

Disclaimer

These minutes reflect the actions taken by the Commission during its July 12, 2024 meeting. Although these minutes have been approved by the Commission, no action authorized by the Commission during this meeting, as reflected in these minutes, shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of these minutes has been delivered to the Governor for review, unless prior to expiration of the review period the governor approves same, in which case the action shall become effective upon such approval. These minutes were delivered to the Governor on July 18, 2024.

PINELANDS COMMISSION MEETING

MINUTES

July 12, 2024

*All participants were either in-person or present via Zoom conference and the meeting was livestreamed through YouTube: <https://www.youtube.com/watch?v=xtsNvWToGN0>*

Commissioners Participating in the Meeting

Nicholas Asselta, Alan W. Avery Jr., Dan Christy, Jerome H. Irick, Mark Lohbauer, Mark Mauriello, Jonathan Meade, William Pikolycky, Jessica Rittler Sanchez, Douglas Wallner and Chair Laura E. Matos. Also participating were Executive Director Susan R. Grogan, Deputy Attorney General (DAG) Jay Stypinski and Governor's Authorities Unit representative Alexis Franklin.

Commissioners Absent

John Holroyd and Theresa Lettman.

Call to Order

Chair Matos called the meeting to order at 9:38 a.m.

DAG Stypinski read the Open Public Meetings Act Statement (OPMA).

Executive Director (ED) Grogan called the roll and announced the presence of a quorum. Eleven Commissioners participated in the meeting.

The Commission pledged allegiance to the Flag.

#### Election of Vice Chair

Chair Matos requested a nomination for Vice Chair. Commissioner Irick nominated Commissioner Avery to serve as Vice Chair. Commissioner Pikolycky seconded the nomination. All were in favor.

Vice Chair Avery thanked Commissioners for their support.

Chair Matos said Committee assignments will remain the same for Fiscal Year (FY) 2025.

#### Minutes

Chair Matos presented the minutes from the Commission's June 14, 2024 meeting. Commissioner Irick moved the adoption of the minutes. Commissioner Lohbauer seconded the motion.

The minutes from the June 14, 2024 Commission meeting were adopted by a vote of 11 to 0.

#### Committee Reports

ED Grogan provided a summary of the June 18, 2024 Personnel and Budget Committee meeting:

The Committee approved the minutes from its March 26, 2024 meeting.

Staff provided the Committee with a series of financial updates, including the check register, electronic disbursements and application fees. A summary of employee actions and recruitment efforts was provided. Staff also made a presentation on anticipated application fee revenue and financial projections for Fiscal Year 2025.

#### Executive Director's Report

ED Grogan provided information on the following matters:

- Commission staff continue to work with staff members from the New Jersey Historic Trust and the New Jersey Department of Treasury in preparation for the restoration of Fenwick Manor. Staff met with the new liaison from the New Jersey Historic Trust. The scope of work for the project is complete and a Request for Proposals (RFP) will be issued any day.

- The Commission's FY 2025 budgets are being finalized and potential FY 2025 Work Plan Projects will be discussed at the July 26<sup>th</sup> Policy and Implementation (P&I) Committee meeting.

Chuck Horner, Director of Regulatory Programs, provided information on the following regulatory matters:

