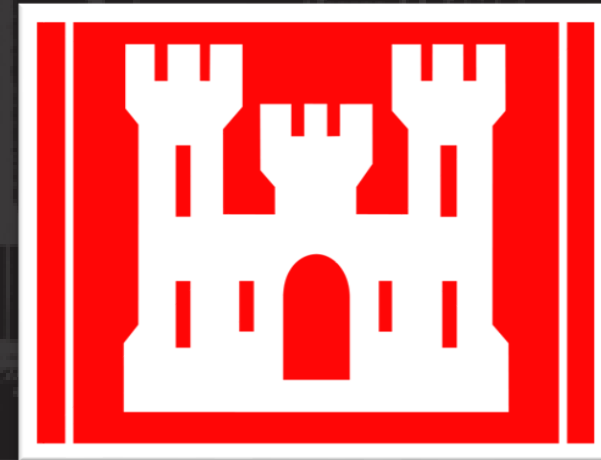


# US ARMY CORPS OF ENGINEERS (USACE)

John Hunter, P.E.  
Chief of Water Management  
Fort Worth District  
US Army Corps of Engineers



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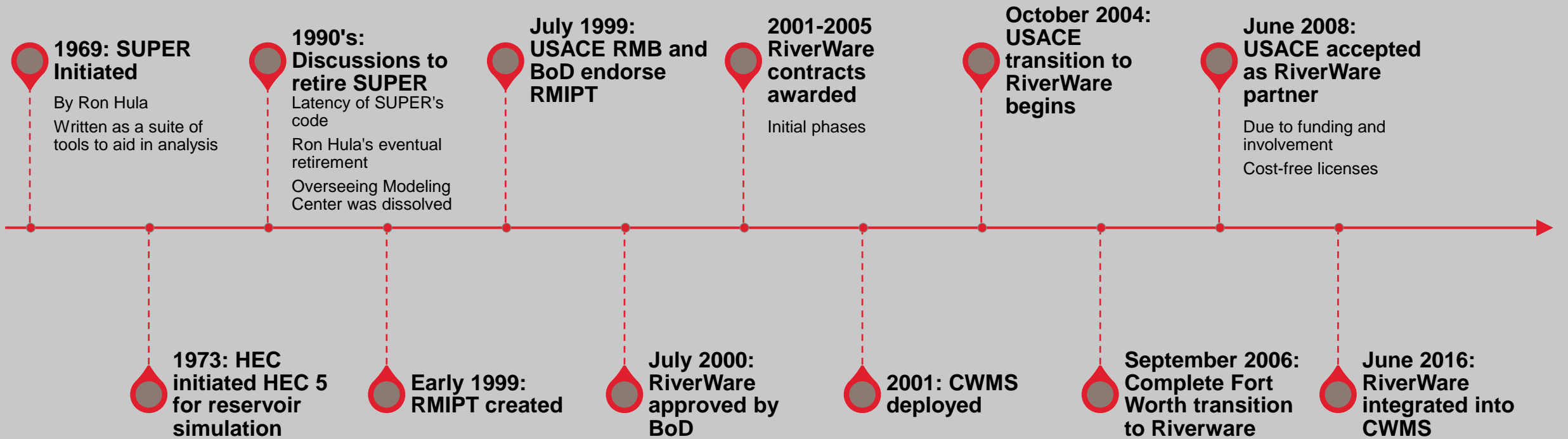




# HISTORY



- USACE SWD has almost **six-decade** history in reservoir modeling
- USACE has been fortunate with incredible staff to reach the level of modeling today
- Ron Hula
- John Daylor
- Allen Avance
- Jerry Cotter





# CURRENT USACE PARTNERSHIPS



- Five-year CESU contract agreement with USACE and CADSWES
- Common model between Federal and State Agencies
- Plugin to HEC-CWMS



**US Army Corps  
of Engineers®**

**Hydrologic Engineering Center**



**1. Meteorology  
(MetVue)**

Benefit: Visualizing  
Rainfall



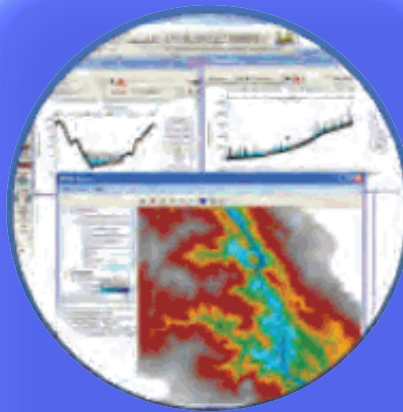
**2. Hydrology  
(HMS)**

Benefit: Forecasts



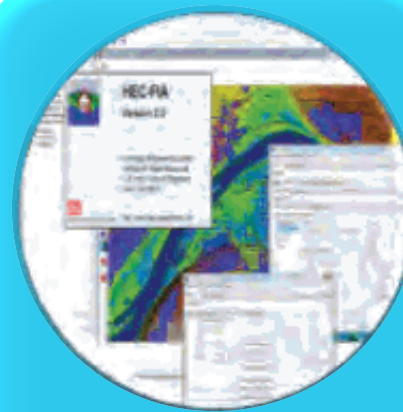
**3. Water  
Management  
(ResSim)  
(RiverWare)**

