USACE New England District
Operations Division Briefing for
CT River Valley Flood Control Commission

Frank Fedele, P. E.
New England District

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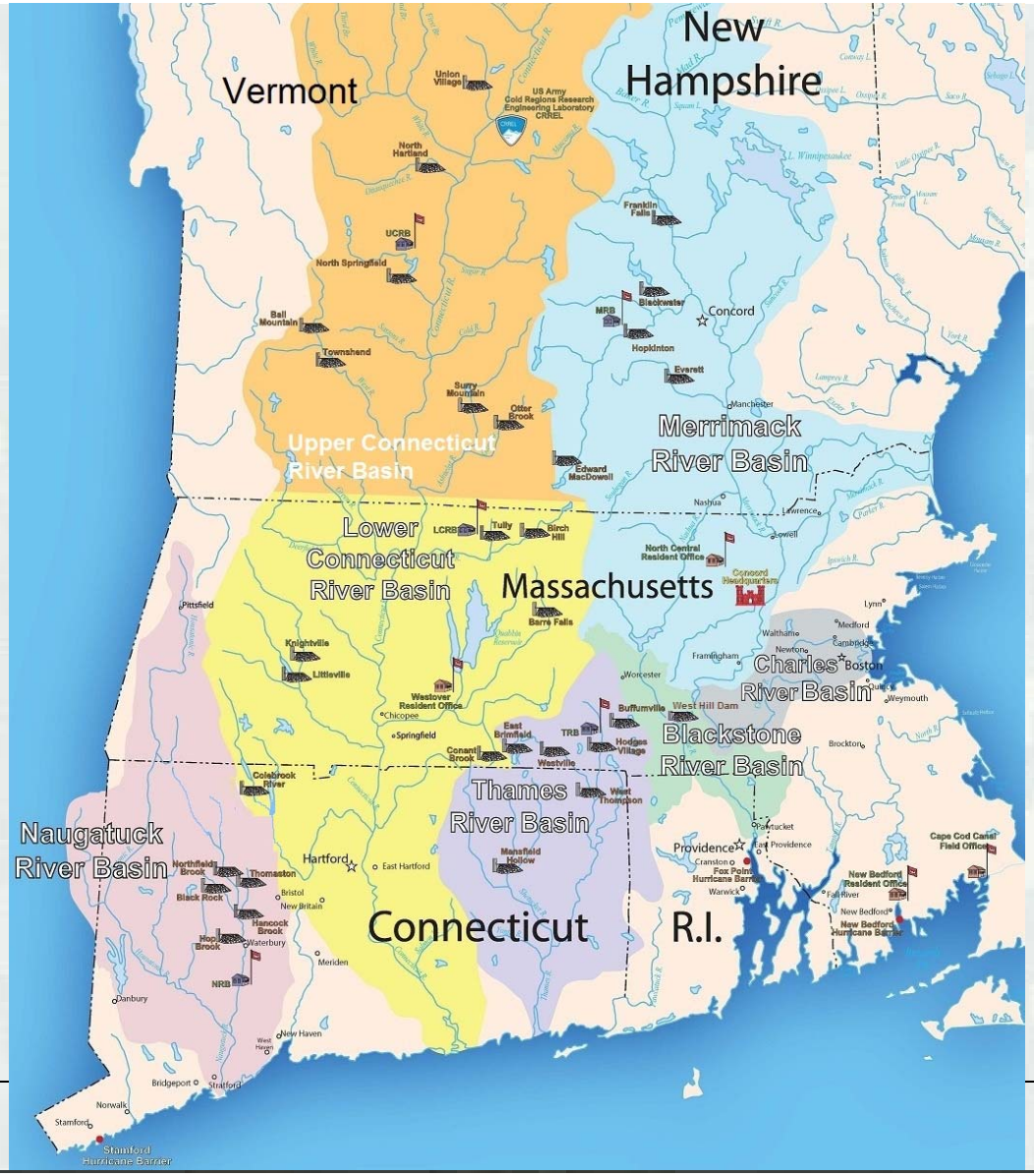
US Army Corps of Engineers
BUILDING STRONG®