- Staff met with the applicant who is proposing a solar facility at the Southern Ocean Landfill. Staff hopes to visit a site outside the Pinelands Area that has comparable Threatened and Endangered (T&E) species issues to see how they have been handled. The question that needs to be addressed is: can a solar project be designed to protect the critical habitat of a T&E species.
- Staff issued a memo to the New Jersey Department of Environmental Protection (NJDEP) Pesticide Control Program indicating that the permit to herbicide Hammonton Lake will not raise issues with the Pinelands Comprehensive Management Plan (CMP). Staff spent many months communicating with the Town of Hammonton regarding its request to treat the lake with herbicide. A T&E plant species was identified in the lake, and it was necessary for staff to consult with the NJDEP and other experts in order to confirm that when the herbicide is applied, the drift potential would not have a negative, adverse impact on the species. The Town is required to complete a T&E survey after application of the herbicide to determine what effects, if any, there were on the T&E plants.
- Staff recently sent a follow-up letter to the property owner who deposited fill and soil to widen an existing driveway for an agricultural use on Magnolia Road in Pemberton. The property owner must submit soil results by August 12, 2024. Staff reached out to the Burlington County Health Department to determine if their office could assist with the matter but was advised that the NJDEP is the lead agency.
- Staff recently reviewed a preliminary and final site plan approval for the construction of a commercial building and a two-story office building in Evesham Township. During that review, staff determined that Evesham Township, whose municipal complex is adjacent to the property, proposed an access driveway and parking improvements on the adjacent privately-owned parcel to better route its emergency personnel. Staff advised Evesham Township a public development application must be completed to expand the parking area for its police department.

Commissioner Wallner asked if the parking lot that Evesham is proposing is on the site of a former nursery. He said if so, the site is an impacted area and would be a good solution to solve the parking issues for the police department.

Director Horner said the parcel was previously a farm market and he noted that he does not anticipate that the proposed parking lot will have issues meeting CMP standards.

Commissioner Avery said he is familiar with the Southern Ocean Landfill site and said there is an existing partnership agreement with the NJDEP for post-closure activities.

Director Horner said the applicant has agreed to assume all responsibilities for the maintenance and monitoring of the landfill if the application to place solar on the landfill comes to fruition.

Commissioner Avery said he would like to be kept informed on the matter because there is an escrow account with a significant amount of funds designated for the post-closure of the landfill.

Commissioner Lohbauer complimented Mr. Horner for his creativity in coming up with solutions to address complicated applications involving solar facilities and T&E species. He noted that he particularly liked the requirement for a follow-up survey at Hammonton Lake.

Gina Berg, Director of Land Use Programs, provided an update on the following matters:

- Staff participated in a mitigation consultation meeting organized by the New Jersey Office of Emergency Management and the Federal Emergency Management Agency (FEMA). The purpose of the meeting was to learn what state agencies are doing regarding climate resiliency.
- Staff participated in the State Agriculture Development Committee's (SADC) first technical advisory committee meeting to discuss the Statewide Farmland Preservation Formula that the Legislature has tasked SADC with developing. Attendees included Commission staff, representatives from Rutgers University, county representatives, members from SADC and farm representatives. The purpose of the meeting was for participants to provide input on the formula and provide true value to farmland. The formula will mostly follow the Pinelands Valuation Formula. There was a discussion about limiting the square footage of future dwellings on the land, something that Mercer County has implemented.
- An office-wide composting program will launch later this month.
- The Commission is accepting proposals for land acquisition projects that are located in specific Pinelands Conservation Fund target areas through September 13, 2024.

Stacey Roth, Chief, Legal and Legislative Affairs updated the Commission on the following two matters:

- A draft Memorandum of Agreement with Stafford Township for trail accessibility at Forecastle Lake will be on the July 26<sup>th</sup> P&I Committee meeting agenda.
- The Board of Public Utilities (BPU) released its draft rules for the Dual Use Solar energy Pilot Program. The process by which Pinelands farmers can participate in the pilot program still needs to be determined.

Brad Lanute, Chief Planner provided an update on municipal adoption of model ordinances related to stormwater management and water management:

- As of July 1st, the Commission has received 20 adopted model ordinances, and anticipates receiving another 20 adopted ordinances during the month of July. Staff will continue to monitor adoptions and do outreach as needed.

Mr. Lanute noted that the State Planning Commission has not adopted a new preliminary state plan. According to the June meeting minutes of the State Planning Commission, the Office of Planning Advocacy is still receiving and incorporating comments from various state agencies.

Commissioner Rittler Sanchez asked if there was a correlation between the stormwater ordinance and the model tree ordinance. She said some trees are better at absorbing water.

