February 22, 2018

HOWELL LAKE
ANNUAL MEETING & LAKE MANAGEMENT PLAN

Annual Meeting – 2018

- Agenda

Lake Management Plan

- General Provisions & Scope of Services
- Community-Based Activities & Events
- County Services – Lake Management & Supplemental Programs
- Current Fiscal Year
    - Planned Treatments & Funding
    - Recommendations
- Next Fiscal Year
    - Projected Treatments & Funding
- Exhibits
    - Agenda & Notes Prior Year
    - Budget & Financial Summary
    - Historic Reports/Data
    - Roles & Responsibilities

HOWELL LAKE: ANNUAL MEETING

Date, Time & Location:	February 22, 2018, 11:00 a.m., 200 W. County Home Rd – LMP office
Community Liaisons:	Carol DiPasqua, Rita Hoffman, Joe Lung, Bob Musser, Darryl Podunavac, Ron Shady, Jim Travis, Lois Chavis and Chuck Weirauch
Liaisons Present:	
Seminole County:	Thomas Calhoun, Gloria Eby, Joe Saucer and Kathy Moore
Casselberry:	Marissa Williams (no attendance

General Topics & Updates [Meeting Notes]

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
  - LVI/BioBase data on Watershed Atlas website: http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7579&wbodyatlas=lake
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
  - Monitor hydrilla and treat as necessary (early detection-rapid response)
  - Upstream hydrilla sources
  - Cattail mitigation project
- 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

MSBU Program

- Budgets – Prior, Current, Proposed and Projected
  - Refer to Exhibit B; Assessment Update
- Tentative date for next annual meeting: ~~January 31,~~ February 6, 2019 3:00PM

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LAKE HOWELL
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 2015-6
- FWC permit
- Interlocal Agreement with the City of Casselberry

Methods for Aquatic Weed Control as authorized via County Ordinance/Resolution

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

Targeted Invasive/Exotic Aquatic Vegetation

- Hydrilla (The management of submersed vegetation other than hydrilla and provisions for lake access corridors are excluded from MSBU services.)
- Water hyacinth, water lettuce, torpedo grass, paragrass, cattail, water fern, algae, hygrophila

Frequency of AWC Treatment

AWC services are performed at the direction of the Seminole County LMP as per the Lake Howell Management Plan which will be reviewed at the annual planning sessions with the expectation that the Seminole County LMP may alter anticipated treatments as merited per changing/evolving conditions noted during site inspections.

Herbicide Treatments - Service Provider

- As determined by Seminole County

Funding

Assessment rate may vary annually based on financial demands of changing conditions, such as cost of herbicide treatments, frequency of treatments, and other factors impacting assessment calculations. The governing ordinance limits assessment increases to no greater than 10% above the prior year assessment; the ordinance does not include provisions for an assessment cap.

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Lake Liaisons

Designated property owners (or their designated representatives) 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 Lake Howell are as shown in the following table and are current as of April 14, 2015. The open slots are available to property owners in the designated HOA or Association.

LIAISON NAME	EMAIL	REPRESENTATION
Darryl Podunavac	dpodunavac@orlandodiocese.org	Lakefront
Joe Lung	joe_lung@cfl.rr.com	FOLH
Bob Musser	BobM@dbsinfo.com	FOLH
Carol DiPasqua	cjdipasqua@yahoo.com	Lakefront
Pending		Carmel
Lois Chavis	lkchavis@aol.com	Howell Harbor Estates
Jim Travis	mrlakehowell@gmail.com	Lago Vista
Pending		Lake Howell Arms
Pending		Lakehurst
Rita Hoffman	joyfulpassages@gmail.com	Marbeya
Chuck Weirauch	cweirauch@mindspring.com	Sausalito Condo
Ron Shady	SHADYR@EMBARQMAIL.COM	Sausalito Shores

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COMMUNITY-BASED ACTIVITIES & EVENTS

LMP recommends/encourages homeowners to coordinate a resident-based volunteer event involving native plantings along the shoreline of Lake Howell. The intention of such an event is to plant beneficial native aquatic plants to key areas in need along the bank. Residents should organize planting days creating a beneficial shoreline. It is especially important that as the aquatic invasive plants (such as torpedo grass) are being treated, native aquatic plants should be established within these areas. The presence of the recommended native plant species along the shoreline provides habitat for fish and wildlife, helps impede invasive exotics from re-establishing, and reduces erosion of the shoreline. All of these best management practices are essential to providing the conditions that promote an environmentally stable habitat to be enjoyed by generations to come. The key to success is dependent on strong participation of the Lake Howell community.

