

The Nature Conservancy
Stream and Wetland Mitigation Program (SWMP)
Sunken Meadow FAQs

Who is TNC?

The Nature Conservancy (TNC) is a global nonprofit organization founded in 1951 that focuses on the conservation of our lands and waters. TNC has been active in Virginia for over 50 years and has protected around 500,000 acres across the state, with significant efforts in the Appalachians, in Southeast Virginia, on the Eastern Shore, and in Chesapeake Bay, as well as streams and wetlands throughout the state. TNC's stream and wetland work in Virginia is implemented through the Stream and Wetland Mitigation Program (SWMP) and has protected more than 22,000 acres across Virginia with over 10,000 of these acres now contributing to the public lands of Virginia. Areas near Surry County that TNC has helped protect include the James River National Wildlife Refuge, Chickahominy Wilderness Management Area, Hog Island Wildlife Management Area, VCU Rice Rivers Center, and Piney Grove Preserve.

What is TNC's relationship with Sunken Meadow?

TNC purchased Sunken Meadow in 2025 for conservation. Our primary goal in acquiring the property is to preserve the land. Additionally, we hope to restore the wetlands and stream systems on the property through dam removal, by reconnecting the property to the James River system to which it was historically connected. We are working with the community as we develop our conservation plans.

Why did TNC select Sunken Meadow?

The upland forests on the property contain exceptional habitats with inland seeps, freshwater wetlands, and ephemeral streams, which are now protected because of TNC's purchase of the property. As a non-profit focused on conservation, TNC aims to protect an additional 135,000 acres of land in Virginia by 2030. We also have specific goals related to restoring wetlands and streams, with a priority habitat being tidal wetlands in the Chesapeake Bay. Dam removal is a common tool used by conservation organizations and agencies, including TNC, to restore impacted streams and wetlands. The restoration of Sunken Meadow would contribute to each of these goals.

What other benefits does TNC receive from this transaction?

TNC purchased the property at fair market value from Davey Resources Group (Davey) in 2025 to conserve the property and help restore the streams and wetlands on the site in line

with TNC's mission. Beyond this, TNC receives no benefits. The real estate transaction was completed with all funds in hand from the Stream and Wetland Mitigation Program and no public funds were used.

What is the timeline for the project?

TNC is hosting a field day for Surry County residents and the public at Chippokes State Park on May 30th at 10 am to learn more about wetland and stream restoration, and visit College Run, a freshwater tidal wetland and stream complex at Chippokes that is similar to what is expected at Sunken Meadow if restoration is pursued. TNC will host a final community day in Summer 2026 before making decisions on whether to pursue dam removal. TNC hopes to decide on the next steps in August 2026 and will share this information on our website, nature.org/swmp.

COMMUNITY

What are the benefits of restoration through dam removal for the people of Surry County?

- **Protection:** As a result of TNC purchasing the property, Sunken Meadow will not be developed or timbered and is protected by TNC. With or without restoration through dam removal, Sunken Meadow will be preserved for future generations living in Surry County.
- **Community Input on Public Access:** TNC frequently works with state agencies, local organizations, governments, and other land trusts to manage land, steward it, and provide or improve public access. Should the community desire it, TNC can work with partners to provide public access such as hunting, fishing, hiking, kayaking, birdwatching, etc. The current community engagement process is helping TNC understand Surry County's residents' interest in public access at Sunken Meadow. For example, TNC could transfer the land to the state as a natural heritage preserve, to local government as a nature park, or another conservation organization (conditional on legal protections in place, such as a conservation easement).
- **Stormwater Improvements:** Certain restoration work, such as dam removal would improve the stormwater storage capacity for the areas directly upstream of the pond. Currently, the water storage space of Sunken Meadow Pond is always near maximum capacity, adding to upstream flooding during heavy storm events, as there is nowhere for the additional water to go. Restoration work and dam removal would make more space for stormwater to temporarily fill up the wetlands during high rain events and continue flowing downstream into the James River, helping to alleviate upstream flooding. Additionally, Beaverdam Road crosses over the

upstream portion of the Sunken Meadow Pond and is vulnerable to damage and/or inundation during heavy storm events.