Mr. Lanute said municipalities in the Pinelands Area and across the state are addressing the tree ordinance based on the Tier A MS4 Permit, which is directly tied to stormwater management responsibilities. He added that the stormwater management rules that the Commission adopted include Best Management Practices for landscaping. He said right now the state is very focused on the importance of the replacement of trees that have been removed.

Paul Leakan, Communications Officer, provided an update on the success of 8<sup>th</sup> Annual Pinelands Summer Short course and the importance of the Commission's Instagram page in creating awareness about the Pinelands. He said the Commission's Instagram site was recently recognized by South Jersey Magazine in its Best of South Jersey Awards for 2024.

#### Public Development Projects and Other Permit Matters

Chair Matos introduced a resolution for the demolition of a water storage standpipe and the construction of a communication tower in Stafford Township.

Commissioner Pikolycky made a motion Approving With Conditions an Application for Public Development (Application Number 1984-0036.017) (See Resolution # PC4-24-13). Commissioner Irick seconded the motion.

April Field, Chief Permit Administrator, said this application is for the removal of a 111-foot standpipe that is no longer needed since the town is extending the water main in the area. The standpipe is 50 years old or older. Any structure that is 50 years or older requires an application to the Commission. There is an existing communications antenna on the standpipe. The town is proposing to construct a temporary tower while the permanent communications tower is constructed. The applicant is required to remove the temporary tower within 90 days from the time the permanent communications tower is in place.

Commissioner Rittler Sanchez asked if the proposed communications tower is taller than the standpipe to be demolished.

Ms. Field said the permanent communications tower will be 130 feet tall.

The resolution was adopted by a vote of 11 to 0.

#### Public Comment on Development Applications and Items Where the Record is Open

No one from the public provided comment.

#### Ordinances Not Requiring Commission Action

Mr. Lanute said staff reviewed 17 ordinances in the past month that did not require Commission action. He said 11 of those ordinances were related to stormwater and water management regulations. The other ordinances were related to flood damage prevention, cannabis and a minor change to the Haines Boulevard Redevelopment Plan in Waterford Township.

#### Long-Term Economic Monitoring Report Presentation

Steven Simone, Planning Specialist, presented the 2022 Long-Term Economic Monitoring (LTEM) Report, which adds data from the years 2018 through 2022. All core indicators from the previous report were included and updated. The population of the Pinelands was shown to be aging, and to be growing at a slower rate than other regions of the state. Residential real estate prices and the number of residential real estate transactions both rose during the reporting period. Certain economic measures, such as per capita income and average wages, were up in Pinelands municipalities, but the region still trails other parts of the state. Property taxes have decreased over the five-year period, as has state aid to Pinelands municipalities. Presentation is available here: [https://www.nj.gov/pinelands/home/presentations/Long%20term%20economic%20monitoring%20report%202022%20\(Final\).pdf](https://www.nj.gov/pinelands/home/presentations/Long%20term%20economic%20monitoring%20report%202022%20(Final).pdf)

The Report itself, which contains a section covering 21 economic indicators as well as a fact book with data on individual municipalities and counties, can be accessed through this link: [https://www.nj.gov/pinelands/landuse/econ/LTEM2022\\_FinalReport.pdf](https://www.nj.gov/pinelands/landuse/econ/LTEM2022_FinalReport.pdf)

Chair Matos commended the staff who worked on the report.

Commissioner Asselta asked if the ratable base of Pinelands municipalities was identified in the report and if it improved or declined over the monitoring period.

Ms. Berg said the ratable base is not a variable in the report. She said the variables have remained the same for the past 20 years. She said the Commission contracted with Rutgers University to evaluate the report in 2018, and the ratable base was not identified as an important parameter to monitor.

Commissioner Asselta said approximately 15 years ago there was a state legislative initiative that designated money to study the effects and impacts that Pinelands designation had on its communities. He said today's presentation was good but it's important to know if Pinelands municipalities have had an increase in their ratable base.

Ed Grogan said she couldn't recall an appropriation during that time period but staff would look into it.

Ms. Berg noted that the National Park Service provides the funding for the LTEM report, and maybe another entity, other than the Commission, conducted the study.

