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MALLARD LAKES FLOOD-RELATED HISTORY

(text highlighted in blue are hyperlinks to source documents)

- Mallard Lakes (ML) is a community of 477 townhouse units in West Fenwick/Selbyville, DE, constructed between 1986 and 1993.
- Prior to 1986, ML was farmland and was rezoned for residential use (Source: Mallard Lakes Historic Maps) . This development was one of the first master planned communities on the Route 54 corridor (Source: Bunting Development Corporation).
- All of ML's units are situated on man-made tidal (40% of the buildings) or freshwater (60% of the buildings) lakes. Over time, due to coastal sea rise, the fresh water lakes have turned brackish, due to the tidal lake water backing up into the fresh lakes (Source: Stacey Selby)
- All 5 lakes are considered storm ponds. As part of the Delaware Wetland Act of 1973, the tidal lake is considered a Delaware/National wetland area, which requires Delaware and the US Army Corps of Engineers (USACE) permits for construction projects. Freshwater storm ponds are regulated by Delaware, but not by the federal government for permitting purposes (Source: USACE).
- All lakes are connected through underground pipes, allowing freshwater lakes to drain excess water into the tidal lake. (Source: Stacey Selby)
- Most of ML is in a Special or Hazardous flood area (NFIP Flood Map), requiring flood insurance to retain owner's mortgages
- In 1995, FEMA raised the elevation requirements for new construction, but ML was grandfathered under the previous standards. (Source: News articles below)
- The 2001 Route 54 improvement project (which included the construction of an elevated causeway near Mallard Lakes) replacing the culvert that feeds water from Assawoman Bay into the ML tidal lake. The new culvert's dimensions were the same as the old culvert (48") (Source: Tricia Arndt). However, the old pipe had both ends covered in crushed rock gravel which was removed with the installation of the new pipe. The effect of removing the crushed rock gravel was to effectively increase the daily thruput of tidal waters into and out of the Salt Pond from Assawoman Bay (Source: ML Tidal Water Report)
- Since 2001, the average height of the daily high tide increased by approximately 6-10 inches. It is estimated that It is estimated that the mean high water in the Salt Pond has increased between 1- 1.5 feet since its original construction ca. 1986. (Source: ML Tidal Water Report))
- In 2004, the Association obtained a Subaqueous Lands Permit authorizing 1,200 linear feet of low-profile rip-rap. The permit conditions indicated that the rock could not exceed adjacent ground elevation, just allow normal tidal inundation, and could

not obstruct the Rt. 54 culvert. These conditions **limited the effectiveness** of shoreline armoring as a long-term solution (Source: Mallard Lakes V Reba compliant)

- In 2009, Morris & Ritchie Associates evaluated a conceptual water-control structure near Route 54. The concept was designed to allow normal tidal exchange while reducing water inflow during above-average tidal flooding events, with the goal of minimizing tidal flooding of the Mallard Lakes ponds and adjacent properties. The evaluation outlined permitting pathways and estimated costs but no structure was ultimately constructed (Source: Morris Ritchie Estimate). In later years, the Association characterized the concept as insufficient to address daily tidal inundation and flooding from multiple ingress pathways, and it was not pursued further. *(Sources: Morris & Ritchie Associates, June 10, 2009; Mallard Lakes v. Reba Amended Complaint)*
- Significant flooding from Sandy in 2012 resulted in four buildings being considered "substantially damaged" (repair costs exceeding 50% of the market value of the property). Sussex County waived the prescribed building permit process to make rebuilding quicker — a decision later identified as problematic when FEMA required post-storm compliance reviews (Source: Todd Lawson). In cases of Substantial Damage, FEMA required that any reconstruction meet the current building code which would have required that the four affected buildings on the Island be elevated by a minimum of 4 feet (Source: Mallard Lakes Tidal Rise Report). FEMA warned that Sussex County could lose flood insurance unless mitigation measures (e.g., building elevation) were taken to bring the buildings to current standards (Source: Various Newspaper Articles). A dispute arose over whether the cost of required elevation should be borne solely by the affected unit owners or shared across the entire community, leading to litigation. Sussex County withheld occupancy permits for the affected buildings pending compliance (Source: Todd Lawson). Subsequent discussions with FEMA and the County reportedly resulted in changes to the "substantial damage" designation and the eventual reissuance of occupancy permits. The lawsuit was later settled. (Source: Mallard Lakes Tidal Rise Report).
- In 2014, an engineering firm, paid for by the owners on Hummingbird Lane (Source: ML Tidal Water Report), conducted an engineering study on the cost to elevate the 6-unit buildings on the Hummingbird Lane "Island." (Source: ML Tidal Water Report). The study was undertaken to support potential FEMA-related analysis and required credible engineering and cost information. The evaluation examined foundation alternatives (including modified pilings and masonry columns), identified permitting pathways involving Sussex County, DNREC, and the U.S. Army Corps of Engineers, and produced cost estimates on the order of $330,000–$400,000 (then-year dollars) to elevate a six-unit building. No elevation project ultimately proceeded. (Source: Mallard Lakes v Reba Compliant).