- Water Quality Improvements: Sunken Meadow Pond has a record of not meeting water quality standards for minimum levels of dissolved oxygen, an essential quality of water to support aquatic life. Dams facilitate low dissolved oxygen. Removal of the dam would allow tidal exchange and increase levels of dissolved oxygen at Sunken Meadow.
- Risk Reduction: The dam at Sunken Meadow Road is out of compliance and the pond is slowly filling in, creating a hazardous condition for any potential recreators on the pond. Should the dam fail, it could cause uncontrolled release of the pond water and sediment that could damage the road at Sunken Meadow and the downstream inlet. With no action, the pond will continue to fill in slowly over time, reducing habitat for wildlife and becoming unsightly. If TNC pursues removing the dam, we will acquire all necessary approvals and have the oversight of state agencies. A monitoring and restoration plan will be in place to address and manage any actions that need correction.
- Financial: The Virginia Department of Transportation (VDOT) currently owns the dam outfall. VDOT will allow TNC to remove the dam outfall as part of the restoration plan and the cost of the removal would be funded by TNC using private dollars. If the dam remains, the maintenance of the dam will come through VDOT, as the dam owners. Dam removal would shift the expense of dam maintenance from the public and allow private dollars to fund the dam removal, thus saving the public money.
- Wildlife: Truly functioning wetlands are dynamic systems where fluctuating water levels, dense vegetation, and wetland soils create diverse, structurally complex habitats that support a wide range of plants, fish, and wildlife. Restoring wetlands in the footprint of the pond and reconnecting the tidal system to the James River as it originally was, would improve the habitat for the species that currently use Sunken Meadow and attract more native plants and animals to the Sunken Meadow system.

Is this community engagement required for TNC's process?

The process is not required, but TNC opted to invest in a one-year process of community conversations including open houses, presentations, print materials, and field trips. We received letters of concern pertaining to the potential removal of the dam from property owners at four local addresses, in addition to the Mayor at Claremont. Concern for wildlife was the biggest issue expressed in these public letters. Restoring stream and wetland habitat is of immense value to native wildlife, and TNC's mission is in alignment with these letters of concern. The community engagement process allows us several opportunities to

have further discussions with the residents of Surry County and incorporate the feedback into our planning.

SITE HISTORY & CONTEXT

What is TNC's relationship with Davey?

There is no ongoing relationship between Davey and TNC. Davey has no ongoing connection with the property. TNC inquired about purchasing Sunken Meadow when it was listed for sale in 2022; however, it was already under contract with Davey, who completed the purchase and took ownership of the property. Davey explored mitigation opportunities on the property for about two years, however decided not to pursue them, and became interested in selling the property. Davey knew of TNC's previous interest in the Sunken Meadow and offered to sell the property to TNC at fair market value.

How do mitigation credits work on the site?

TNC used mitigation funding from SWMP, and "In-Lieu Fee" (ILF) Mitigation program, to acquire the property. SWMP's funding comes from developers (permittees) who impact wetlands and need to buy mitigation credits to satisfy their legal obligations to mitigate those impacts under regulations like the Clean Water Act. An ILF program can only be sponsored and managed by non-governmental organizations (NGOs) and governments (local and state). With TNC's ILF program, funds are pooled from multiple impacts to finance large-scale restoration in ecologically significant locations within a similar geographic location to the impacts. Since 1995, TNC has completed nearly 150 of these projects across the state.

The parcel's previous owners (Davey) considered establishing a mitigation bank. A mitigation bank is established by a for-profit company (referred to as "Bankers") restoring a wetland or stream site which generates mitigation credits that can be sold to permittees. The Banker determined that Sunken Meadow would result in largely freshwater tidal wetland restoration, and not sufficient stream or non-tidal wetland mitigation credits to be financially viable. Therefore, Davey decided not to pursue the development of a mitigation bank and instead sold the property.