Commissioner Lohbauer asked if staff were able to make any conclusions or assumptions based on the five years of data included in the report.

Ms. Berg said staff's obligation under the LTEM program is to process the data and present it, however economic predictions can be made.

ED Grogan said the reduction in state aid to Pinelands municipalities is noticeable from the data presented in the LTEM report. She said staff will be sharing the information with the administration.

#### General Public Comment

Harry Harper of Pemberton Township said Dr. Emile DeVito attended the last two Planning Board meetings regarding the Pole Bridge residential development application and said that the snake surveys that have been conducted are flawed. Mr. Harper noted that a wetland on the parcel was not depicted on the plans. He said a few residents have found T&E species on the site. He said the consultants who are conducting T&E studies need more oversight and scrutiny. He said that he has driven past the parcel on Magnolia Road where the property owner has dumped soil, and now the owner has placed wood chips on the parcel. He said he hopes the Commission will advise Pemberton Township and the NJDEP. He said solar should be placed on parking lots and commercial buildings and the Commission should preserve the Pinelands and not disturb the natural landscape.

Dan Dewey of Pemberton Township said he serves as member of the Township Committee and is one of two Republicans on the board. He said during the pandemic, the Township wasn't holding meetings and changed the zoning, which has resulted in the development of numerous warehouses and the loss of farmland on North Pemberton Road. He raised concerns about the purchase of farmland near military bases across the country by the Chinese. He said warehouses are being constructed in the flight path to Joint Base McGuire-Dix -Lakehurst and there isn't enough communication between the state, county and federal agencies. He said once farms are sold for warehouses, they are gone forever. He said Pemberton needs affordable housing so people can raise their families in the township. He said the Township needs help tightening its regulations.

Andrew DuBrul said he is a biology and environmental science teacher and has been involved in T&E survey work. He said a developer should not be permitted to choose their own consultant to conduct T&E species studies because a consultant has an obligation to the person who has hired them. He said the Commission should choose the consultant to perform the T&E work.

Michelle Forman of Pemberton Township said she is not interested in debating the need for solar in general. She said she is against placing solar in the state forest. She said she enjoys spending time in the state forest away from all the development that is currently occurring in Burlington County. She said the trees on her property provide shade to keep her house cool. She expressed her opposition to cutting down trees for solar.

Jason Howell of the Pinelands Preservation Alliance said it is important for the public to have trust in government institutions. He said every interaction that he has experienced with Commission staff has been positive. He said the public does not trust the results of T&E reports that have been produced by outside consultants. He provided an example of an applicant outside the Pinelands Area who hired a T&E consultant with no ecology or biology degree. He said the Commission should no longer allow an applicant to choose their own T&E consultant.

Russell Juelg of the New Jersey Conservation Foundation provided testimony regarding the need to update the CMP's list of protected plant species (attached written comment).

Richard Young, Lumberton NJ reminded Commissioners of the 20<sup>th</sup> anniversary of the 21 dams that collapsed in the Pinelands after a storm produced over seven inches of rainfall. He provided information as to what he believes the Commission can do so the problem ceases. Testimony and data to mitigate flooding in Lumberton are attached.

### Adjournment

Commissioner Asselta said he supports placing solar on landfills. He thanked the Pemberton Township Councilman who provided information about China purchasing land near military bases. He said it needs to be stopped and prevented. He said the construction of warehouses remains a problem in the state.

Commissioner Irick asked if the Commission has the ability to charge the applicant a fee to hire consultants when a project requires specific expertise.

Director Horner said the CMP authorizes the Commission to create an escrow account to hire outside professionals when expertise is needed for an application.

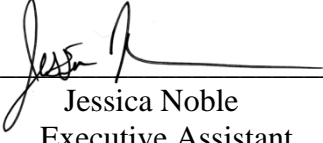
Commissioner Lohbauer requested that at an upcoming P&I Committee staff provide information related to how the Commission staff review T&E surveys. He added that he was surprised to hear that the Commission may have a role in helping with the flooding situation in Lumberton, which was raised during public comment by Mr. Young. He asked that staff provide guidance on that issue.