Operations Division

- **33 Flood Risk Management Projects**
  - **6 Major River Basins located in 5 NE States managed by 5 Basin Offices**
- **Cape Cod Canal (Buzzards Bay, MA)**
- **3 Hurricane Barriers**
  - **Stamford (CT)**
  - **New Bedford (MA)**
  - **Fox Point (Providence, RI)**

Primary Missions/ Business Lines

- Flood Risk Management
  - ~ $25.7 mil
- Navigation
  - ~ $12.9 mil
- Recreation
  - ~ $4.9 mil
- Environmental Stewardship
  - ~ $2.7 mil
- Sustainability
  - ~ $0.7 mil
- Water Supply
  - ~ $8,000
- Total, Ops O&M Mission FY15 ~ $47 mil ($50.5 mil in FY'12)
- Total for UCRB in FY15 - $6.6 mil
- Total for LCRB in FY15 - $3.9 mil

Knightville Dam
(located on the Westfield River in Huntington, MA)

Typical Basin Office Structure

Lower CT River Basin	
SUPV OPs Project MGR (Basin Manager)	
01 – Envir. Res. Spec.	
01 – Admin Officer	
01 – Basin Asst.	

Knightville Dam and Littleville Lake	
01 – SUPV Nat. Res. Spec. (PM)	
03 – Park Ranger	
01-Summer Ranger Pathway Student	

Birch Hill Dam and Tully Lake	
01 – SUPV Nat Res Spec. (PM)	GS-12
03 – Park Ranger	GS-09
02-Summer Ranger Pathway Student Pathway Student	GS-03

Barre Falls Dam	
01 – Lead Park Ranger (PM)	
01 – Park Ranger	
01-Summer Ranger	

Flood Risk Management (FRM)

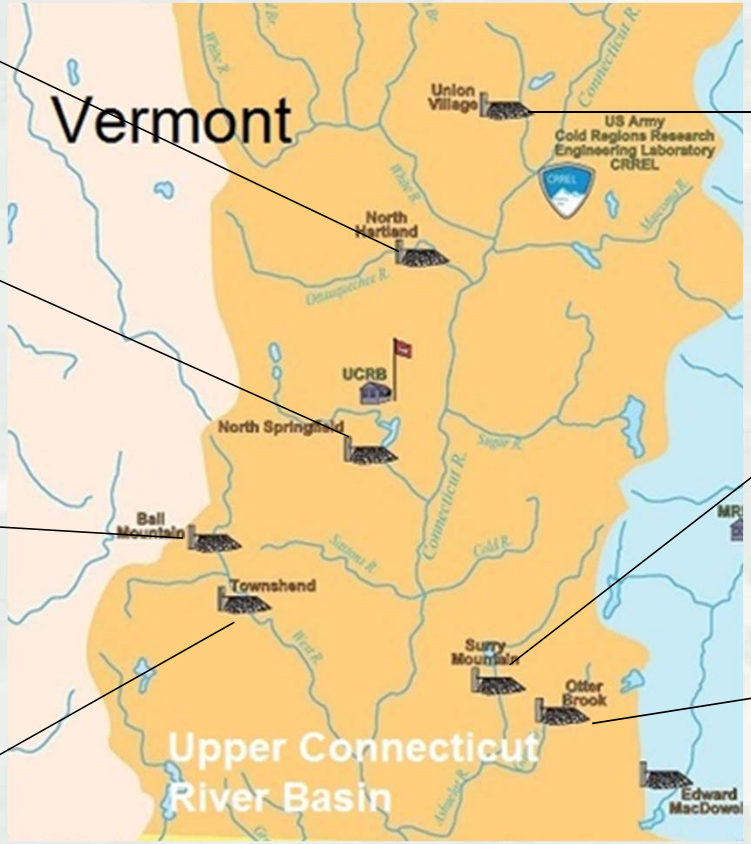
- Operation

  - Coordinate with Reservoir Regulation Team at Concord Park during Flood Ops to systematically adjust gate settings at each project to store (and subsequently release) rainfall/ snow melt behind the dam as needed to protect life and property.
  - Inspect pool level/ dam toe during flood events and coordinate with local officials.
  - Hurricane Barrier Projects provide protection for low lying coastal areas of New Bedford/ Fairhaven MA, Providence RI, and Stamford CT. Gate(s) across the navigation channel is (are) operated (closed) for hurricanes, coastal storms and certain astronomical high tide cycles.

