

# New Hampshire's Approach to Managing Impoundment Water Levels and Corresponding Downstream Flows Relative to Aquatic Life Use Support

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**NH RSA 485-A:8**

**Env-Ws 1702.17**

**Env-Ws 1708**



**Env-Ws 1703.01**

**Env-Ws 1703.19**

**Env-Ws 1703.02**

# Why is NH Working on this?

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- Regulated community requested 401 Water Quality Certification
- Broad discretion under NH laws and regulations

# Regulated Community

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# Clean Water Act Section 401

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A Certification from the State that any Activity, which requires a federal permit or license, that may result in a discharge to surface waters will comply with surface water quality standards

# NH Laws / Regulations

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- NH RSA 485 A:8 Standards for Classification of Surface Waters
- Env-Ws 1703.01 Water use classifications
- Env-Ws 1703.02 Wetlands criteria
- Env-Ws 1703.19 Aquatic Biological Integrity

NH RSA 485-A:8  
Classification of Surface Waters  
Class A and Class B

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Env-Ws 1703.19  
Aquatic Biological Integrity

# Impoundment Background

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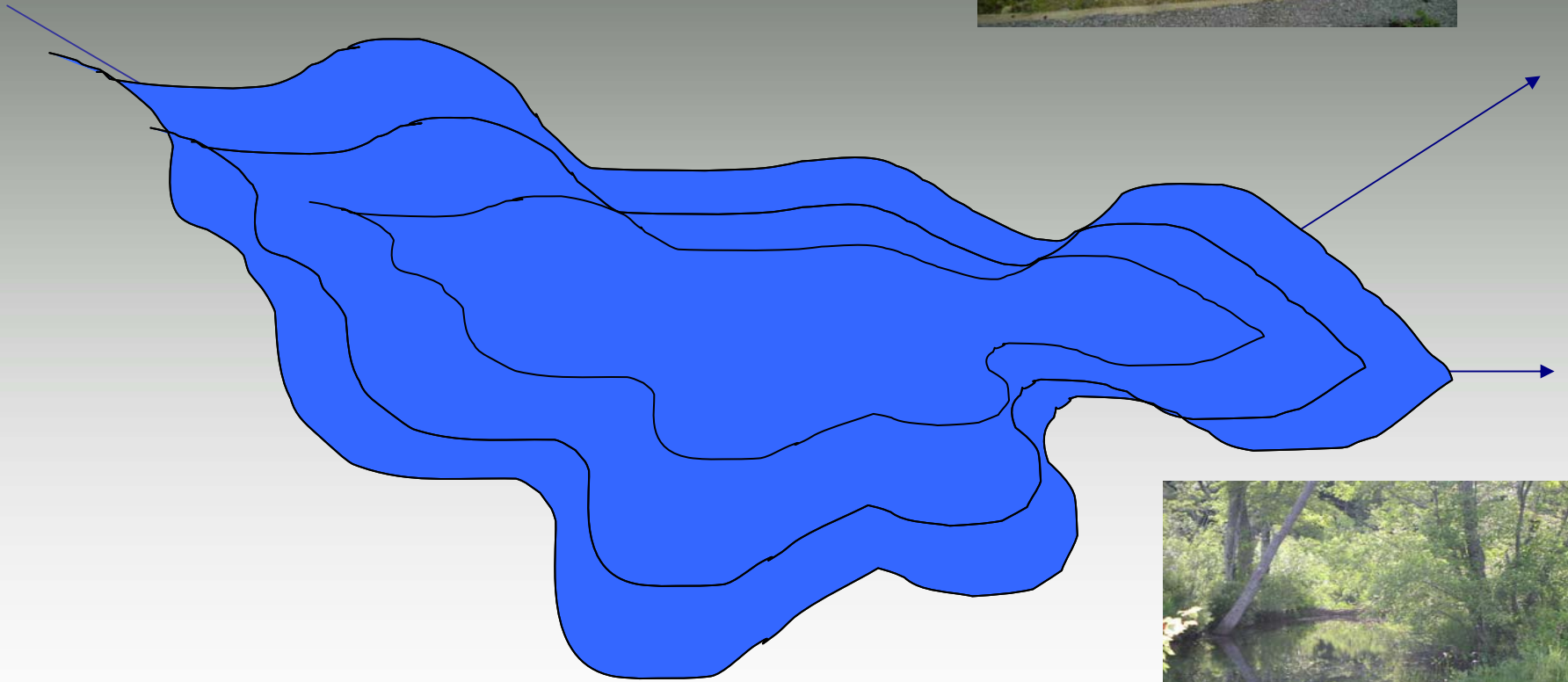
- Impoundments store water for some human need.
- Impoundments have inflow and outflow.
- Some impoundments have withdrawals or releases, which is a taking from storage.
- Taking from storage causes water level fluctuations beyond that which might occur under natural flow regime.