Director Horner explained that the Commission receives many professional reports when a large development application is working its way through the municipal process, all of which become part of the record that staff review. At that time, staff either request additional information or sign off on the municipal approval.

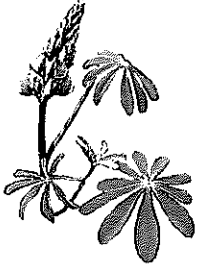


Commissioner Irick moved to adjourn the meeting. Commissioner Lohbauer seconded the motion. The Commission agreed to adjourn at 11:33 a.m.

Certified as true and correct:

  
\_\_\_\_\_  
Jessica Noble  
Executive Assistant

Date: July 18, 2024



# Partnerships for New Jersey

## Plant Conservation

Scientists, Advocates, Educators and Citizens

Working Towards Protection of New Jersey's Rare Flora

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### **Testimony to the Pinelands Commission, July 12, 2024, concerning the CMP list of protected plant species.**

As we understand, in order for the Pinelands Commission to address the problems associated with its list of protected plants, it would need to adopt that project in its upcoming Work Plan. We strongly encourage the Commission to do that, because with every passing year the discrepancies grow larger between the Pinelands list and the official state list of plant species of conservation concern.

As we have emphasized in the past, the Pinelands Commission's general commitment to scientific rigor would imply the necessity of revisions and regular updates to this list. As the years go by, a list characterized by arbitrariness becomes less and less defensible.

As we have noted in previous testimony, there is no perfect way to address this need for revisions and updates. As is true in the animal kingdom, the plant kingdom is subject to continual changes with respect to population sizes and geographic distribution of individual species. This is an inherent problem for conservation.

The only sensible approach seems to be one of adopting the best information available through reputable sources. In this particular situation, the best and most reputable source of information is the New Jersey Natural Heritage Program, which follows the methodology of the NatureServe network.

Exactly what mechanism should be employed in order to take advantage of that source of information is the question before the Pinelands Commission. We suggest that the Commission could create a working group to meet regularly to investigate that question with the goal of revising the protected plant list and establishing a protocol for adopting regular updates.

## PINELANDS COMMISSION MEETING

July 12, 2024

### A PLAN TO MITIGATE FLOODING IN LUMBERTON

Richard Young

ryoung558@comcast.net

I live in Lumberton which is several miles outside the boundary of the Pinelands in Burlington County. The South Branch of the Rancocas Creek which originates in the Pinelands flows through the center of Lumberton. Today is the twentieth anniversary of a disastrous flood that some of you will remember if it affected your community.

On July 11, 2004 a thunderstorm stalled over our area and dropped 7.2" of rain. That night twenty-one dams in the Pinelands collapsed like dominos on four different tributaries of the Rancocas in Tabernacle, Southampton, Medford and Medford Lakes. The morning of July 12<sup>th</sup> found the village area of Lumberton covered with eight feet of water that took three days to subside.

There were no immediate deaths but the flood took an emotional and economic toll on many residents. The economic cost of the flood was close to \$95 million borne by several hundred residents, by FEMA, other insurance companies and by county and municipal taxpayers.

Since 2004, Lumberton has had to cope with more residential flooding; in April 2007, August 2011, May 2014 and June 2019. The rainfall amounts of those storms were all less than 6" which prior to 2004 never caused residential flooding. Those four floods were caused by the sediment from the twenty-one collapsed earthen dams that has filled the channel in Lumberton and reduced the ability of the Rancocas to handle the runoff of even moderate storms.

**The reason I am here today is to ask that the Pinelands Commission to consider helping to mitigate flooding caused by the dams and reservoirs in the Pinelands. This plan is easy to implement and will not cost anything.**

The four floods after 2004 were not caused so much by the amount of rain but by the reduced capacity of the Rancocas and the effect of the reservoirs behind the dams upstream. They are called lakes but a lake is a naturally occurring body of water while a reservoir is an artificial lake created by the construction of a dam. There are 83 dams upstream from Lumberton. They were constructed by developers to sell building lots and by farmers to grow cranberries. None of these dams were built to control flooding. The dams in fact cause the flooding.