- Maintenance of Infrastructure- dam, levees, dikes, spillway, inlet and outlet structure, navigation gate(s) and pumps at hurricane barrier projects, log boom systems, gatehouse building and mechanical/ electrical systems, as well as other FRM support facilities/ systems such as the project office, roads, bridges, storage buildings, street gates, piezometers, etc. Periodic Inspections and Assessments, and other dam safety related studies contribute to infrastructure maintenance / rehab priorities.

- Emergency planning exercises with local and state emergency officials.

FRM Projects in Upper CT River Basin



Otter Brook

- FY13
  - Paving Dam Crest
  - Gatehouse Electric Repairs
- FY14
  - Flood Gate Motor Rewind (2)
  - Flood Gate Motor Starter Replacement
- FY15
  - Flood Gate Motor Rewind
- FY16/18
  - Woody vegetation removal from toe of dam/outlet channel
  - Safety Updates at Gatehouse

Surry Mountain

- FY13/14
  - Safety Updates
  - Woody vegetation removal from toe of dam/outlet channel
- FY15
  - Flood Gate Motor Rewind (2)
- FY16/18
  - Float Well Intake repair
  - Woody vegetation removal from toe of dam/outlet channel
  - Safety Updates
  - Dam Crest Road repairs

North Springfield Lake

- FY13/14
  - Replace hydraulic pumps, gate motors and controllers
  - Electrical panel updates
- FY15
  - Concrete repairs on spillway and service bridges
  - Safety updates
- FY16/18
  - Gatehouse roof rehab
  - Gatehouse electrical conduit/ wiring replacement

Ball Mountain Dam

- FY12
  - Gatehouse repainting
- FY13
  - Logboom replacement
- FY14
  - Safety updates
- FY15
  - Overhead crane maintenance
- FY16/18
  - Gatehouse concrete repairs
  - Woody vegetation removal from toe of dam/outlet channel

Townshend Dam

- FY 12
  - Dam access road repair
  - Gatehouse repainting
- FY13
  - Gatehouse switchgear and electrical replacements
  - Replace gatehouse emergency generator
- FY14
  - Safety updates
- FY15
  - Dam crest road repaving
- Fy16/18
  - Concrete repair on outlet walls
  - Spillway bridge repainting

North Hartland Lake

- FY13
  - Repair flood gate motors
  - Service bridge repainting
- FY14
  - Safety updates
- FY15
  - Replace gatehouse fuel tank
- FY16/18
  - Log boom replacement
  - Potential additional piezometer installation to monitor for potential seepage

Union Village Dam

- FY14
  - Piezometer installation
  - Woody vegetation removal from toe of dam/outlet channel
- FY15
  - Safety updates
  - Gatehouse roof repairs
  - Electrical upgrades to project office
- FY16/18
  - No major projects projected/scheduled

FRM Projects in Lower CT River Basin

Barre Falls Dam

- FY13
  - Replace emergency generator at gatehouse
- FY14
  - Piezometer installation
- FY15
  - Gatehouse electrical upgrades
  - Guardrail installation on dam crest road
- FY16/18
  - Limitorque flood gate hoist motor rebuild
  - Gatehouse heating system replacement

Birch Hill Dam

- FY12-14
  - Inlet channel rock stabilization
  - Project office roof replacement
  - Safety updates
- FY15
  - No major projects
- FY16/18
  - Limitorque hoist repair for flood gate
  - Painting of gatehouse
  - Solar panel installation – planning for 25 KW on project office roof

