



LAKE MANAGEMENT PLAN for SAND DAM RESERVOIR/SMITH & SAYLES RESERVOIR (updated June, 2023)

SDRA'S MISSION: to provide stewardship to the lake and its community. Members come together to preserve, protect, & improve the quality of our environment here: our water & habitat, for recreation & tranquility, now and in the future.

GOAL: To support water quality and maintenance of the Sand Dam Reservoir relatively free of invasive species, especially variable-leaf milfoil (VLM), through educational programs, direct interventions, and community outreach and partnerships, while protecting the plants, fish and other life that reside within the lake.

OBJECTIVES:

- To examine the health of the lake, with emphasis on Aquatic Invasive Species (AIS);
- To educate landowners and boaters re: AIS and methods for deterring AIS entry into the lake;
- To control AIS;
- To protect water quality;
- To raise funds, and access funds/grants, in support of sound lake management; and
- To engage the local community and State of RI, in support of water quality and lake preservation.

WHAT THIS MEANS:

- Using “all the tools in the shed” to tackle aquatic invasive species, especially milfoil
- Gaining commitment from volunteers across the lake to participate in one or more strategies
- Broadening our horizons in terms of community outreach & partnerships
- Aggressively fundraising
- Strengthening information access & development of databases in support of our work

TARGET ACCOMPLISHMENTS: 2023 - 2028

- A systematic framework for decision making to keep milfoil in check has continued to function.
- Aquatic invasive species, as identified, have been controlled.
- One or more partnerships have been developed to aid efforts against milfoil.
- SDRA programs and practices have sustained water quality.
- Funding systems are in place to support the needs of SDRA to achieve its goal and objectives
- 20+ Lake Smart Visits have been completed
- 150+ boats have been inspected; and reports have been shared with STL & RI DEM.

BACKGROUND: The Lake Management Plan (LMP) focuses on strategies to support water quality. SDRA has relied upon the studies and recommendations of ESS to better understand the nature and scope of challenges to protect our water quality. Based on that guidance, along with initiatives developed by SDRA, this plan was developed to describe SDRA's strategies to achieve its mission, goal and objectives.

Major lake management recommendations from ESS (latest study: 2017) are:

- To implement annually a **lake drawdown**
- To utilize diver-assisted suction harvesting (DASH) for controlling smaller patches of variable-leaf milfoil
- To implement **systemic herbicide application for short-term control of the extensive VLM beds in deeper water**
- To **hand harvest variable-leaf milfoil (and bladderwort) in wadable areas** near the shoreline

Additional recommendations from SDRA are:

- To implement Support Programs:
 - A **Lake Smart Program**, a property/water interface project, that informs landowners of responsibilities and strategies to support a healthy water environment
 - A **Boat Greeter Program** to minimize transfer of unwanted plant species by visiting boats
 - A **Trash Pickup Program**
- To **monitor water quality** in partnership with URI's Watershed Watch Program
- To continue data acquisition, information management, and sharing of information with SDRA members
- To continue fundraising and seek external grants

The SDRA long-range plan for 2023-2028 follows. This plan should be updated annually to accommodate emerging needs, and have flexibility to make adjustments, as needed.

Objective 1.0 To examine the health of the lake, with emphasis on invasive species.

STRATEGIES	TIMELINES	RESPONSIBILITY	RESOURCES	RESULTS
1.1 Conduct annual lake self-survey and/or professional survey	Mid-May- June	Board, Lake Management Team (LMT) leaders	SDRA member/no cost;\$2500 for professional survey	Mapped areas and scope of milfoil identified; other invasives also noted
1.2 Conduct comprehensive lake survey	Every 5-10 years, funds permitting.	Board	\$8000	RFP issued; reviewed, vendor selected. Report provided to SDRA.(Last survey 2017)
1.3 "Eyes on the Lake"	May-October	Especially boaters		Sightings of AIS or suspicious plants are reported to the President or other designee

Objective 2.0 To educate landowners & boaters re: AIS & methods for deterring AIS entry into the lake.