When people first settled in the village area of Lumberton, they were attuned to nature and knew what to expect in rainfall, and runoff and tides. The Rancocas in Lumberton is tidal and boats were used to transport materials downstream to the Delaware River. People built their houses next to the Rancocas and eventually filled the village with stores and inns and even

factories. The Rancocas back then was deep enough for boats to dock next to piers, be loaded with lumber and firewood and still be floating at low tide. Today the Rancocas at low tide is less than two feet deep and it's all mud.

There is no record of flooding in those times because there were no dams and reservoirs that altered the flow rate. Most of the rainfall remained where it fell on the sandy soil and percolated down into the aquifer. But the reservoirs behind each dam act like an asphalt parking lot and transfer all the rainfall on the reservoir immediately over the spillway. The total surface area of the 83 reservoirs is almost 900 acres. The reservoirs have dramatically increased the volume and velocity of the Rancocas flow in Lumberton. This erodes the stream banks which adds to the mud accumulation which raises the water level and floods the land.

The flooding in Lumberton can be mitigated or eliminated by capturing rain in some of those reservoirs. When a high rainfall event is forecast the water level in the reservoirs should be sequentially lowered under the supervision of Burlington County OEM by pulling the spillway stop blocks and then replacing the blocks when the storm arrives.

The authority to do this can only come from the Pinelands Commission. But first the Pinelands Commission must assert its own authority and responsibility for the water in the reservoirs. Ironically, since the creation of the Pinelands the Pinelands Commission has deferred this responsibility to NJDEP. This is the same NJDEP that saw 21 dams collapse during the 2004 storm. Just in the past few weeks dams have collapsed in Minnesota and another in Wisconsin. State DEPs have responsibility for more than just dams. The Pinelands was created to protect the water in its aquifer. Water not just entering the aquifer but when it flows out of it as well.

The Dam Safety Standards N.J.A.C. 7:20 requires that the riparian rights of downstream property owners will be protected during the life of the dam and reservoir.

Attached is a list of the 13 largest reservoirs by surface area- they total 431 acres. If all 13 reservoirs were lowered three feet it could capture 56 million cubic feet of water or three times the average daily flow through Lumberton. As the storm passes the reservoirs would be refilled and Lumberton might not be flooded.

Most of the dams are owned by homeowners' associations that would probably be opposed to lowering their reservoirs. It will require the Pinelands Commission to exert authority over the water level in the reservoirs. The Commission can then authorize Burlington County OEM to control the reservoir levels. The stop blocks will have to be manually pulled and replaced. If this proves to be an effective method of reducing the cost of flooding the spillways could be motorized like the one at Kirby's Mill in Medford. Then control of the water levels could be done remotely from the County OEM Command Center.

This plan is easily implemented, requires no construction and costs nothing.

# LARGEST 13 OF THE 83 DAMS ON THE SOUTH BRANCH RANCOCAS CREEK

Compiled by R.Young, 2/08/24  
Source: Waterway Infrastructure Task Force Findings October 2004

