

Fall 2023 Newsletter



President's Message



I offer, for my message in this Fall Newsletter, information about the visits of the Maryland Department of the Environment and Department of Natural Resources Secretaries in July as well as highlighting two key donations and provide a status on estimated project expenditures in 2023.

Bob Sutton, POA President, did a fine job capturing the key points of the visits of MDE Secretary Serena McIlwain and DNR Secretary Josh Kurtz so I decided, with his permission, to use what he wrote in our newsletter. It was a busy week for both of us and many others having both secretaries visit Garrett County the same week but very worthwhile for our organizations as well.

VISITS OF MDE & DNR SECRETARIES



SERENA McILWAIN
Secretary of the Environment

The County hosted the **Secretary of the Maryland Department of the Environment (MDE), Serena McIlwain** for a visit to the lake on July 24. Karen Meyers (Deep Creek Marina) was the boat Captain for a tour of some of the lake followed by a lunch at Dutch's of Silvertree and a discussion of issues. The Secretary was very interested in the lake issues and we did inform her of the current problems with MDE – not responding/acting on a request from the Policy Review Board (PRB) to lower the lake in the Winter; poor communications with MDE; and no communication with Brookfield Renewable Power (BRP). She was shown the near shore grass problems, the dam, and Arrowhead Cove dredging plans. The boat ride was attended by DNR; POA; PRB; DCWF; County Government; and our State Senator and Delegate. Overall, it was a good meeting and great opportunity to voice concerns and hopefully get some results. It seemed like she will make some improvements – stay tuned.

On July 26, the POA and DCWF hosted the **Secretary of DNR, Josh Kurtz**, for the day which included a boat tour (driven by Captain Brian Obrien of Silvertree Marina), a lunch at Ace's, and a discussion following lunch. We had Natural Resources Police (NRP) officials; Department of Natural Resources (DNR) local officials; POA; DCWF; PRB, County and elected State representatives, and Chamber of Commerce represented. Again, it was a very positive meeting where we emphasized the positive aspects of what has been accomplished at the Lake/in the Watershed and what could be done with additional resources. The Secretary was very impressed by how well we all work together for a common cause and left with a good knowledge of what is needed. It is evident that he is making improvements to DNR and will try to help with some of our issues. We now have a good line of direct communication with both MDE and DNR top officials and their assistants.



Bob Sutton, Bob Browning, Secretary Kurtz, Bob Hoffmann



TWO IMPORTANT DONATIONS

Other items worthy of mention are two generous donations that have been made to the DCWF, one from the Property Owner's Association of Deep Creek Lake (POA) and the other from Garrett County Government.

While the POA has made sizable donations to the Foundation previously such as in support of our purchase of Water Quality Monitors for DNR, this is the first time Garrett County Government has made a donation to the Foundation. Both of these donations will be used in support of the follow-on project to our initial Water Budget Model which was donated to MDE in 2018.

We have spoken frequently recently of this continuing effort to create a better predictive model for the purpose of determining available water in Deep Creek Lake (DCL). The model would be used to improve management of the water for the many recipients who benefit from it. This follow-on is referred to as the Groundwater Recharge Model as it will significantly enhance the predictability of the availability of water in the lake by estimating the ground-water recharge rate. The Foundation has paid the US Geologic Survey to install two precipitation gauges already and is currently working to have a Flow Gauge installed above the dam on the Youghiogheny River.

It is great to have both the Garrett County Government and the POA as partners in this notable project. Their donations will be used in support of this Flow Gauge installation, maintenance, and the subsequent creation of the Groundwater Recharge Model.



As always, the major amount of the donations we receive support projects we conduct for the Deep Creek Watershed and Deep Creek Lake. We estimate that by the end of 2023, we will have spent and/or obligated \$104,500 on projects.

The “Low-down” on Water Levels at Deep Creek Lake

When Deep Creek Lake was first formed in 1925 by the Youghiogheny Power and Electric Company, its sole purpose was to provide water for the Deep Creek Hydroelectric Power Station, and the operators of the dam exercised full control of the water levels. Over the past 98 years, various recreational uses of the waters of the lake have developed, and the ownership and management of these waters has shifted from private to public entities. The levels of the lake are now set by the State of Maryland with the intent to balance the needs of all users of its waters.

