (swimmable, fishable, and supports healthy habitat).

The two graphs below indicate nutrient levels (measured by TSI and/or Total Phosphorous [TP]) for your lake. A TSI score of 60 or above is considered impaired (or polluted) lake. Continued reduction of TP sources (personal pollution, run-off, landscaping practices, shoreline erosion) can help reduce phosphorous in your lake that is abundantly available, potentially creating algae blooms.



Secchi reading (measurement for water clarity) pre/post initial alum treatment:



Lake Vegetation Index Bioassessment (LVI): How Does My Lake Rank? 54 Healthy

The Lake Vegetation Index is a rapid bioassessment tool created by the Florida Department of Environmental Protection (FDEP) to assess the biological condition of aquatic plant communities in Florida lakes. The most recent assessment for Spring Lake (sampled on 4, 2018) scored a 54, Healthy, which is a slight increase from the previous score of 51, Healthy.

Aquatic life use category	LVI Range	Description
Category 1 "exceptional"	78–100	Nearly every macrophyte present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance and most taxa have C of C values >5.
Category 2 "healthy"	43–77	About 85% of macrophyte taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15% and C of C values average about 5.
Category 3 "impaired"	0–42	About 70% of macrophyte taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive and C of C values of most taxa are <4.

Exhibit D – Roles & Responsibilities

ROLES & RESPONSIBILITY

General Outline

COUNTY

Seminole County will

- ✓ Govern the MSBU
- ✓ Provide financial management of MSBU fund and assessment levy
- ✓ Ensure activities conducted with assessment funding align with the scope of services documented in the governing ordinance
- ✓ Ensure the lake is monitored and services are appropriately rendered
- ✓ Maintain decision-making authority relative to public services and will defer to best lake management practices when making such decisions
- ✓ Provide an ongoing lake management plan based on the defined service scope, permitting, conditions at the lake, funding parameters, and best lake management practices. The Lake Management Plan will be developed and maintained by the Lake Management Program with liaison participation
- ✓ Initiate and manage service contracts, monitor results, and communicate updates on a routine basis
- ✓ Conduct annual meetings that offer opportunity for liaison discussion as to prior, current, and future action plans
- ✓ Encourage liaisons and assist with educational outreach efforts to protect the health and water quality of the waterbody

LIAISONS

Liaisons will

- ✓ Encourage communitywide awareness and participation relative to environmental stewardship recommendations and opportunities
- ✓ Provide communitywide communication and assist the County in the distribution of relevant lake information
- ✓ Attend annual lake management and budget planning sessions conducted by the County
- ✓ Serve as representatives of the community on lake issues; representing the respective lake community as a whole
- ✓ Monitor lake conditions and provide feedback to the County as to observations