BRANCH	NAME OF DAM	NJDEP Atlas #	CLASS	STATUS	Height (ft)	Capacity (acre-ft)	Surface (acres)	MUNICIPALITY	DAM OWNER
Kettle Run	Centennial Lake Dam	31-082	H	No Damage	18	344	53	Medford	Centennial Land Development
Kettle Run	Marlton Lakes Upper Dam	31-102	S	Damaged	12	100	50	Evesham	Marlton Lakes Civic Association
South Branch	NJ No Name #8 Dam	32-036	L	Damaged	8	170	50	Southampton	Rancocas Cranberry Company
Kettle Run	Breakneck Dam	31-016	S	No Damage	14	125	39	Medford	Old Taunton Colony Club
Haynes Creek	Lake James Dam	31-106	S	No Damage	11	31	35	Evesham	KGOSA
	Lebanon Lake Dam	32-026	S	No Damage	10	110	32	Woodland	NJDEP Parkes & Forestry
Haynes Creek	Oliphants Mill Lake Dam	31-100	L	Damaged	11.2	90	30	Medford	Oakwood Lakes Homeowners
	Reeves Bog Lower Dam	32-040	L	Failed	6	80	25	Woodland	NJDEP Parkes & Forestry
Haynes Creek	Pine Lake Dam	31-015	S	No Damage	14	90	24	Medford	Lake Pine Colony Club
Haynes Creek	Birchwood Lake Dam	31-096	S	Failed	9	24	24	Medford	Birchwood Lakes Colony Club
Haynes Creek	Timber Lake Dam	31-089	H	Damaged	18.8	90	24	Medford	Birchwood Lake Colony Club
Haynes Creek	Upper Aetha Lake Dam	31-055	S	Failed	14	136	23	Medford Lakes	Medford Lakes Colony Club
South Branch	Vincetown Mill Dam	32-004	H	Damaged	12	107	22	Southampton	Southampton Township
	July 12, 2004 flood involved 83 dams of which:			total surface area of 13 reservoirs			431		
	7 HIGH HAZARD			square feet per acre			43500		
	2 were damaged								
	23 SIGNIFICANT HAZARD			cubic feet per foot lowered			18,748,500		
	8 failed								
	6 were damaged								
	53 LOW HAZARD								
	13 failed								
	18 were damaged								