Continued recommendations for community initiatives are as follows:

1) Shoreline re-vegetation with native emergent plants (by the lakefront community and potentially volunteers),
2) Holding at least one annual community meeting with topics relevant to Lake Howell,
3) Continue to increase educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of residential pollution (use phosphorous free and slow-release nitrogen based fertilizers only). Contact Seminole County LMP, 407-665-2439, for more information and assistance,
4) Provide content for the Seminole County Water Atlas Lake Management Webpage for Lake Howell (such as newsletters and photos), and
5) Share what YOU know with your neighbors! Encourage fellow residents to keep a functional shoreline with beneficial native aquatic plants, and to keep grass clippings out of the storm drains that lead to the lake. All of these activities aid in protecting your waterbody!

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

Lake Howell is monitored by LMP to assess the aquatic plant growth. LMP provides continued evaluation of the aquatic plant species, such as hydrilla, and provides community updates on the status of treatments and waterbody bioassessment. 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. 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.

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CURRENT FISCAL YEAR – Planned Treatment & Funding

Primary Aquatic Plant Management Expectations

Lake Howell has an on-going history of hydrilla presence. In 2015 the hydrilla conditions were prolific and were addressed via an extensive whole-lake treatment shortly after the MSBU was created. Aggressive hydrilla growth in Lake Howell has the likelihood to continue. The timing and extent of hydrilla re-growth is affected by multiple natural and environmental factors that cannot be controlled or predicted with certainty. As with any lake with a history of hydrilla infestation, long-term planning to include financial preparation for potential additional future whole lake treatment is advised. While extensive growth of hydrilla is possible at any point in time; it is anticipated that routine spot treatments of hydrilla with herbicides and re-establishing continuous biological control pressures from re-stocking with triploid grass carp fish will be sufficient to manage hydrilla re-growth during this fiscal year. The delay in stocking due to barrier installation complications has negative consequences and implications for managing hydrilla growth in follow-up to the recent whole-lake treatment.

Primary expectations for current fiscal year are as follows:

1) Monthly aquatic herbicide maintenance for non-native vegetation and hydrilla treatments (as needed)
2) Grass carp stocking as soon as barrier is cleared by FWC and other permitting
3) Continued monitoring of hydrilla, coontail, other submersed aquatic plants, and grass carp fish
4) Establish grass carp barrier debris and maintenance services following barrier installation

Funding Expectations - *Refer to current fiscal year budget 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 monthly aquatic herbicide maintenance for non-native vegetation and hydrilla treatments (as needed),
2) Future grass carp stockings if deemed necessary, pending permit amendment,
3) Continued monitoring of hydrilla, coontail, other submersed aquatic plants, and grass carp fish,
4) Continued grass carp barrier debris and maintenance services.

Funding Expectations - *Refer to next fiscal year budget data provided in Exhibit B.*

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Exhibits

A – Agenda & Notes (Prior Year Planning Session)

B – Budget/Financial Summaries

C – Historic Reports/Data

D – Roles & Responsibilities

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

Date, Time & Location	: January 19, 2017, 1:30 p.m., 200 W. County Home Rd – LMP office
Community Liaisons	: Carol DiPasqua, Rita Hoffman, Joe Lung, Bob Musser, Darryl Podunavac, Ron Shady, Jim Travis, and Chuck Weirauch
Liaisons Present	: Carol DiPasqua, Rita Hoffman, Joe Lung, Bob Musser, Ron Shady and Jim Travis
Seminole County	: Thomas Calhoun, Gloria Eby, Joe Saucer and Kathy Moore
Casselberry	: Marissa Williams