2.1 Implement Lake Smart Program	June - October	Jan Baker, Judy Colaluca SDRA volunteers		3+ site visits conducted annually; awards at Annual Meeting. SEE Lake Smart Program Plan
2.2 Implement Boat Greeter Program	April-September	Judy Colaluca & volunteers		30+ boats inspected; summary report filed. SEE BG Prog.Plan
2.3 Keep landowners informed: research,, newsletters, website	Year round; newsletters 4+	SDRA President, Secretary, Website Coordinator	Annual fee \$19 (often donated)	Members kept up-to-date on all significant matters

Objective 3.0 To control AIS

<i>STRATEGIES</i>	<i>TIMELINES</i>	<i>RESPONSIBILITY</i>	<i>RESOURCES</i>	<i>RESULTS</i>
3.1 Implement water drawdown <i>(limited to 54")</i>	Annually, Oct-March	Dam Master/Mike Benoit; Measurements & recording/Rico Colaluca & family; Data system maintained/Art Searle	\$200/year	Records kept with drawdown data, including water level, air temperature, lake freezing, etc. If successful, milfoil eliminated in shallower waters
3.2 Support hand harvesting of AIS: milfoil, phragmites, bladderwort, other	Annually, June-October	Board encouragement Landowners near their property; teams as needed		Training & information materials disseminated Invasives removed to extent possible
3.3 Implement DASH for small areas of milfoil	June-July	Board: to solicit divers & support volunteers	\$100/year;repairs as needed to the Suction Harvester	Patches of milfoil removed from lake to safe disposal area. See Suction Harvesting Plan
2.4 Conduct procedures for application of herbicides	November - October	Deb Silva; Janice Baker	\$ determined based on bids & # of acres to be treated	Milfoil treated. See Program Plan for Herbicides

Objective 4.0 To protect water quality.

4.1 Participate in URI Watershed Watch Program	Summer, annually	Deb Silva; Board reviews data	Private donation \$650	Samples & measurements taken at various sites, on multiple occasions & shared with Watershed Watch. See Prog. Plan:Water Quality Monitoring
4.2 Measure dissolved oxygen levels during drawdown	Selected times between initiation of drawdown & lake refill	Dam Master		Data maintained electronically See Program Plan: Maintaining Water Levels, including drawdown
4.3 Implement "2 Weeks at a Time"Program	Throughout the year	Judy Colaluca & volunteers		Area outside Transfer Station and across from it, along the lake, is trash free or greatly reduced.

Objective 5.0 To raise funds, and access funds/grants, in support of sound lake management.

5.1 Collect annual dues; and	June-July.	Treasurer; secretary support		Dues collected
Conduct follow up &	July-Sept.	Treasurer & Sec.,		Membership sustained or increased

membership drive		volunteers		
5.2 Identify fundraising events for the year	Summer	Board		List of events & key dates identified; fundraiser(s) conducted See Crystal Lake Planning Documents
5.3 Establish partnerships to support funding, such Town, Fishing Tournament Groups	Oct to Dec. Develop documents & strategies	Board & volunteers Board of Directors		Town support achieved to help with repairs to the dam, if needed, or other concerns, e.g. stormwater issue/New Rd. Town support for funding initiatives.
5.4 Pursue grants	Ongoing	Board of Directors		
5.5 Align financial resources with Lake Management Needs & Priorities	Early May	Budget Planning Committee: President, Treasurer, others appointed by Board		Budget review process conducted and recommendations for allocations determined; Budget approved by Board adopted for the ensuing fiscal year.

Objective 6.0 To engage the local community & State in support of water quality and lake preservation.

6.1 Interact with Town Council to advocate for lakes	Year round	Judy Colaluca		Town actions show understanding of lakes' needs and act accordingly.
6.2 Work with Save the Lakes (STL) to promote water quality & resources	Ongoing	Board President & Judy Colaluca		Positive results, such as funding for lakes' needs

"IT TAKES A VILLAGE"

ALL OF US WORKING TOGETHER TO ACCOMPLISH OUR GOAL & OBJECTIVES - PRESENT & FUTURE!

NOTE: Appendix follows with Program Plans & documents referenced within this document.

APPENDIX: KEY DOCUMENTS

PROGRAM PLAN: LakeSmart Program (updated 4/23)

Chair/Lead Persons: Janice Baker, Judy Colaluca

OBJECTIVE: To promote & support best practices for the care and management of the lake/ land interface on Smith and Sayles Reservoir.