The uses of the waters of Deep Creek Lake are as follows:

- Electricity generation – water is discharged through hydraulic turbines to generate electricity and discharged to the Youghiogheny River.
- Lake water recreation – swimming, fishing and boating in Deep Creek Lake.
- Fly fishing – releases of cold water from the deepest part of the lake at the dam, through the power station and into the Youghiogheny River can reduce the river temperature and improve habitat for trout, facilitating fly-fishing
- Whitewater boating – releases into the Youghiogheny River create flow and water level conditions suitable for whitewater boating
- Snowmaking– withdrawal of water to supply snow blowing operations during the winter
- Irrigation - withdrawals of water from the lake for landscaping sprinkler systems

Not all of these uses are active at the same time and the volumes of each can vary.

Figure 1 shows these uses in a schematic format.

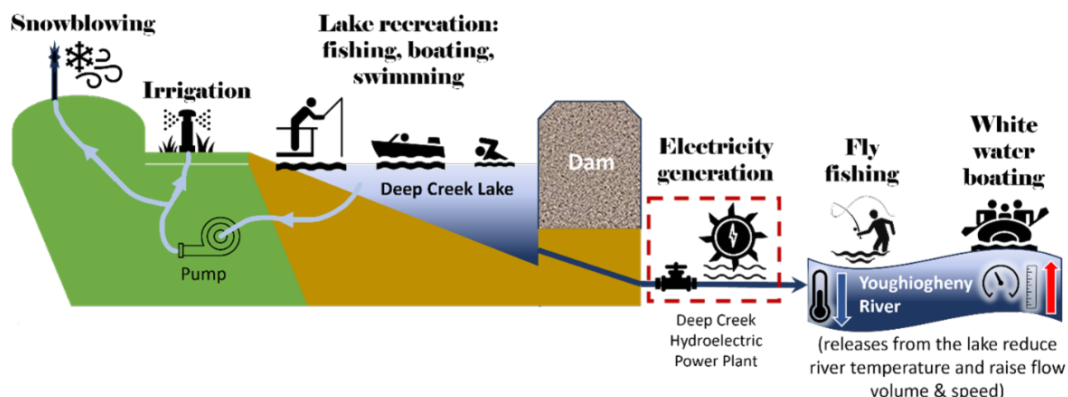


Figure 1. Uses of the waters of Deep Creek Lake

The geographical layout of the some of the features shown in the above schematic are seen in the map detail shown in Figure 2. This detail highlights the dam and penstock tunnel running underground which supplies water to the hydroelectric power station. Once the water has passed through the power station, it is discharged to the Youghiogheny River via the tailrace. It is important to note that the lake level can only be lowered via this process; raising lake levels depends on the natural processes of tributary inflow, rainfall and groundwater recharge.