- In 2014, Sussex submitted a FEMA grant application on behalf of Mallard Lakes to help secure funding for elevation (Source: Todd Lawson); however, FEMA denied a Sussex County grant request due to higher priority Hurricane Sandy losses (Source: News articles below).
- In 2015, Mallard Lakes was added into the DNREC Drainage RC&D Projects list, with an estimated $200K set-aside from improved drainage (Source: Jesse Baird).
- In 2016, a ***Federal Interest Determination*** was conducted on properties surrounding the Little Assawoman Bay by the US Army Corps of Engineers, which determined if Mallard Lakes was eligible for their Continuing Authority Program #205 for flood mitigation. The Corps would conduct a feasibility study and perform construction, providing 50 percent federal cost-share for the study and 65 percent cost share for construction. At first, Sussex County had volunteered to contribute the remaining 50 percent for the study, but subsequently declined to participate. ML is still eligible for this funding. (Source: Jason Miller)
- From 2013 to 2024, the Association performed joist reinforcement occurred in 2013 where deterioration was observed. Repeated under-floor insulation replacement occurred as flooding recurred (Source: Mallard Lakes V Reba Compliant).
- In 2019, a Delaware Department of Natural Resources and Environment Control (DNREC) Wetlands specialist – Allison Rogerson -- visited the site, and ideas were -exchanged, but limited options were considered viable. (Source: Stacey Selby, Allison Rogerson)
- The SussexCounty-Multi-Jurisdictional-Hazard-Mitigation-Plan-2022.pdf listed Mallard Lakes as a high risk community and indicated they would support a FEMA grant request for flood mitigation assistance.
- There have been no other government studies performed on Mallard Lakes to determine how to remediate flood concerns. (Source: Scott Saunderson, Kathy Potter, Jamie Whitehouse, Tim Cooper)
- In 2023–2024, the Association began transitioning to more resilient insulation approaches due to frequent inundation. (Source: Mallard Lakes v Reba complaint).
- In 2023, the Association created an Ad-Hoc Buildings-on-Piles Ongoing Maintenance/Repair Committee. The committee: Compiled technical history, evaluated insulation failures, recommended closed-cell spray foam. The Board approved phased conversion to spray foam with costed proposals. (Source: Mallard Lakes v Reba complaint).
- In early 2025, the Association initiated a Joint Permit Process (JPP) with DNREC and federal agencies. The concept explored a variable-flow tide-limiting gate near Route 54, agencies did not reject the idea outright and provided structured next steps. Follow-up included surveying ownership/easements and coordination with DelDOT and Sussex County (Source: Mallard Lakes v Reba Compliant).
- In summer 2025, the Association met with DelDOT. They discussed design constraints, maintenance and indemnity, and hydraulic analysis requirements.

DelDOT said that they would only consider designs that did not burden the roadway or the culvert. (Source: Mallard Lakes v Reba Complaint).