Tully Lake

- FY12-14
  - Gatehouse waterproofing
  - Airshaft grille replacement
- FY15
  - Replace gatehouse roof
  - Repair spillway bridge-deck
- FY16/18
  - Gatehouse painting
  - Replace gatehouse heating system

Knightville Lake

- FY12-14
  - Replace flood gate electrical operators
  - Refurbish flood gate motors
- FY15
  - Project office roof replacement
- FY16/18
  - Safety updates
  - Woody vegetation removal from toe of dam/outlet channel
  - Replace flood gate hoist cables
  - Replace gatehouse emergency generator

Littleville Lake

- FY12-14
  - Replace gatehouse emergency generator
  - Gatehouse heating system replacement
  - Woody vegetation removal from toe of dam/outlet channel
- FY15
  - Replace gatehouse electrical switchboards and panels
- FY16/18
  - Overhead crane repairs
  - Service/rehabilitate flood gate operators
  - Repave dam crest road

Recreation

- Outdoor recreation
  - Corps-managed and outgranted to state, local, and non-profit organizations
- 116 recreation areas
- ~6.8 million visitors/year
  - 2.4 million @ Cape Cod Canal/ 45,000 @ Ball Mt.
- Swimming - 20 swim beaches (7 between UCRB/LCRB)
- Boating - 37 boat ramps (7 between UCRB/LCRB)
- Picnicking - 862 picnic sites
- Camping - 1071 camp sites, (3 corps managed campgrounds, 1 in UCRB - Winhall Brook at Ball Mountain and 1 in LCRB – Indian Hollow at Knighville)
- Hiking, biking, horseback riding, xc-ski, snowmobile & OHRV - 365 miles of trails
- Visitor Centers – 2 (Cape Cod Canal, North Hartland Lake- Quechee Gorge)

Tully Lake

Visitation

- UCRB
  - Ball Mountain: 44,968
  - North Hartland: 126,543
  - North Springfield:64,792
  - Otter Brook: 68,758
  - Surry Mountain: 60,861
  - Townshend: 33,947
  - Union Village: 35,510
- LCRB
  - Barre Falls: 34,250
  - Birch Hill: 30,751
  - Knightville: 21,231
  - Littleville: 39,985
  - Tully: 132,091
- UCRB: 435,379
- LCRB: 258,308
- Total: 693,687

Environmental Stewardship

- Wildlife and forest management - 67,566 total acres
- Cultural and historic resources conservation - 1,323 resources
- Endangered species conservation - 11 federally listed species
- Wetland delineation – 14,581 acres wetlands
- Invasive species management
- Environmental compliance
- Water quality management

Water Supply

- Colebrook River Lake
- Littleville Lake

Littleville Dam

Hydropower

- **Existing FERC Hydropower**
- **Colebrook River Lake**
- **Hopkinton Lake**
- **North Hartland Lake**
- **Mansfield Hollow Lake**
- **Dewey's Mills @ N. Hartland**
- **Franklin Falls Dam**
- **Woonsocket Falls Dam**
- **Verney Mill Dam @ Edward MacDowell**

- **Permitted FERC Hydropower**
- **Ball Mountain Dam – Under Construction in 2015/ 2016**
- **Townshend Lake – Under Construction in 2015/ 2016**

North Hartland Lake

NOAA Atlas Precipitation Maps

The NOAA Atlas precipitation maps have been updated recently to account for recent trends in rainfall and potential impacts of climate change. In recent discussion with NAE's Reservoir Regulation Team about this topic, the District is not using the updated NOAA information during current operation of our dams. The operation of these dams is based on current water levels in the reservoir, with consideration of near term precipitation forecasts. If a new flood risk management project were to be undertaken by USACE, then the current NOAA Atlas precipitation maps would be utilized in design, construction and operability rather than older maps used for previous designs. Its our understanding that the new NOAA Atlas maps are important to hydropower dams, as they operate at full pool and rely more on precipitation forecast maps than our flood risk management projects.


Questions?