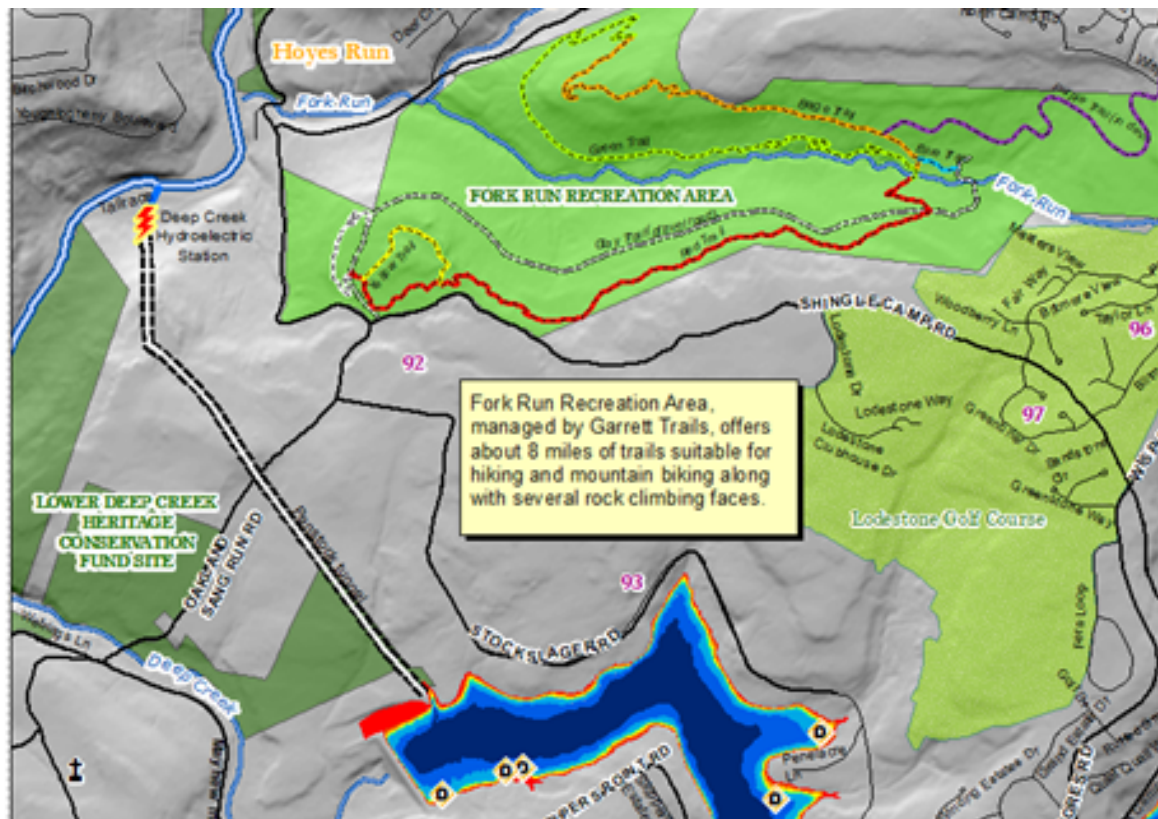


Figure 2. Map detail showing the dam, tunnel, power station and discharge to the Youghiogheny River

The State of Maryland, through the Departments of the Environment and Natural Resources, owns and manages Deep Creek Lake and attempts to balance the requirements of the various users of its waters. The Department of Natural Resources (DNR) owns the lakebed and shoreline of the lake and manages recreational use through a variety of permits and regulations. The Department of the Environment (MDE) manages the use of the actual waters of the lake via permits which govern allowable discharges and withdrawals.

The permit which governs lake levels is held by the owner and operator of the dam and power station, Brookfield Renewable Power. The current permit was issued in 2020 and is set to expire in 2032, with triennial reviews established in the permit. The permit authorizes certain levels of daily withdrawals from the lake to provide for electricity generation by

Brookfield. The permit also mandates specified releases of water from the lake for **whitewater rafting and the Temperature Enhancement Protocol for the fisheries stocking program** in the Youghiogheny River, and also specifies a "Rule Band" of lake levels **for recreational boating** which must be met, superseding Brookfield's daily allowable discharge amounts.

Figure 3 shows the Rule Band as the blue shaded area with the lake level on the y-axis in feet above sea level. Generally, the band allows Brookfield to "build-up" lake volume going into the Spring, and then discharge throughout the Summer to generate electricity (when electricity demand and prices for power are typically higher) and to support releases to the Youghiogheny River for recreational uses. The lake level is drawn down to lower levels during the Fall and Winter to minimize shoreline erosion. Although most lake-based recreational activities are relatively independent of the lake level, there are a non-trivial number of buffer-strip permit holders whose docks become non-navigable as the lake is drawn down August into September.