- MLs has had 44 National Flood Insurance Program (NFIP) claims, totaling approximately $2 million. (Source: Jamie Carpenter)
- New construction in the inland bay area is filling and hardening additional wetland areas, reducing the land's ability to accommodate flood surges and exacerbating sea level increases.
- In addition to water inundation due to sea level rise, ML has instances on the Hummingbird Lane "Island" (and potentially other areas) of "subsidence" (sinking of land), which compacts the underlying sediment and lowers the land surface, also intensifying the impacts of rising sea levels and increasing flood risk. (Source: Todd Fritchman)
- About 20 ML units have sold per year in recent years (Source: Chris Reutershan). Over average, since 2017, about 140 units have sold – a third of the Mallard Lakes community.

REFERENCES

Articles:

- DelmarvaNow.com, "Mallard Lakes resident: dispute 'going nowhere'" written by Gray Hughes, published 5/9/2017 (Mallard Lakes resident: dispute 'going nowhere')
- Delaware Online, "Owners seek help to jack up flood-prone condos," written by James Fisher, The News Journal, published 6/11/14 (Owners seek help to jack up flood-prone condos)
- Independent American Communities, "4 years after Sandy, it's a no-win situation at Mallard Lakes, " written by Deborah Goonan, published 7/24/2016 4 years after Sandy, it's a no-win situation at Mallard Lakes • Independent American Communities
- Delmarva Now, "FEMA spurns Mallard Lakes Sandy grant bid" written by James Fisher from the News Journal, published 10/25/2014.
- Delmarva Now, "A Sandy headache that won't go away" written by James Fisher from the News Journal, published 11/05/2015.

Experts and Titles:

- Stacey Selby, Mallard Lakes Maintenance Manager
- Alison Rogerson, DNREC Wetlands Department
- Kathy Potter, DNREC Floodplain Management
- Tim Cooper, County Emergency Manager, Sussex County

- Jamie Whitehouse, Sussex County Floodplain Administrator
- Todd Fritchman, President and CEO of Envirotech Environmental Consulting, Inc.
- Robert Youhas, US Army Corps of Engineers, Regulatory Branch
- Rachel Ward, US Army Corps of Engineers, Regulatory Branch
- Jamie Carpenter, Federal Emergency Management Agency Region 3 Floodplain Management Specialist
- Jason Miller, US Army Corps of Engineers, Silver Jackets and Flood Plain Management
- Scott Sanderson, US Army Corps of Engineers, Chief Project Development Branch
- Todd Lawson, Sussex County Administrator
- Jesse Baird, Program Manager, DNREC Drainage
- Tyler Brown, Environmental Program Manager, DNREC Drainage

Key Reference Documents:

- Coastal Sea Rise statics for Sussex County Sussex_County_DE.pdf
- Bunting Development Corporation Website Mallard Lakes — Bunting Development Corporation
- Sussex County Multi-Jurisdictional Hazard Mitigation Plan, dated July 2022, prepared by the Olson Group (SussexCounty-Multi-Jurisdictional-Hazard-Mitigation-Plan-2022.pdf)
- Delaware Regulations: Administrative Code: Title 7: 7000: 7502 Wetlands Regulations (7502 Wetlands Regulations)
- National Flood Insurance Plan Flood Plain Map for Mallard Lakes, NFIP Flood Map
- Deeds to Mallard Lakes, which include building plans, Deeds to Mallard Lakes
- Wetland Maps to Mallard Lakes, Delaware Wetland Maps
- National Wetland Inventory Links, Wetland Mapper
- Firstmap Historic Imagery, Mallard Lakes Historic Maps
- Environmental Protection Agency, flooding effects of filling wetlands, Wetlands: Protecting Life and Property from Flooding
- USACE Continuing Authorities Program #205, CAP 205
- USACE Federal Interest Determination (FID), CAP #205, Flood Risk Management Study, Delaware Bayshores, DE, dated April 2016
- ML Tidal Water Report
- Delaware RC&D List