If the dam is removed, does that mean the pond will be drained?

If TNC moves forward with dam removal, the water level in the current pond will reduce and Sunken Meadow will revert to a meandering stream system flowing through freshwater tidal and non-tidal wetlands, as it was before dam construction in the late 1800s/early 1900s. There will be visible water, but less standing water than is currently in the pond today. It will

vary during the times of day and across seasons with tidal inundation and flow. At first, any exposed pond bottom may appear muddy.

Over time, native plants will recolonize the banks, creating a complex habitat that provides rich resources for a broader range of species. It will result in a more varied food habitat and better water quality. When the pond was drained temporarily in 2023 by Davey, it was for data gathering purposes. When TNC restores a stream or wetland, a plan for reestablishment of native grasses and plants is a part of the process. Some improvement will be seen immediately, though full restoration can take several years. (See ***How long does the restoration take and how long before there would be vegetation?*** for more information).

What is the current condition of the dam?

While the site was first dammed sometime between 1886 and 1912 according to historic maps, the current iteration of the dam was built in the 1960s. VDOT owns the dam and outfall. According to the regional dam safety officer, there is no current conditional or regular (six year) operation and maintenance certificate. Additionally, a Phase I report prepared by the National Dam Safety Program in 1980 identified that the spillway design is inadequate and only able to pass 8 percent of the probable maximum flood without overtopping the crest of the dam. This rate and flow volume is detrimental to earthen embankments. While the dam was in fair visual condition 45 years ago, recommendations included the establishment of a flood warning system and emergency action plan, in addition to maintenance tasks. At minimum, an operation and maintenance certificate would need to be established by VDOT. VDOT would be liable for all maintenance and repairs.

As the dam ages, Sunken Meadow will continue to change. Over time, the pond siltation alters water flow and dam function, while sediment accumulates and maintenance is deferred. The ecosystem will be further stressed with the dam in place, leading to uncertain long-term ecological outcomes. This can compromise dam integrity and increase the risk of unexpected failure, negatively impacting downstream property owners and habitats. Alternatively, a planned and controlled removal of the dam will have little/no impact on downstream landowners and ecological habitat (see ***Would removing the dam pollute the James River?*** For more information).

HABITAT

Sunken Meadow Pond provides wildlife habitat, so what happens if it is drained?

Ponds are permanently flooded, open-water systems with limited vegetation and simplified habitat structure, which restricts the diversity of plants and wildlife they can support. Truly functioning wetlands are dynamic systems where fluctuating water levels, dense vegetation, and wetland soils create diverse, structurally complex habitats that support a wide range of plants, fish, and wildlife. Restoring wetlands in the footprint of the pond and reconnecting to the James River system as it originally was, would improve the habitat for the species that currently use Sunken Meadow and attract more native plants and animals to the Sunken Meadow system.

Pond conditions lead to warmer water temperatures (as there is little vegetation to shade the water), lower dissolved oxygen, and reduced suitability for many aquatic and migratory species compared to wetland ecosystems. Based on the last sample evaluated by the state in 2016, Sunken Meadow does not currently meet minimum state standards for levels of dissolved oxygen and is labeled “not supporting” aquatic life due to dissolved oxygen and “not supporting” recreation due to levels of *Escherichia coli* (*E. coli*).

The listed cause for the low levels of dissolved oxygen is the dam impoundment. By turning flowing streams into still water found in ponds, the natural aeration processes that increase dissolved oxygen is reduced and the slow-moving water allows algae and organic matter to settle and decay. The large growth of bacteria breaking down this organic matter consumes massive amounts of oxygen, bringing down the oxygen levels. At low levels of dissolved oxygen there is severe stress on aquatic wildlife which can lead to mortality of fish, shellfish, and other aquatic life due to suffocation. With poor water quality, there are fewer individuals, smaller individuals, and fewer species using the aquatic system. This reduces the diversity and population sizes of not only aquatic species, but also the land and sky species that eat aquatic species. A dammed pond is a wetland that filled with too much water. It is a drowned wetland.