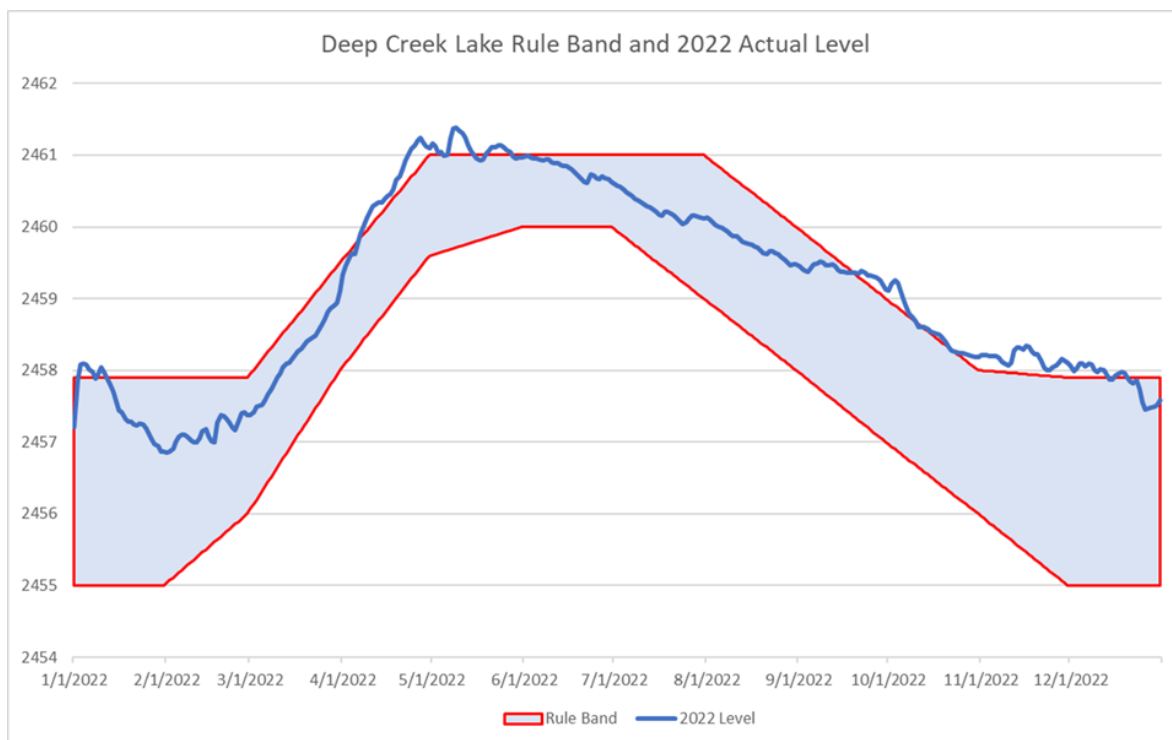


Figure 3. The Deep Creek Lake "rule band" and 2022 actual water levels

The blue line in Figure 3 shows the actual levels from 2022. Excursions outside the rule band are allowed in the permit to account for the variability of weather and the physical limits of the discharge path. Importantly, excursions are also allowed for the temperature enhancement and whitewater boating releases as specified in the permit.

The temperature enhancement release (TER) requirements generally mandates that the temperature of the Youghiogheny River stay below 25 C, the flow is kept above 40 cubic feet per second and dissolved Oxygen above 5 ppm. The necessity and duration of a TER are determined daily and are based on current and forecasted river and weather conditions.

The permit specifies a regular schedule for standard white water releases (WWR) and provides provisions for special WWRs based around local or regional events. The standard WWRs are essentially every Monday, Friday and Saturday 11:00am-2pm in June through August, with additional dates in the shoulder months of April/May and September/October.

For information on the WWR release schedule, current lake level and operating status of the generators at the power station, Brookfield operates a website, with a screenshot shown in Figure 4 at <https://www.safewaters.com/facility/deep-creek>. This data is collected at the dam and is updated live.

The screenshot displays the Brookfield Deep Creek facility page. On the left is a navigation sidebar with links for Facilities List, List View, Map View, Favorites, and Public Safety. The main content area includes:

- Facilities List:** Deep Creek, Near Oakland, MD. Updated: Sat, May 06, 04:11 pm.
- Real-time Data:** 2 as of 05/06/2023 12:10 PM (Number of Turbines Generating); 2461.22 Feet as of 05/06/2023 04:10 PM (Headwater Elevation Outside).
- FACILITY CONTACT:** 1 (857) 265-8298, inquiries.md@brookfieldrenewable.com.
- Description:** Deep Creek Hydro is a two unit, 20 MW hydroelectric generation station located in Garrett County, Maryland.
- History:** Deep Creek Hydro was built in 1925. The reservoir was created by capturing the water in the existing creek, creating Deep Creek Lake. Aside from generating electricity, Deep Creek Hydro also allows for lake level management, fisheries support and white water recreation. Current lake and station status are available below.
- Disclaimer:** Please check the generator status information or call (508) 251-7704 for up-to-date release information. The status information will be updated to show release duration times.

On the right side, there is a section for **2023 Deep Creek Whitewater Releases** with a notice about the schedule and a link to inquiries. Below this is a **Short-term Schedule** table:

START	END	Generators	CFS
05/06/2023 12:00 AM	05/06/2023 02:00 PM	N/A	0
05/06/2023 02:00 PM	05/06/2023 10:00 PM	2	610
05/06/2023 10:00 PM	05/07/2023 10:00 AM	N/A	0
05/07/2023 10:00 AM	05/07/2023 02:00 PM	1	300
05/07/2023 02:00 PM	05/07/2023 07:00 PM	2	610
05/07/2023 07:00 PM	05/07/2023 11:59 PM	N/A	0

Below the table, it states: "Changes may occur based on system requirements." At the bottom, there is a section for the **2023 Deep Creek Whitewater Schedule** with a warning to be aware of current river conditions and a link to the full 2023 Whitewater Schedule.