DATE	ACTIVITY	WHO IS INVOLVED	COST	OTHER HELP NEEDED OR COMMENTS
June	Publicize the LS Program via Annual Meeting; followup on website & newsletters	Coordinators: Janice & Judy		Need volunteers to have their property reviewed
May-June	Develop/assemble materials for onsite property reviews.	Coordinators	\$20	Brochures, evaluation forms, LakeSmart RI Award signs; STL will donate signs
June - mid-July	Recruit & provide training for any new property evaluation team members.	Coordinators and team; Maine Lakes webinars & materials		New reviewers gain their experience by participating in a couple of visits.
July	Make logistical arrangements for onsite visits	Janice & Judy		
July - Sept.	Participants conduct self-study (optional).	Property owners		
July - Sept.	Conduct Lake Smart RI survey visits	Coordinators & team, property owners		Each visit takes about an hour or a bit less.
By mid-October	Complete analysis of data for properties reviewed	Janice		Results shared with property owners
Winter	SDRA updates data set	Coordinators		# of properties reviewed to date; Categories of Evaluation (e.g. Passed, Met Most Requirements, More Improvement Needed); any priorities emerging? Ways SDRA can help? Summary of results and recommendations for board
June	Present awards	STL/Judy		For properties visited year prior

PROGRAM PLAN: Boat Greeter Program (updated 6/23)

Chair/Lead Person: Judy Colaluca

OBJECTIVE(S): To minimize invasive species hitch-hiking via boats that enter our lake utilizing the State of RI boat ramp on Sand Dam Road, Chepachet.

<u>DATE</u>	<u>ACTIVITY</u>	<u>WHO is Involved</u>	<u>\$\$ Needed</u>	<u>Other Help Needed or Comments</u>
March/April	Contact DEM to obtain itinerary & dates of planned fishing tournaments.	Judy		Bass Fishing Association tournaments & expand to RI Canoe & Kayak Association in 2020.
April	Develop list of relevant dates & times impacting our lake; share with Board & membership & seek volunteers.	Judy; Board-sponsored outreach to membership		Develop ideas for engaging more members to volunteer for boat greeter days.
April	Develop schedule & train Boat Greeters on identification of invasive species and protocols for working with visiting vessels.	Judy; volunteers	\$20 to update & print training materials	
July	Conduct a general boat review on a weekend day(s)	Judy, volunteers		Weather dependent; opportunity for middle & high school kids to participate
April-end of September	Greet & assist boaters to recognize & remove invasive species	Committee		Modify schedule as needed throughout the season. Keep accurate records using our report form (<i>materials stored in garage at the Bakers, 72 Sand dam Rd.</i>)
October	Prepare end of season Program Report; share with Board.	Judy		Board would share full report or highlights with membership & other interested groups

SDRA PROGRAM PLAN FOR SUCTION HARVESTING: (updated 6/23)

Chair/Lead Persons: Aaron Colaluca & Art Searle with assistance from Justin Fournier, Myles Silva, Rico & Judy Colaluca, Denny Danville. Jason Dionne

OBJECTIVE: To reduce the invasive species known as variable leaf milfoil and prevent its spread by tackling “hot spots” in primarily shallower waters.

DATE	ACTIVITY	WHO IS INVOLVED	\$\$ NEEDED	OTHER HELP NEEDED OR COMMENTS
June	Assemble Suction Harvester.	Aaron, Art	\$50 for disposal bags	Disposal Bags. Other
June	Determine training dates & advertise them. Obtain blank copies of waiver forms to have prior to each SH event. Conduct training, usually as part of a scheduled harvesting event.	Aaron, Art, other team leaders	NOTE: I'll need to get a copy of this form to add to our formal database.	Update list of divers and other support personnel. Forward to Secretary. All participants are expected to sign a liability waiver form prior to participating in DASH , Team leaders should collect these completed forms and send to SDRA secretary for filing.
July - August	Conduct harvesting	Aaron, Art & Teams		Keep record if possible of number of participants in each session & some measure of accomplishments (eg. estimated pounds of weeds removed or # of bags filled, or some other measure.
Sept.	Disassemble harvester; prepare list of items needing replacement and purchase for next season	Aaron, Art	\$800 -\$100 for materials	Funds have been budgeted (2023-24) to replace deck of harvester.
Sept. or Oct.	Report on participation & accomplishments.	Aaron, Art		Board should consider how this data could be used to support grant writing, fundraising, etc.