# Impoundment Background

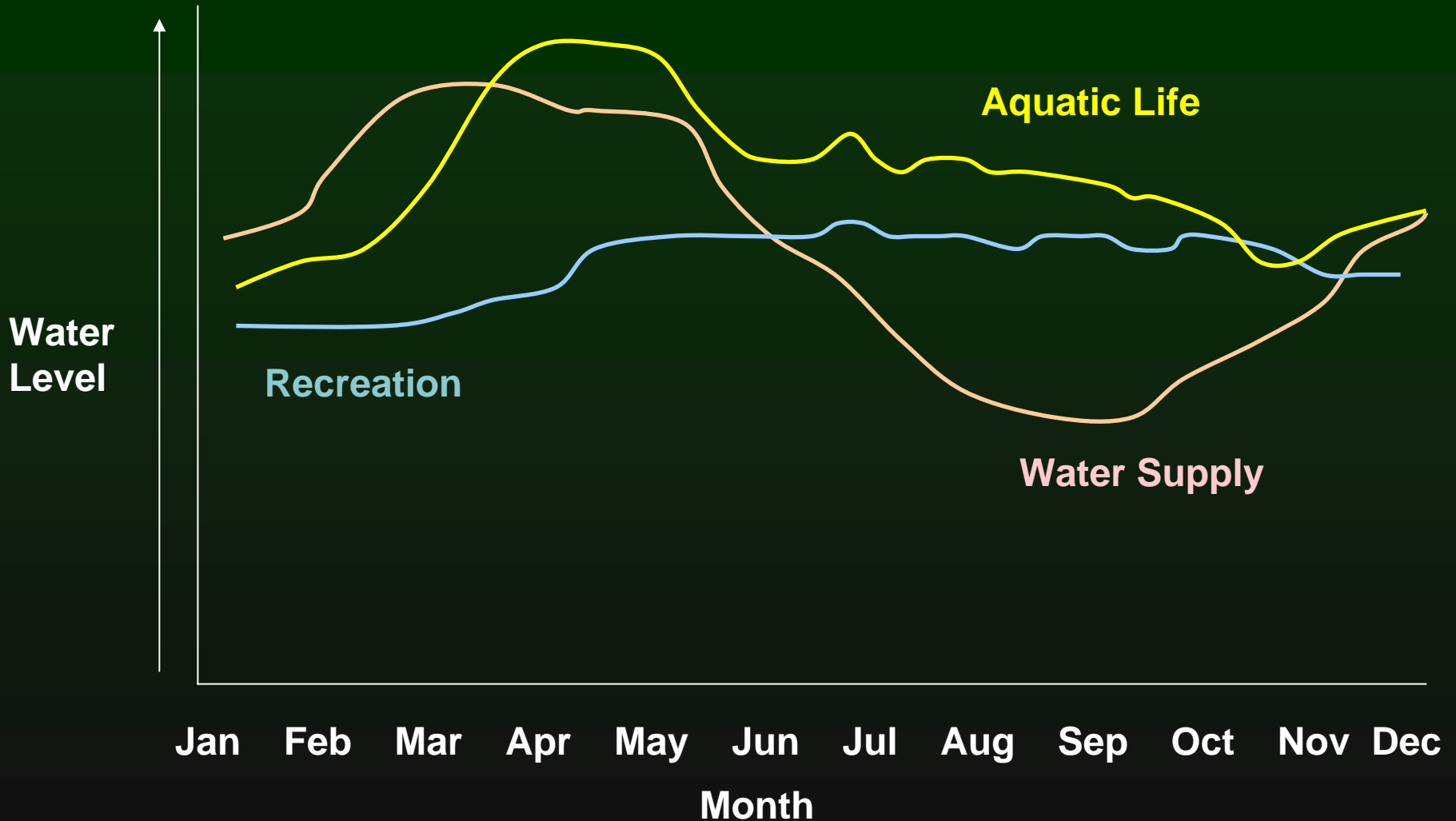
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- Aquatic habitat and water chemistry conversion
- Dewatering in impoundment and downstream reach