Figure 4. Screenshot for Brookfield's Deep Creek website

For downloadable data on current and historic lake levels and temperature, the United States Geological Survey maintains a page here: <https://waterdata.usgs.gov/monitoring-location/03075871>. This data is recorded at the State Park Bridge, and the monitoring system was paid for in part by the Deep Creek Watershed Foundation (DCWF). Water levels and water temperature information is also available on the Foundation website as well as information about DCWF's projects, Board of Directors, Advisors, and more. Visit the DCWF at www.deepcreekwatershedfoundation.org

The State of Maryland attempts to balance the needs of various users of the waters of Deep Creek Lake primarily through the permit issued to

Brookfield Renewable. This permit provides for withdrawal rates to support power generation, specifies releases for fish habitat and whitewater boating on the Youghiogheny River, and delineates predictable variations in lake levels for users of its surface waters. It is important to note that aside from electricity generation, all of the other uses are recreational – Deep Creek Lake was not designed nor has it been used in any meaningful way as a source of drinking water or as a flood mitigation reservoir. Each of the recreational uses has its own economic impact (and impact on other uses of these waters), so the hierarchy of users should carefully reflect these values.

About the author: Chris Nichols is a Garrett County native, now living in the log cabin his grandparents built on Narrows Hill in the 1930's. He is a real estate agent with Taylor Made Deep Creek Sales and is active in the community, currently serving as the Treasurer for the Deep Creek Lake Lions, VP for Membership for the Property Owners' Association of Deep Creek Lake, Vice Chair for the Garrett County Chamber of Commerce, and Editor of the Glades Star for the Garrett County Historical Society.

References:

Maryland Department of Environment, overview of Brookfield Power Permit for Deep Creek Lake,

https://mde.maryland.gov/programs/water/water_supply/pages/deepcreeklake.aspx

State Water Appropriation and Use Permit No. GA1992S009(09) -

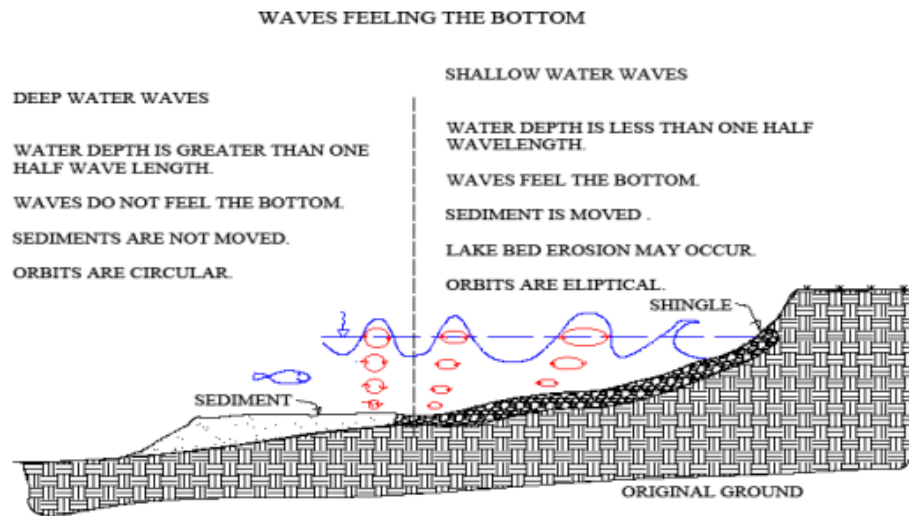
https://mde.maryland.gov/programs/water/water_supply/Documents/Deep%20Creek%20Lake/dcl-p-09.pdf

Overview page of the Deep Creek Lake Natural Resources Management Area:

<https://dnr.maryland.gov/publiclands/pages/western/deepcreeknrma.aspx>

Water Levels vs. Dock Grass

DOCK GRASSES impede the enjoyment of the docks on Deep Creek Lake. They make swimming from the docks impossible and boating difficult.



The diagram above illustrates the mechanism of shoreline erosion and the transport of nutrients from the shoreline to the shallow water around the docks. Deep water waves, deep being more than three times wave height, are basically sine waves where the water moves in a circular fashion perpendicular to the direction in which the wave is moving. Water waves carry energy from wind and or boat traffic.