Topics carried forward from prior fiscal year activity

- Fertilizer Ordinance & Shoreline Protection Ordinance - Both ordinances contain commitments and directives that will contribute to environmental improvement and protection long-term for lakes and other waterbodies. The Fertilizer Ordinance focuses primarily on fertilizer selection (phosphate free, slow release nitrogen) and application (location, volume, and timing). The Shoreline Protection Ordinance mirrors the State's guidelines for shoreline vegetation and development as historically communicated by the LMP and demonstrated by the best lake management practices followed by MSBU funded services. The Fertilizer Ordinance is tentatively scheduled for BCC review/approval consideration on February 28; while the Shoreline Protection Ordinance development continues with final presentation anticipated later in 2017. [Note: The Shoreline Protection Ordinance approval process involves several levels of approval as the directives need to be included in the County's Land Development Code.] Educational materials are readily available to further promote awareness, understanding and compliance. FWC is proposing a change to their permitting responsibilities respective to aquatic plant management. The proposed (and likely to be adopted rule changes) will have impact on the permits associated with lakes less than 160 acres in size. The importance of Seminole County enacting the Shoreline Protection Ordinance is heightened by this change. In association with the ordinance, the County will be confirming delegated enforcement authority from FWC to provide ongoing compliance efforts respective to adopted protective measures. When presentation dates are confirmed, LMP will provide email updates so interested property owners and residents are aware of these activities. Supportive participation is encouraged.
- Fish Barrier - Joe Lung/FOLH reported that the design phase of the barrier is complete and that they are seeking a company to do the construction and install work; noting that obtaining a contractor has been difficult and preliminary feedback suggests a high price tag for the installation phase. FOLH will continue to seek contractor to construct/install the barrier. FOLH funding for the next phase was noted to be very limited (~$10K). The MSBU budget has designated a construction contribution of ~$30K. Further funding will require revising budget projections to determine long-term impact on financial status of MSBU given higher level of funding for barrier. Current speculations on barrier install cost is significantly above conceptual discussions. MSBU Program offered assistance with locating contractor and will check with County P&C to determine recommendations for obtaining contractor. LMP offered to speak with County Engineering as well.

General Topics & Updates [Meeting Notes]

- 2017 Shoreline Planting Event- dates available - Rita Hoffman to coordinated interest and preferred date via Thomas Calhoun. Thomas to forward SERV flyer for the event. Marissa Williams to provide Casselberry posting of event.
- Nutrients/Habitat Scores: Bioassessment Indices - Refer to Exhibit C; index improved for LVI (impaired to healthy)
- Plans for current fiscal year – refer to page 7. Hydrilla tubers and sprigs observed in perimeter locations; stocking essential to minimize re-growth; stocking delay negatively impacts hydrilla management. Hygrophila (an exotic aquatic plant) observed in the lake. Joey Cordell communicated that treatment of Hygrophila has been added to FWC permit and is being monitored and appropriately managed where observed.
- Projections for next fiscal year - refer to Page 7. Monitoring Howell Creek – An herbicide resistant variety of Hydrilla has established in Lake Waumpi and the inflow creek north of the lake. These waterbodies are managed jointly by the cities of Winter Park and Maitland. Marissa Williams is in communication with Winter Park, and has received notice that the biomass of hydrilla at the mouth of Lake Waumpi is being managed with the drip system, while low water levels have hindered on-going treatment in the inflow creek north of the lake. LMP is closely monitoring conditions at Howell Creek and will continue to pursue information and best prepare for future treatments should the resistant variety be problematic to Howell Creek or beyond.
- Financial and Budget Projections - refer to Exhibit B; no change in assessment planned until barrier project is complete and potential installation expenses and upkeep cost are known. The development requests proposed respective to the San Pedro development was approved by the BCC. Benefit Unit re-assignment will be determined and implemented once the development activity is further along in the process. No changes expected for tax year 2017.
- General recommendations for community consideration - refer to Page 6; Increase native aquatic plants in areas devoid of vegetation.

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Exhibit B - Budget/Financial Overview
MSBU: Lake Howell
Date: January 1, 2018

Tax Year	**2016**	**2017**	**2018**
Assessment	Matrix $	Matrix $	Matrix $
Fiscal Year	**FY16-17**	**FY17-18**	**FY18-19**
REVENUE	**Actual**	**Working Budget**	**Proposed Budget**
Beginning Fund Balance	$ 91,787	$ 165,590	$ 206,834
Assessments	$ 122,288	$ 122,285	$ 121,584
Other	$ 1,447	$ 1,500	$ 1,500
City of Casselberry	$ -	$ -	$ -
MSBU Program Fund Advance	$ -	$ -	$ -
Cost Sharing - FOLH	$ -	$ -	$ -
TOTAL	**$ 215,522**	**$ 289,375**	**$ 329,918**
Cost Sharing			
Lake Management Program	$ -	$ -	$ -
TOTAL	$ 215,522	$ 289,375	$ 329,918
EXPENDITURE	**Actual**	**Working Budget**	**Proposed Budget**
Administrative Fees (includes mailings)	$ 3,250	$ 3,250	$ 3,250
Fund Advance Repayment	$ 26,950	$ 21,200	$ 20,600
Contracted Services	$ 19,732	$ 58,091	$ 188,820
Routine Services	*$ 1,325*	*$ 6,250*	*$ 6,250*
Hydrilla/Other SAV	*$ 18,406*	*$ 50,000*	*$ 170,000*
Carp	*$ -*	*$ 1*	*$ 7,050*
Barrier Maintenance - NA	*$ -*	*$ 1,840*	*$ 5,520*
Barrier Replacement NA	*$ -*	*$ -*	*$ -*
Nutrient Abatement (Alum)	*$ -*	*$ -*	*$ -*
Harvesting	*$ -*	*$ -*	*$ -*
Other	*$ -*	*$ -*	*$ -*
Contingency Reserve	$ 165,590	$ 206,834	$ 117,248
TOTAL	**$ 215,522**	**$ 289,375**	**$ 329,918**
Cost Sharing	$ -	$ -	$ -
Lake Management Program	$ -	$ -	$ -
TOTAL	$ 215,522	$ 289,375	$ 329,918
Fund Advance BB	$ 65,000	$ 40,000	$ 20,000
Payment (Principal)	$ 25,000	$ 20,000	$ 20,000
Fund Advance EB	$ 40,000	$ 20,000	$ -

