

## NH DES Dam Bureau: Mountainview Lake Dam, #229.46



### Lakes are a recreational resource





### What is a dam?



http://des.nh.gov/organization/divisions/water/dam





**Great Pond or Waste Lagoon** 

OR

#### Height 6 ft



**Roadway Culvert** 



#### **Detention Basin**

### So how many dams are there?

75% Private 14% Local Government 10% State 1% Federal <1% Public Utility

# There are just over 2,620 dams in NH

we inspect 833





Hazard classification is determined by a downstream review Design requirements are determined by hazard classification







#### High Hazard 5% Insp - 2 yr, ADRF - \$1,500

Probable loss of Human life
Certain water levels on buildings
Structural damage to Interstate



#093.01, Glen Lake, Gregg's Falls Dam , Goffstown

### **Significant Hazard 6%**

Insp - 4 yr, ADRF - \$750



- No probable loss of Human life
- Major economic loss to structures or property
- Structural damage to Class I&II roads
- Damage to public water supply
- Release of sewage

#168.17, Mount Sunapee Sewage Lagoon Newbury

#058.03, Bog Pond Dam Danbury



### Low Hazard 20%

Insp - 6 yr, ADRF - \$400

- No possible loss of human life
- Low economic loss to structures or property
- Structural damage to town/city roads
- Release of certain smaller sewage sites
- >6' and > 50 ac-ft
- <25' and >15 ac-ft



#229.15, Wendall Marsh Dam, Sunapee

### Non Menace 69%



• No probable loss of life or property

#183.26, Hannaford Det Pond, Northwood

**Typical Farm Pond** 



#### Downstream review – Non Menace



## Serenity!

4 ft high 95 ft long 116 acres

## 09/07/2007

#### September 20, 1937 down face

- Built in 1927
- The gate was carried away in spring 1936

- Owned by Heirs of Charles & Martin Perkins
- 4.5' high, used for recreation
- Old sawmill about 300 ft downstream





#### • Nothing in file from 04/1939 until 06/23/1967

• June 23, 1967 – A letter signed by 9 people requested an inspection of the dam

• June 29, 1967 - Dam inspected noting there is a section that has crumbled on the right side creating a 2' to 3' hole where flow is passing. The lake is about 12" below where it would be without the leak.

• July 25, 1967 - A letter was received from Orr and Reno, the owners representative stating it is Mr Perkins intent to repair the gap in the dam. It was noted in the letter that some shore owners appear to be taking the boards out.

• July 28, 1967 – A letter from our office to the owner suggested a lake level survey and possibly a locking device on the spillway.

• August 18, 1967 – A letter was received from Orr and Reno stating Mr Perkins would be happy to have a lake level survey conducted and maybe after that the interference with the boards would cease.

• September 6, 1967 - A survey was sent to all lake level abutters asking if they were satisfied with the 1967 summer operation, or would prefer the level higher or lower.

December 11, 1967 – The survey results were sent to Orr and Reno.
 45 forms mailed, 36 returned.

The responses ranged from no change in the 1967 summer lake level to a level 3 ft higher.

An average yielded a desire for an increase of approximately 12 inches.

• Our office <u>recommended</u> the owner place sufficient boards to have the level be 1 ft higher than last summer – about 2 ft below the top of the concrete frame over the outlet.



### August 4, 1976 - left downstream side





#### August 4, 1976 - right downstream face looking into lake



Water levels and rainfall were low everywhere Water level 31" below top Tail water is about 1 inch lower than lake. The water was being held back by debris in brook downstream August 20, 1986 – we received request to inspect the dam from Mt View Lake Assoc September 21, 1986 - dam inspected



September 21, 1986 - gate Level was 1.5' below spillway crest Letter sent to owner requesting dam repairs



April 12, 1999 - we received request to inspect the dam from Mt View Lake Assoc May 14, 1999 - dam inspected, now owned by daughter of Mr Perkins.



May 14, 1999

right side





May 14, 1999 - standing on left looking to right towards gate Letter sent to owner requesting dam repairs.



September 7, 2007 – Inspection Water level 35" below top of gate

Upstream face stop log bay





Upstream face from left

#### September 7, 2007 – upstream face

- Low point in wall only 21" above water level
- Other portions of wall 24" above water level
- According to water marks on rocks the seasonal high water appears to be 15" above today's level



September 7, 2007 – upstream face outlet 1 board in place, owner explained that vandals keep removing boards and he continues to replace them.



### August 22, 2011 – upstream face of outlet



June 2012 - we contacted the owner, after being contacted by the Association. The owner went out and removed debris





### Inflow/Outflow

•Not a very large DA, 1.66 sq mi

•12% average slope, can be quick runoff (average roadway is 2%)

•1" rainfall on DA raises lake by 0.68' (8")

•Small outlet – minimal operations, standing tail water

•We have had droughts – no inflow means lower levels





#### Pawtuckaway Lake 900 acres

1 of 4 dams that impound the lake



#### Without dams many of our lakes would be much smaller or may not even exist!



### To Remove or Not Remove?



## It is the Dam Owner's Decision

## What can the Dam Bureau do?



• Continue to make recommendations to the owner regarding repairs. This is a non menace dam, due to lack of damage during a failure, so the owner is not required to meet any specific safety requirements.

• Be an intermediary between concerned citizens and the owner. This is less overwhelming to the owner. The owner has responded promptly to all our calls to him.

## What can the Mountainview Lake Association do?



• Continue with you interest in the lake – we can't be everywhere so let us know what's happening. We will contact the owner and get back to you.

- Continue with the VLAP program it's in everyone's best interest.
- If you are curious what your water rights are check your deed.
- Continue to understand how heavy rains and droughts affect the level.
- Continue to be understanding with the owner. It's not an easy job.
- Do not make operations of the dam yourself. It affects everyone

## Enjoy the lake!

## ANY DAM QUESTIONS?



N.H. D.E.S. Water Division Dam Bureau

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http://des.nh.gov/organization/divisions/water/dam/index.htm