As the wave enters shallower water, the bottom of the wave begins to drag on the bottom, dissipating energy... Eventually, the wave drags on the bottom, and the circular motion becomes elliptical. Then the wave breaks against the shore, giving up the balance of the wave energy to remove erodible material. The undertow of the wave carries the water from the wave and any eroded material back to deeper water. When the water level is higher than the SHINGLE the wave action chews into the soil and carries it out to deeper water. As the undertow speed diminishes to zero the sediment drops out to the bottom.

Only moving water can carry sediment. The grain size of the sediment determines the sediment load for a given velocity. The cycle of waves and undertow-borne sediment deposits the sediment in the bottom zone where the docks are. The eroded shoreline material supports the growth of the grasses there.

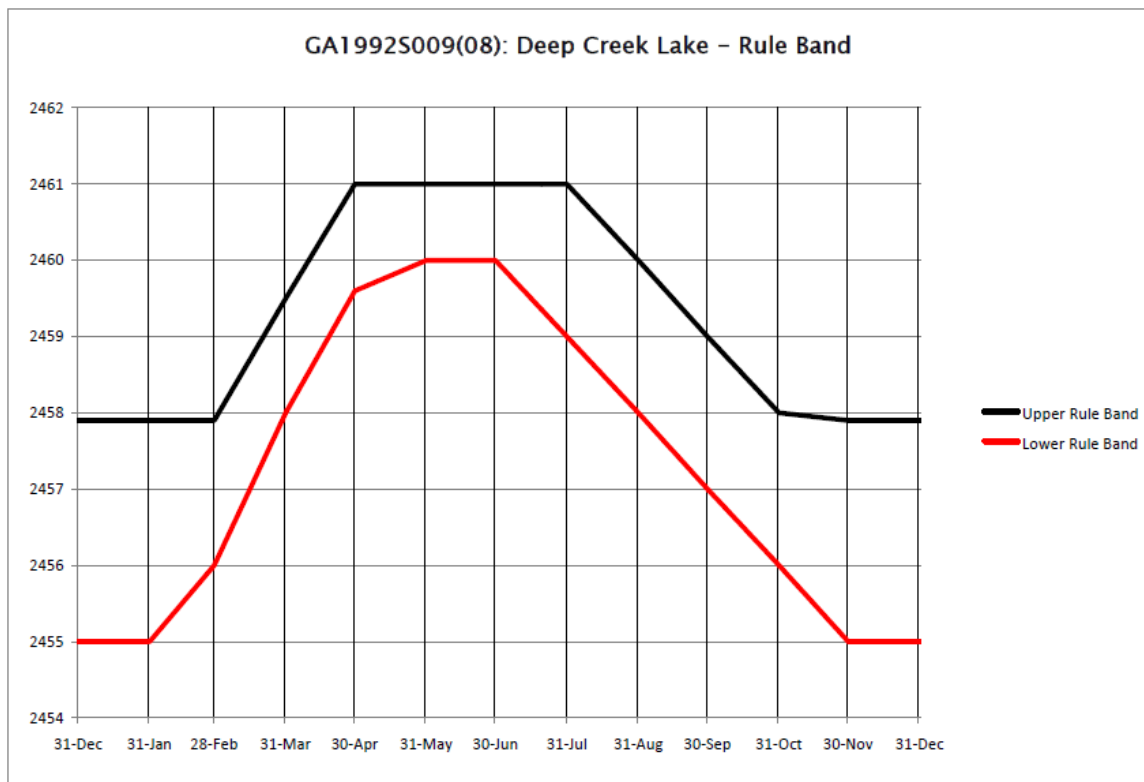
Understanding the mechanism affords the opportunity to interfere with the process. The key to interference is removing the additional nutrient-rich, eroded shoreline from the dock area.

In fall, as the water goes down, the wave action carries the fine sediment to deeper water and leaves the heavier material behind. Thus, the bottom is not as hospitable to the emergence of bottom grasses. In spring, when docks are launched, the shingle bottom, shingle meaning rocky, can be

seen, and the deeper water with a sediment accumulation. When the lake reaches full pool, the shoreline erosion continues. Soon the new shingle bottom is resupplied with sediment and nutrients, and new grasses are supported.

Interfering with the process means lowering the winter water level as low as possible from the end of November to the end of January. In the spring and summer, the power plant operator should maintain the lake water level below 2461 to protect the shoreline from wave action. The existing Water Appropriation Permit can accommodate these procedures.