# FLOOD DAMAGE IN LUMBERTON

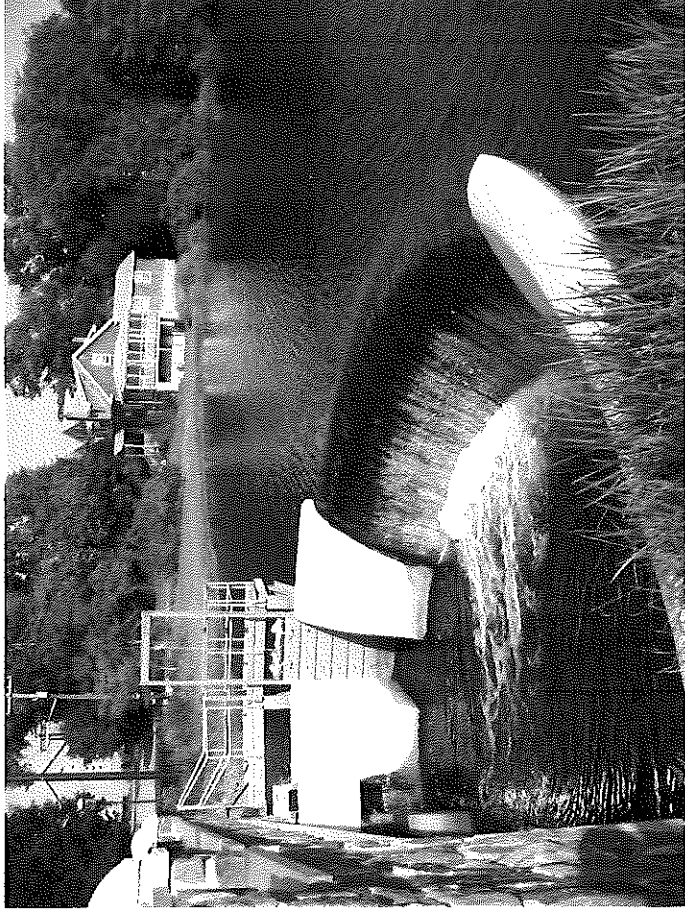
## ALONG THE SOUTH BRANCH OF THE RANCOCAS CREEK

DATE	PRECIPITATION	MEDFORD GAGE HEIGHT	MEDFORD PEAK FLOW	EVENT
<b><u>Flood Stage</u></b>		<b><u>12.0 ft</u></b>		
Sept 1, 1940	9.6" Marlton	No gage	No gage	5 dams collapsed Evesham/Medford Lumberton Record Flood
April 17, 1983	2.6" Medford	12.05 ft	1,300 cfs	
Aug 11, 1987	3.7" Medford	12.56 ft	1,460 cfs	
July 5, 1989	7-8" Medford	15.30 ft	3,300 cfs	Tropical Storm Allison
Dec 12, 1992	4.8" Medford	12.07 ft	1,310 cfs	
Sept 16, 1999	6.2" Mt Holly	Not in service	5,000 cfs	Hurricane Floyd Kirby's Mill dam destroyed
July 13, 2004	7.2" Medford	19.70 ft	12,400 cfs USGS estimate	21 dams destroyed & 30 overtopped FEMA Disaster #1530
April 15, 2007	5.5" Medford	14.70 ft	2,700 cfs	Nor'easter FEMA Disaster #1694
Aug 28, 2011	4.9" Medford	14.31 ft	2,370 cfs	Hurricane Irene FEMA Disaster #4021

USGS 24 Hour Rainfall frequency data      10 year = 5.2"      25 year = 6.4"      50 year = 7.6"      100 year = 8.8"

# **FLOOD MITIGATION COMMAND CENTER**

- Aggregate surface area of the 83 reservoirs is approximately 900 acres
  - Stormwater runoff is worse than from 900 acres of asphalt
    - All rain exits the reservoir surface immediately via spillway – no reserve capacity
    - Storm runoff is accelerated out of the upper watershed into the South Branch



**Vincenttown Dam**

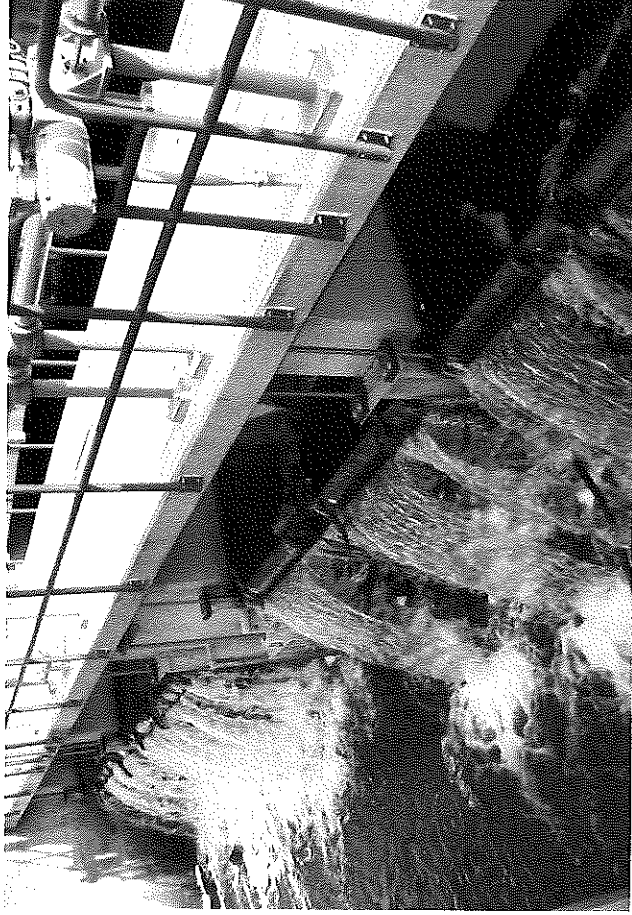


**Birchwood Lake Dam**



# **FLOOD MITIGATION COMMAND CENTER**

- A system of 83 dams should be managed like a public utility
  - 13 of the largest reservoirs should have motorized spillways (like Kirby's Mill)
  - Install additional reservoir level and stream flow gages
  - Enhance the recreational lake system as a flood control system
  - Monitored and controlled by Burlington County OEM for public safety
  - Coordinated purge of upper watershed in advance of large storms
- Dam control authority will require Pinelands Commission cooperation



**Kirby's Mill motorized spillways**



**Kirby's Mill motors on walkway**



# FLOOD MITIGATION COMMAND CENTER