Note: SDRA's Suction Harvester was purchased in 2016 from Aqua Cleaner Environmental (ACE) and is an Aquacleaner 5" Suction Harvester; Jerry Davis is our primary contact at ACE.

PROGRAM PLAN: Herbicides Treatment for Milfoil (updated 6/23)

Chair/Lead Persons: Deb Silva

Objective(s): To assess the need for herbicides to treat invasive milfoil and conduct activities to enable the application of herbicides when deemed necessary.

DATE	ACTIVITY	WHO IS INVOLVED	\$\$ NEEDED	OTHER HELP NEEDED OR COMMENTS
November	Prepare Bid specifications	Deb Silva, Janice Baker		Based on potential need; Board reviews the specs.
Early December	Issue bid specifications	Project Coordinator: Deb Silva		Bidders list updated
January	Conduct bid process	Deb		
February	Present rec. to Board, select vendor & review next steps	Deb & Janice	Estimated at \$1000+/acre	Vendor selected; payment schedule determined
February-mid March	SDRA prepares & submits DEM permit application	Deb; support from Janice		Specific chemicals are selected based on \$ available
May or very early June	SDRA member conducts visual survey to map existing milfoil	Art Searle		Map is shared with selected vendor
June	Lake Survey conducted	Vendor, using techniques in addition to visual surveying		# of acres of milfoil identified
3 days prior to herbicides application	Post signs around the lake alerting people of upcoming lake treatment	Deb, Cleo, additional volunteers if needed		
Late June	Application of herbicides, if needed	Vendor; Board approval & committee oversight	Fees based on acreage; very expensive	Committee ensures signage, etc. if herbicides to be applied
October	Report to Board			

Names & contact information if work involves interactions with other groups or agencies: Solitude: (508-885-0101), The Pond & Lake Connection (203-885-0184), & Water & Wetland (c: 508-250-6238 o: 888-4WETLAN(D) DEM, Division of Agriculture, Howard Cook 401-222-3129.

SDRA PROJECT PLAN: WATER QUALITY MONITORING (updated 6/23)

Chair/Lead Person: **Deb Silva**

OBJECTIVE(S): To test and record water quality for SDRA & URI Watershed Watch

DATE	ACTIVITY	WHO is involved	\$\$ NEEDED	OTHER HELP NEEDED OR COMMENTS
May	Pick up equipment from URI. On designated days, collect water samples from tributaries & main sites.	Deb Silva	Donor who wishes to remain anonymous pays SDRA's fees to URI; \$250+.	Boat is needed to get to collection sites. Son Myles can provide backup; URI course (2days) is required & offered in the Spring if new people are trained in the future.
June, bi-weekly	Filter samples & freeze; check & record water clarity and temperature.	Deb		
July	Same as June; but on day designated by URI: must sample main site & tributaries & take immediately to URI.	Deb		All lakes involved in the URI Watershed Program conduct these measurements on the same day.
August	Same as June & July	Deb		
September	Final water collection & bring water samples & frozen filters to URI & return equipment.			URI provides a report to water quality monitors regarding the findings to each participating lake. Results are posted the following year except for bacteria which is posted a few days after each water collection June , July and August.
June	Key findings are presented at the SDRA Annual Meeting	Deb		

PROGRAM PLAN: MAINTAIN WATER LEVELS, INCLUDING DRAWDOWN: (updated 2/23)

Chair/Lead Persons: Mike Benoit, Rico Colaluca, Art Searle

OBJECTIVES: (1) To maintain safe and appropriate water levels throughout the year.
 (2) To eradicate milfoil in shallower waters