Perhaps a less costly procedure to protect the shoreline from erosion consists of filter fabric staked along the shoreline at elevation 2462 toward the water twelve feet and covered with a layer of six-inch rock (not limestone) to keep it in place. In time these rocks will fill in and become an improved shoreline. Once the conveyor belt of nutrients and bedding material is eliminated, the grasses in the dock zone will be reduced. These procedures will not interfere with the growth of grasses in deeper water.



There is an apocryphal story: the power company before the state purchased the lake drew the water down 26 feet to an elevation of 2436 feet. That lake level is possible because the bottom of the outlet tunnel is at an elevation of 2410.5 feet. Given the almost one-hundred-year history of Deep Creek Lake, with no failures to be full at the end of May, no data

supports the concern that the lake will not be full in May with a winter drawdown near the lower rule band.

There is a reasonable operating procedure for the lake levels that will inhibit the growth of grasses in the lake around the docks. With support from our donors, the Deep Creek Watershed Foundation is developing a groundwater recharge model to complete the water budget model. The groundwater recharge model will afford predictions of lake refill potential based on historic rainfall. The output from the recharge model will refute arguments that lowering the lake in winter will jeopardize having a full lake at the beginning of the recreational season. Progress can be made to manage the public water that fills Deep Creek Lake to serve the stakeholders equitably.

Progress will come when a water budget model completed by adding the groundwater recharge piece is incorporated into the Water Appropriation Permit by due process.

Morgan C. France
Director of Projects

DCWF Rain Barrels Distribution is Underway



The Deep Creek Watershed Foundation sponsored a Free Rain Barrel Distribution Project. Rain barrels are an excellent way for homeowners to capture a small amount of stormwater to help reduce the negative effects of stormwater runoff.

All 50 rain barrels are in the process of being distributed to the participants.

All in-person classes have been held--- and almost half of the virtual option participants have fulfilled their educational requirements and started to pick up their barrels. In addition, we have 40 people on the waitlist for the next round of rain barrels which will likely be available in 2024.

For more information on other projects that we are involved in and how this project supports the Deep Creek Watershed Management Plan, click [here](#) to see our website.



Want a Free Rain Barrel?

In order to qualify, you must participate in a 30 minute educational class about rain barrel installation, care, and benefits to the environment and local watersheds.

Choose one session:

In Person: August 3 - 10am August 8 -10am August 8- 2pm
Virtual- At Your Convenience- August 8 -August 18

Sessions held at the University of Maryland Extension Office
1916 Maryland Highway, Ste A. Mt. Lake Park, MD.

Call 301-334-6960 or email abachtel@umd.edu to register.
Registration Deadline: July 31, 2023 Space and barrels are limited.

The Deep Creek Watershed Foundation is sponsoring this free rain barrel distribution for Garrett County residents.



MASTER GARDENER 

This Institution is an equal opportunity provider.
If you need a reasonable accommodation to participate in any event or activity, please contact University of Maryland Extension 301-334-6960

Pawn Run Celebration Event

Held Celebrating 7 Years Year of Conservation Efforts



The Deep Creek Watershed Foundation was thrilled to host Pawn Run Fundraiser Event, marking seven successful years of dedicated efforts to help to Preserve and Protect the Deep Creek Watershed and Deep Creek Lake. The event took place on Monday, June 12 at the trendy Pawn Run Kitchen & Bar. Owners and staff of the Pawn Run did a wonderful job supporting our June Event for the first

time ensuring all who attended had a great time!

As a leading organization committed to funding projects that protect our natural resources, the Deep Creek Watershed Foundation invited the community to join us in this memorable evening filled with entertainment, delectable treats, and the opportunity to support a worthy cause.

The Pawn Run fundraiser event was an enchanting atmosphere, accompanied by live music courtesy of Beyond Primitive with the extraordinary talents of Kim Alexander. Guests were captivated by their soulful melodies and vibrant performances throughout the evening.

Attendees also had the chance to participate in a thrilling silent auction featuring an array of remarkable items. Notable items were provided by Alpine Lake Resort, Oakland Golf Club, Dutch's at Silver Tree, Lowe's, Our Favorite Things Gift Shop and many items from our members.