On the other hand, freshwater tidal wetlands are dynamic systems where regular tidal exchange improves dissolved oxygen, nutrient exchange, supports migratory and resident species, and promotes higher biodiversity and overall ecosystem health. Vegetative cover in these wetlands increases water uptake and enhances overall stormwater storage capacity.

What is the benefit to local wildlife from any changes proposed by and/or planned by The Nature Conservancy?

The species that currently use Sunken Meadow Pond would continue to use the wetlands and stream system following dam removal. A complex wetland habitat, new vegetation, and reconnection with the James River will attract new species of plants and animals. For

example, Atlantic sturgeon, blue back herring, and hickory shad could pass through a reconnected stream channel and access the tributaries that continue upstream. Many bird species will be drawn to wetland vegetation for food, foraging, and covering. The water quality will be improved and will reduce chances for algae blooms and fish kills.

Tundra Swans are known to use Sunken Meadow Pond as they migrate up the James River from autumn through early spring. While Tundra Swans swim and sleep in open water (like the James River and ponds like Sunken Meadow), they need true wetlands for foraging, which (as of now) only occur in fringe habitats around the edges of the pond where you see lots of vegetation. The Tundra Swans that over-winter in the Chesapeake Bay feed almost exclusively on clams from the mud in tidal wetlands. They also eat dried seeds clinging to the tops of wetland grasses, as well as agricultural grain where it is available. Dam removal would allow for much more wetland habitat, filled with wetland vegetation and tidal mud that will provide more resources and food for species like this swan. While they may not linger to swim/sleep in the creek as they do the current pond, they would still have the critical wetland habitat as they use the open water of the James River.

More wetlands would be available for wildlife. Most species using the pond currently are benefiting the most from the fringe wetlands around the pond and the extensive forests/springs/seeps, rather than the open water pond itself.

Could the pond be dredged and the dam repaired to keep the pond?

Dredging the pond would further reduce the quality of existing habitat at Sunken Meadow and would not benefit wildlife. The only purpose of dredging is to make a deeper pond and reduce sedimentation and pressure on the existing dam outfall. The water quality at Sunken Meadow is already impaired with low dissolved oxygen and E. coli levels that are too high for recreation. A deeper pond will not correct these issues, and the pond will not become safe for swimming. TNC will not dredge the pond. All mitigation funds that TNC has available for projects are approved by the United States Army Corps of Engineers (USACE) and any dredging or dam maintenance is not an approved use of mitigation funds. As for the dam outfall, it is owned by VDOT, and any repairs or maintenance would have to be funded by VDOT. TNC is not liable for the dam. Maintenance and repairs needed to the dam are unknown and would have to be studied.

PROCESS

What research have you done to prove the stream is tidal?

When Davey temporarily drained the pond, they were able to take aerial imagery and conduct a series of on the ground surveys cross-sections across the pond bottom. These

measurements, along with Mean High Water (MHW) and Mean Higher High Water (MHHW) data TNC obtained from the US Geological Survey, suggest tidal influence. Additionally, per National Wetlands Inventory Data—a publicly available dataset—and sampling data from the Virginia Department of Conservation and Natural Resources, the streams and tributaries along the Lower James River shoreline surrounding Sunken Meadow are tidal streams (with the accompanying freshwater tidal wetlands).

We anticipate the tidal influence of the James River to extend all the way to Beaverdam Road. College Run at Chippokes State Park is a freshwater wetland system similar to Sunken Meadow (comparable in drainage size, soils, and topography) and represents what Sunken Meadow may look like following restoration.

What further research is TNC planning?