DATE	ACTIVITY	WHO IS INVOLVED	\$\$ NEEDED	OTHER HELP NEEDED OR COMMENTS
Ongoing	Coordinate with Keech Pond re: opening of their dam gate.	Rico Colaluca		Tommy Chadwick is the contact for Keech Pond
Ongoing	Raise and lower dam gate as needed to support swimming & boating during summer months, & prevent flooding from high rain levels or other impacting conditions.	Mike Benoit (Dam Master)		Assistance to Mike as needed by his son, Art Searle, Dan Morin, Aaron & Rico Colaluca
Late September	Set up spreadsheet to record data for the upcoming drawdown.	Art Searle		Art continues to keep the drawdown records publicly available at https://sites.google.com/site/sdradrawdown/ .
October - March	<p>Implement lake drawdown, not to exceed 2"/day.</p> <p>Record significant data daily until max. drawdown of 54" is achieved; then weekly.</p> <p>Monitor data to identify if/when a 72-hour consecutive span occurs where the high temperatures never exceed freezing (32 degrees) & without snow cover.</p>	<p>Mike Benoit</p> <p>Rico Colaluca</p> <p>Rico Colaluca; SDRA President</p>		<p>Drawdown begins Oct. 1st or Monday closest to that date (per SDRA Policy)</p> <p>NOTE: Lake refill can and should be initiated when the required conditions have been met to kill the milfoil in exposed lakebed areas.</p>
Periodically between October - March	<p>Measure dissolved oxygen levels 2-4 times during the drawdown as weather permits.</p> <p>Forward readings to Art Searle for recording.</p>	Mike Benoit		Mike Benoit has the meter for taking measurements, a process started in approximately 2015.
March	Review drawdown data to set refill date; communicate with Dam Master.	President Mike Benoit		Consult with Rico and Art as needed. Ensure that refill is completed by end of March; refill typically does not take more than 3 days.

NOTE: Meetings with state officials to achieve approval for SDRA's 54" drawdown included: DEM Freshwater Wetland chief (retired) Russ Chateneuf & Brian Moore (no longer serving in that capacity); Dam Safety Engineer Paul Guglielmo; from DEM, Freshwater Fishing Katie De Goosh-DiMarzio 401-222-4700, x7211; DEM Office of Water Resources, Freshwater Wetlands Program, Program Supervisor Chuck Horbert, 401-222-4700, x7401; DEM Principal Freshwater Biologist Alan D. Libby.

CRYSTAL LAKE FUNDRAISER PLANNING DOCUMENTS: CHECKLIST & EVENT SCHEDULE

CHECKLIST

NOTE: ESTABLISHING DATE AND KEY COMMITMENTS SHOULD OCCUR AT LEAST 1 YEAR IN ADVANCE & ALL OTHER PLANNING SHOULD COMMENCE AT LEAST 90 DAYS PRIOR TO EVENT.

DATE of FUNDRAISER

- Date Established: _____
- Date Confirmed with:
 - Site
 - Black Tie Affair
 - Kevin Kitson
- Deposit made & contract signed

TICKETS & ADVERTISING

- Cost per ticket: \$ _____
- Total Number of tickets to be ordered: _____
 - Number of Gratis Tickets for: Black Tie Affair _____ for Kevin _____
 - Number of tickets to be sold: _____
- Ensure tickets contain reference to special dietary requirements
- Name of person ordering tickets _____
- Name(s) of people selling tickets & keeping records _____
- Ensure tickets contain ref. to special dietary requirements: *(anyone needing a vegan or gluten-free meal must so indicate to the person selling the ticket; person selling the ticket is responsible for conveying that information to primary ticket seller)*
- Determine date when tickets will first be available _____
- Determine time span for event: Starting Time: **5:30 PM**, Ending Time: **10:PM**
- Develop timeline of events for the evening
- Newsletters/Announcements should reference "Tables of 8 Recommended"
- Name of person preparing Flyer; and preparing Poster _____
- Date by which decision will be made regarding need for external advertising, e.g. Bargain Buyer: _____
- Date to Print Posters, if needed: _____ (30; place at key places in town)

CRYSTAL LAKE ARRANGEMENTS

- Determine menu (4 courses), including dessert choices: (note that including pasta has helped to have 4 courses and still maintain a reasonable price for the food: _____)
- Determine cost per meal, including gratuity: _____
- Establish total timespan for event, and time to start serving meal: _____
- Prepare layout of tables, a natural link with the ticket sales; confirm with our CL liaison;
- Communicate with Kevin Re; Menu at least 3 weeks in advance
- Day prior to event: meet with appropriate CL person to review the layout and ensure all are on same page.
- Determine availability of easels

RAFFLE

- Acquire Permit: **Must file at least 60 days in advance of function** at RI State Police Charitable Gaming Unit
- File report **within 60 days following the function**
- Ensure sufficient raffle tickets