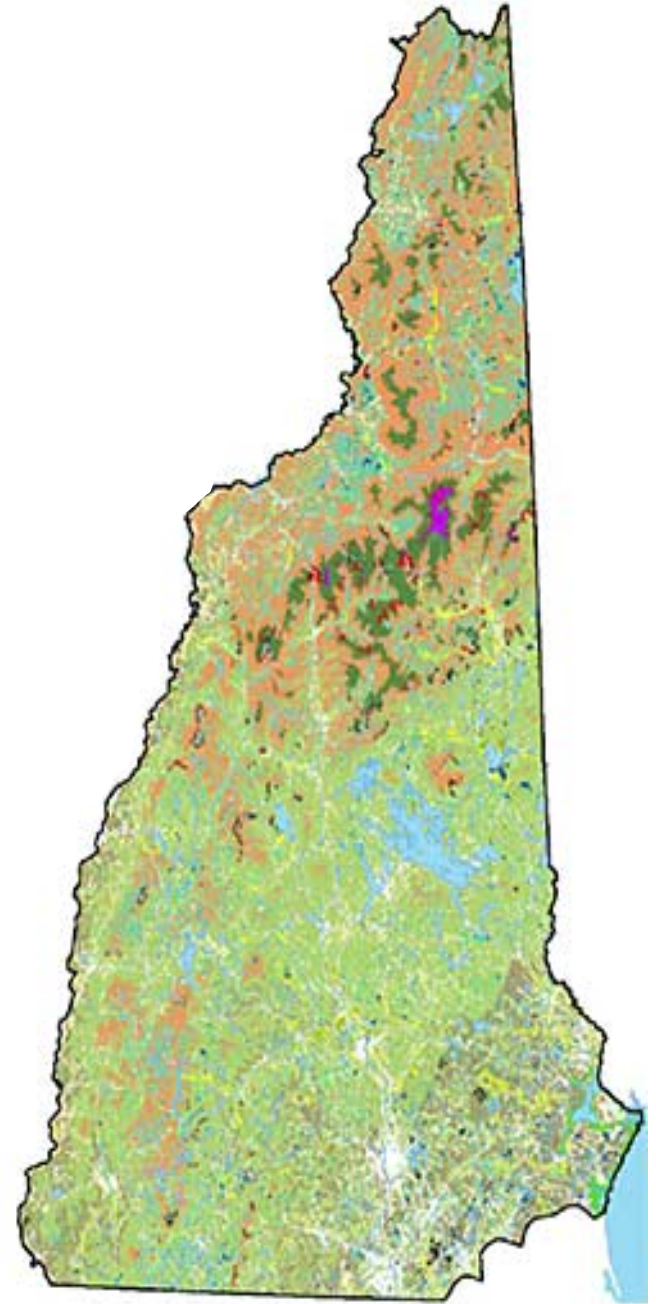


# Theoretical Water Levels

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# What is NH doing?



Developing guidance  
to determine whether  
water level  
fluctuations meet  
water quality  
standards in  
impounded  
waterbodies