If TNC were to proceed with dam removal, we would contract engineers to prepare models and design plans that would involve studying the pond, sediment, and dam removal. Necessary bathymetric measurements across the entirety of the pond are required to model the exact amount of tidal influence into the Sunken Meadow stream channel. TNC will not begin this work until we finish the community engagement process and reach a decision about removing the dam.

Would dam removal impact Sunken Meadow Road or the downstream channel?

No, Sunken Meadow Road and the bridge would remain as-is. Only the dam control structure would be removed and the areas immediately around the control structure stabilized. The previous landowner's engineers looked at this issue and determined that there would be no impact on the culvert under the roadway or downstream channel below the dam. This assessment would be repeated by contractors hired by TNC.

Would removing the dam pollute the James River?

No. Removing the dam would have the opposite effect and provide benefits to water quality. Dams significantly pollute rivers and degrade their ecosystems through chemical, thermal, and physical changes. They do this by trapping excess nutrients and sediment resulting in low-oxygen "dead zones." In a free-flowing system, these nutrients and sediment flow through the system without building up in singular locations. In fact, sediment is a vital element for rivers, streams, and wetlands as the foundation of aquatic habitats. While excessive sediment running off from development can cause pollution, many waterways suffer from "sediment starvation" due to dams and development, necessitating habitat restoration, shoreline protection, and land improvement.

If TNC pursues dam removal, all permits and approvals will be in place with state agencies and plans developed by engineers. To get these permits, data is collected to model the sediment and pond conditions. These models are used to determine the best method to remove the dam and release the water and sediment. The release would be controlled and appropriate to protect downstream. Any impacts will be short and temporary, and the process will remove the source of negative water quality and impacts, which is the dam.

How long does the restoration take and how long before there would be vegetation?

If TNC were to start the process towards dam removal today, it would take at least 2 years before TNC would have plans, approvals, and permits in place to remove the dam. During this time, TNC would be contracting with engineers, developing plans, and coordinating with state agencies. Following this, the actual construction may take as little as 6 months. After construction, TNC would monitor the restoration for the following 7-10 years.

At first, the drained pond bottom will appear muddy, but natural vegetation in the system will start to regrow during the first growing season and will grow quickly. TNC may do additional planting of bare root material and live stakes, and these will take a few years before they fully establish. For some species, like cypress trees, it will be many years before they become a sizable tree. The target planting community will be based on a nearby reference wetland, such as College Run at Chippokes State Park.

Will there be public access?

During the first two open houses held by TNC in November 2025 and February 2026, we heard from attendees that having public access to Sunken Meadow (such as trails, fishing, nature-watching, kayaking) is desired. TNC often purchases land, restores it, and then transfers to a state agency or other entity for public access and recreation purposes. In this case, TNC could transfer the land to the state as a natural heritage preserve, to the local government as a nature park, or another conservation organization. TNC can also sell the land to a private conservation buyer, subject to a conservation easement that would keep the land conserved in perpetuity, but this would not likely provide public access. Based on public feedback, we will first explore options with partners who would be interested and able to provide public access.

Will mosquito populations increase?

The mosquito population will not increase with wetland restoration or dam removal. While mosquitoes are an unpleasant fact outdoors during Virginia summers, the stream with tidal exchange will be less hospitable for mosquito breeding than the pond.

Have you considered building a fish ladder rather than removing the dam?

Fish passage is only one of the ecological benefits of dam removal and fish ladders are limited in their success, often only successful when designed for a singular species. A free-flowing stream and wetland is a critical ecological resource. Dams, ditching, draining, filling, and development have impacted more than 40% of Virginia's historical wetlands. Sunken Meadow is one of those systems, dammed more than one hundred years ago. Wetlands provide numerous services such as better stormwater control during heavy rains and high tides; water quality improvements; and serving as essential habitat for many of Virginia's important species. Fish ladders can potentially provide passage for one or two species, but do not replace all the services wetlands provide. They also require continued maintenance, are expensive, and do not guarantee 100% passage.