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Exhibit C - Historic Reports/Data

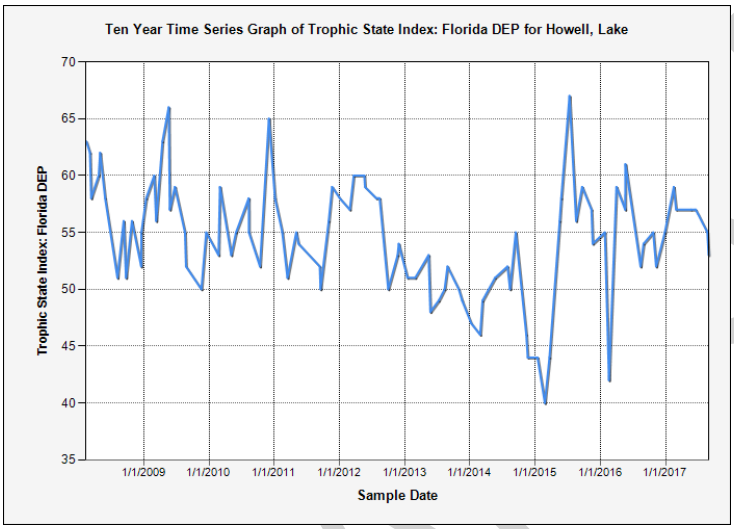
Additional information for Lake Howell can be found on the Seminole County Water Atlas website at

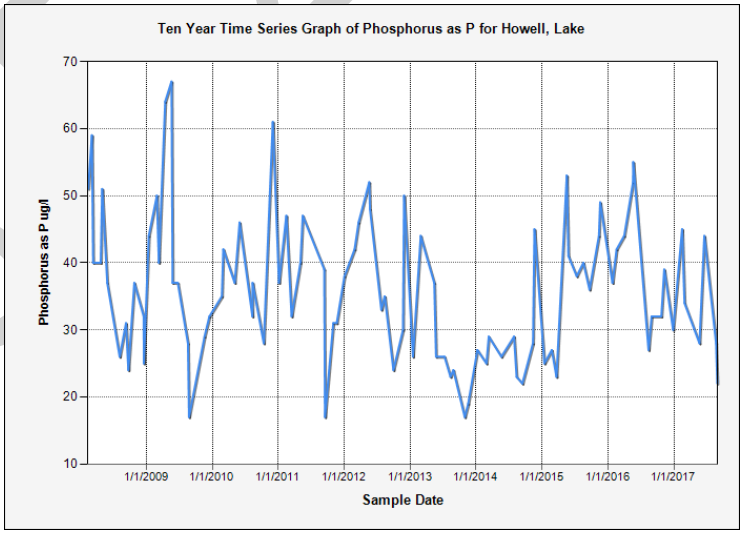
http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7579&wbodyatlas=lake
http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7579

Lake Howell Water Quality Report: How Does My Lake Rank? TSI SCORE: 53 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 indicates 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.





Lake Vegetation Index Bioassessment (LVI): How Does My Lake Rank? 45 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 LVI bioassessment for Lake Howell (sampled on August 11, 2017) scored 44 Healthy which an improvement from 2015 score of **35** which is in the **Impaired** category.

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.

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Exhibit D - Roles & Responsibility

General Outline

COUNTY

Seminole County will

- ✓ Govern the MSBU
- ✓ Provide financial management of MSBU fund
- ✓ 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 lake management activities and aquatic vegetation management 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

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