Local artisans provided auction items for discerning tastes. Artisan Gisele Mohler donated a beautiful mosaic garden pot to enhance any outdoor space, while local artist Taylor Swift donated her own crafted Honey & Harvest earrings, a true representation of creativity and craftsmanship. Furthermore, Heidi's Bakery kindly donated a delectable bakery cake to satisfy the sweet tooth of one lucky winner.

Throughout the evening, there were cash drawings that added an extra dash of excitement, offering attendees the chance to win attractive prizes.

By attending the Pawn Run fundraiser event, guests not only enjoyed an unforgettable evening but also contributed to the Deep Creek Watershed Foundation's ongoing efforts to preserve and protect our precious Watershed. Your support helps fund crucial projects that protect our lake

and waterways, ensuring a sustainable and vibrant environment for generations to come.

We want to thank all of you who were able to celebrate with us. Together, we can make a difference!



Q: My HOA has an annual membership meeting in May. Would it be possible for a representative of the DCWF to talk to our membership about the Foundation and its mission?

Thank You,
Tony D.
Pittsburgh PA

A: Hello Tony,

Thanks for that question. We would love to attend your HOA's annual meeting; in fact, this is something that we do quite frequently. Usually, a member of our Board will make the presentation. The typical time allotment is 10 to 15 minutes, but we can adjust to fit any time slot. With a little notice, we can set up one of our displays, hand out brochures and our popular DCWF window decals. Thanks again, we really appreciate the opportunity to meet with you and your HOA.

Have a question for the DCWF? Drop us a message at info@deepcreekwatershedfoundation.org and if we use it in a upcoming newsletter, we'll send you a beautiful DCWF windbreaker.



as many have done, you can help us keep the lake and the watershed as pristine as it is now.

Our Sustained Donors program allows monthly contribution as an alternative to giving once a year.

The Deep Creek Watershed Foundation works every month, year-round, and your tax deductible gift can too. For as little as \$10 a month, when you become a Sustained Donor

[You can learn more about Sustained Giving on our website. Click here.](#)

You will see monthly levels of \$10, \$25, \$50, \$100 and \$250.

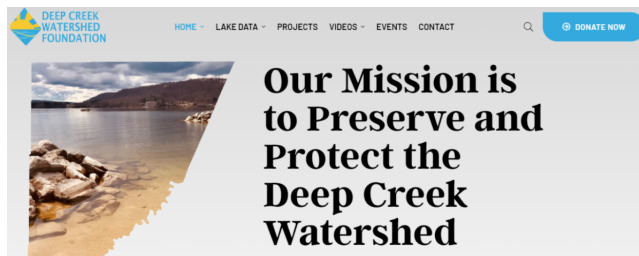
Follow and "Like" us on Facebook

Our Facebook page features our marvelous videos and other important projects and events in which we are involved.

You can also donate through our page.

[Click here to Follow us on Facebook!](#)

Learn About our Projects on the DCWF Website



Our Board members have been talking with HOAs in the watershed and other groups about the work of the Foundation, and asking about projects that the Foundation might consider funding. If you have a group that wants us to visit and present our information, and have us hear your suggestions for watershed projects we might fund in the future, please let us know by contacting [Morgan France](#).

Our Funding & How We Choose Our Projects

Each of our projects is chosen in accord with the recommendations of the Deep Creek Watershed Plan. The Plan can be found at www.garrettcountry.org/watershed/dcwmp.

Each project is closely examined by the people who make up our Board of Directors, and they make the selection of each project for funding. Each member of our Board of Directors, and each of our advisors, is a volunteer who has a strong connection to the Deep Creek Watershed. Their varied backgrounds and expertise make the Board of Directors and the advisors a highly effective organization for funding projects in the Deep Creek Watershed. The Board members and advisors are all profiled in our website, www.deepcreekwatershedfoundation.org.

Our investments in these and future projects are possible because of the generous, tax deductible gifts we get from those of you around Deep Creek Lake, throughout the Deep Creek Watershed and beyond.

Your contribution to the Foundation now at www.deepcreekwatershedfoundation.org will be a great investment in the terrific private-public water quality monitoring effort and the other projects funded by the Foundation.

Please consider a tax deductible contribution to support these important activities.

[Click here to donate..](#)

Deep Creek Watershed Foundation | P. O. Box 376, Oakland, MD 21550

[Unsubscribe](#) julialhoffmann@gmail.com

[Update Profile](#) | [Constant Contact Data Notice](#)

Sent by rahoffmann93@gmail.com powered by



Try email marketing for free today!