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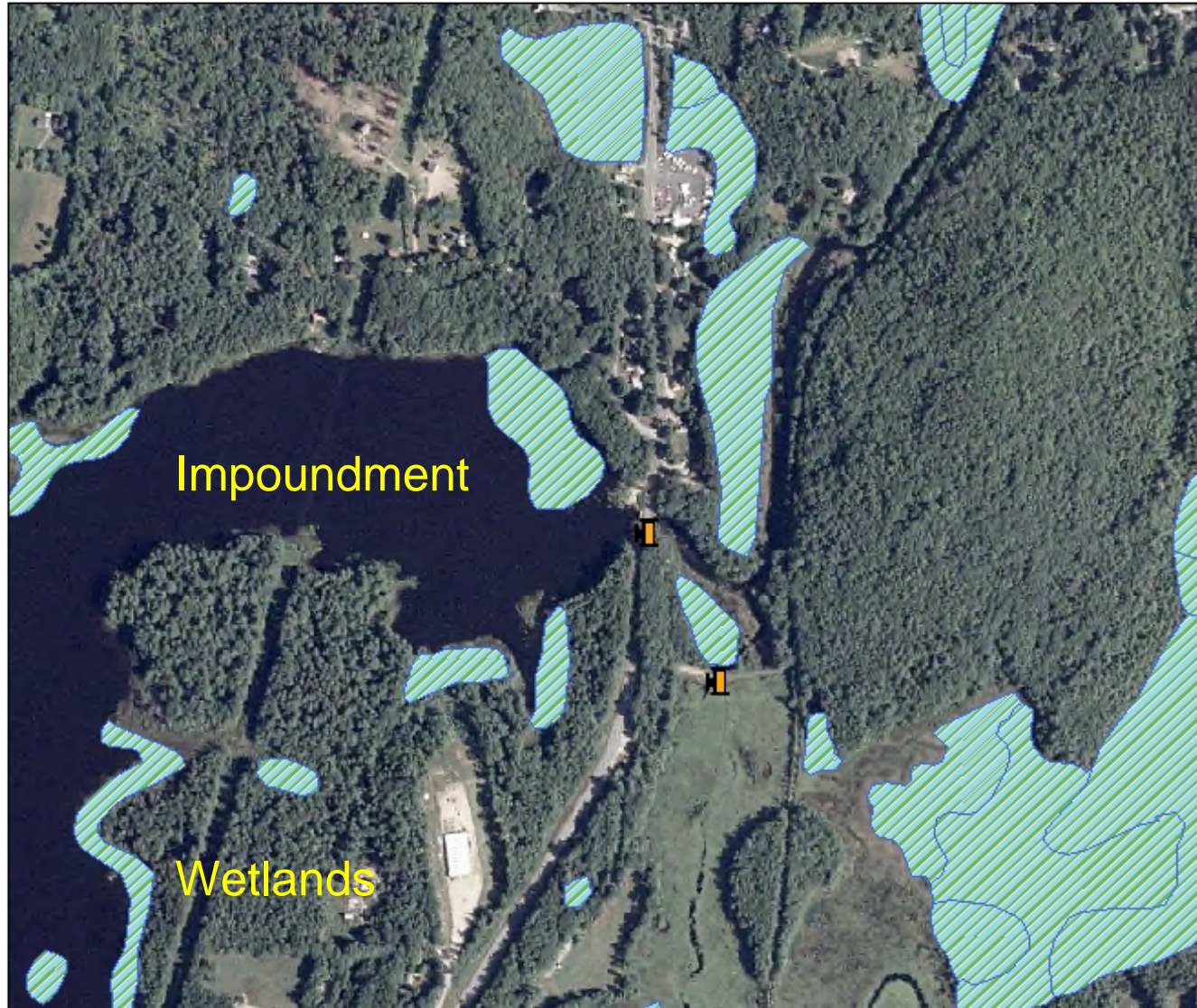
# **“Baseline”**

***beyond the “natural” condition***

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- Diel, seasonal, annual fluctuations
- Constant water level
- Variable time-scale fluctuations around a constant water level

# Applicability



## Legend

-  Dams
-  Wetlands - NVM

# Designated Uses

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- Basis for this guidance
- National goal use, which allows for flexibility in defining the aquatic community goal for a waterbody (i.e., subclasses of use)
- Defined as those uses specified in water quality standards for each waterbody or segment whether or not such uses are presently occurring



# Designated Uses

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- Aquatic life use support
- Drinking water after adequate treatment
- Primary contact recreation
- Secondary contact recreation
- Wildlife
- Fish consumption
- Shellfish consumption

# Designated Uses

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## Aquatic Life Use Support (ALUS)

- Waters that provide suitable chemical and physical conditions for supporting a balanced, integrated, and adaptive community of aquatic organisms



# Aquatic Life Concerns

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- Stranding
- Zone of passage
- Aquatic habitat availability
- Soil water content in fringe wetlands



# General Water Level Analysis

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Determine impacts to aquatic life: littoral zones and connectivity with fringe wetlands

- Magnitude
- Timing
- Frequency
- Duration

# Attributes of Waterbody

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- Wetland habitat
- Aquatic habitat
- Fish and benthic macroinvertebrate communities
- Use Attainability Analysis

**Thank You**

**Questions, Comments, Suggestions**