- Cost per ticket? \$1 each, 25 for \$20
- The Raffle time will be 8 PM; the Silent Auction awards will immediately follow.
- () Colaluca family will conduct the raffle

SILENT AUCTION

- () Designate Responsibilities for items being donated: _____
- The person with overall responsibility as keeper of the items should maintain a “Master List” naming the item and the donor; *later, values will be assigned by this person, & helpers*
 - From the “Master List” establish the following sub-lists:
 - “Special Items” (value of \$300 or more)
 - “Baskets” - that names each item group into a basket & then name the basket;
 - “Artistic/Decorative/Home/Fun” - that names the item & vendor for all tangible items not included in the above 2 groupings
 - Gift Certificates, including name of each Business donor & \$ amount
 - The primary collector & the treasurer or designee doing the financial sheet should use the same 4 categories and the same names as the person collecting & grouping items
 - Share above information with Treasurer &/or Marissa
 - Share above information with Janice (for analysis after the event)
- () Solicit donations from local regional vendors: _____
- () Reach out to members at least twice for donations of goods, artwork, etc.
- () Gather Support Materials, such as baskets, frames & tripods.
- () Develop “Recognition List” noting Black Tie Affair, Kevin & business donors, to place a copy on each table
- () Develop white board information a week in advance; then add to it as needed
- () Determine workers to conduct the closeout: final bid amounts & winners

OTHER “SALES” ITEMS?

- () Identify ways to promote sales for Chepachet Village Wine & Spirits: announcements during the fundraiser, signs on the tables; collection of forms at designated pickup times, perhaps before the raffle.

OVERALL EVENT COORDINATOR: _____

EVENT SCHEDULE

4:30 PM (or earlier if room is available, Board Members arrive to:

- help set up silent auction items, signs, flowers in vases
- place “family/friends” seating labels on Tables of 8
- ensure spacing arrangements appropriate for Kevin’s items & for the Band
- Put flowers centerpiece on each table
- Place 1 copy of Business Donors list on each table

5:15 PM Greeters at door and throughout the restaurant area for:

- welcoming words
- helping people find their tables
- ENCOURAGING PEOPLE TO REVIEW THE SILENT AUCTION ITEMS & START BIDDING

5:30-6 PM “Free Time”

- For Silent Auction Bidding
- For people to greet each other

- Drinks available for purchase from the bar ([not an announcement; only if asked](#))

5:55 PM Make announcements:

- Formal Welcome & appreciation for:
 - attendance;
 - Crystal Lake;
 - Black Tie Affair,
 - Chepachet Village Wine & Spirits;
 - Business donors
 - Members & Friends Donors
Board members
- FOCUS: A message/theme should be identified each year. (e.g We are the guardians of the lake!)
- Remind people to keep bidding throughout the meal; & note the closing time for bids is 8PM
- Note that we have a 50/50 raffle; \$1 or 6/\$5; tickets will be sold during the meal; drawing at 8 PM
- Urge support for Kevin via wine purchases & turn microphone over to Kevin to talk about the wines

6 PM First course (salad & rolls) is served; additional courses to follow.

- Band starts playing around this time
- During the meal the Colalucas sell raffle tickets, with heavy push just as dessert is about to be served
- Informal reminders by Board members circulating among the tables re: silent auction items

7:45 PM Announcement by microphone to:

- put in final bids, 15 minutes to go! &
- note that the Colaluca family will be circulating - last chance on raffle tickets
- reaffirm Kevin's generous contributions/encourage purchase of wines, remind people to complete the order form that will be collected in 15 minutes

8 PM Winnings!

- First, announce & collect the order forms for Chepachet Village Wine & Spirits
- Aaron or Rico announces the \$ amount; calls for the winning ticket to be drawn; announces win
- Acknowledge Black Tie Affair - their music is an amazing contribution to this event's success
- Remind people that 10 PM (or other determined time) is the end of the fundraiser
- Thank everyone for coming & for all who contributed to its success

8:20 PM Music continues & people make payments for their silent auction winnings

10 PM Event ends; all Board members & other volunteers stay to clear out any items we brought in

NOTE: Additional planning documents and support materials are contained in the file of documents pertaining to this primary SDRA fundraiser.