Benefit: Release  
Schedules



**4. Hydraulics  
(RAS)**

Benefit: Inundation  
Maps



**5. Consequences  
(FIA)**

Benefit: Consequence  
Estimate

Watershed Modeling (CWMS)

Data Acquisition, Database, Information Dissemination, Data Visualization



# STATE OF USACE



- Period of Record Modeling
- Dam Safety
- Reservoir Frequency Studies
- Reallocation Studies
- WCM Updates

## FORT WORTH



- Real-time Operations
- Period of Record Modeling
- Annual Benefits
- Dam Safety
- Water Accounting
- Planning Studies

## LITTLE ROCK



- Period of Record Modeling
- Annual Benefits
- Dam Safety
- Reallocation Studies
- Planning Studies
- WCM Updates

## TULSA

### SOUTHWESTERN DIVISION



- URGWOM model
- Daily Operations
- Water Accounting
- Planning Studies
- Forecasting

## ALBUQUERQUE

- Water Accounting
- Real-time Operations
- Reallocation Studies

## OTHERS

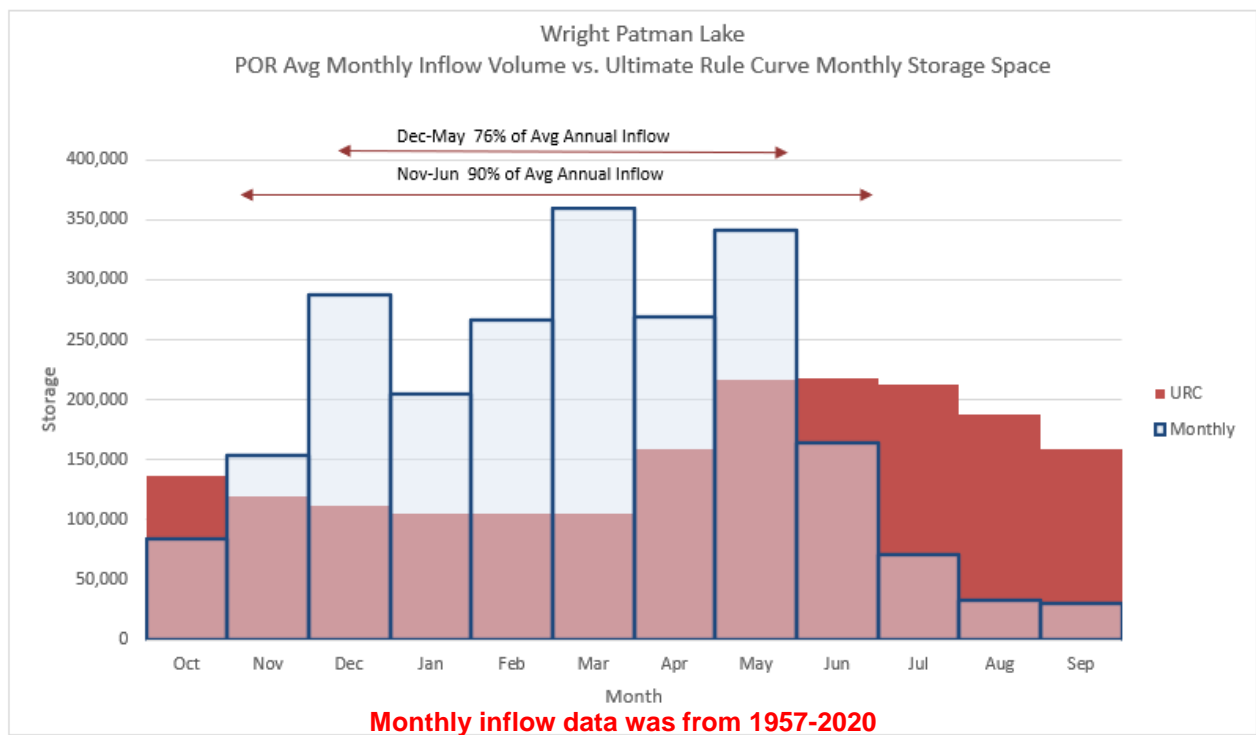
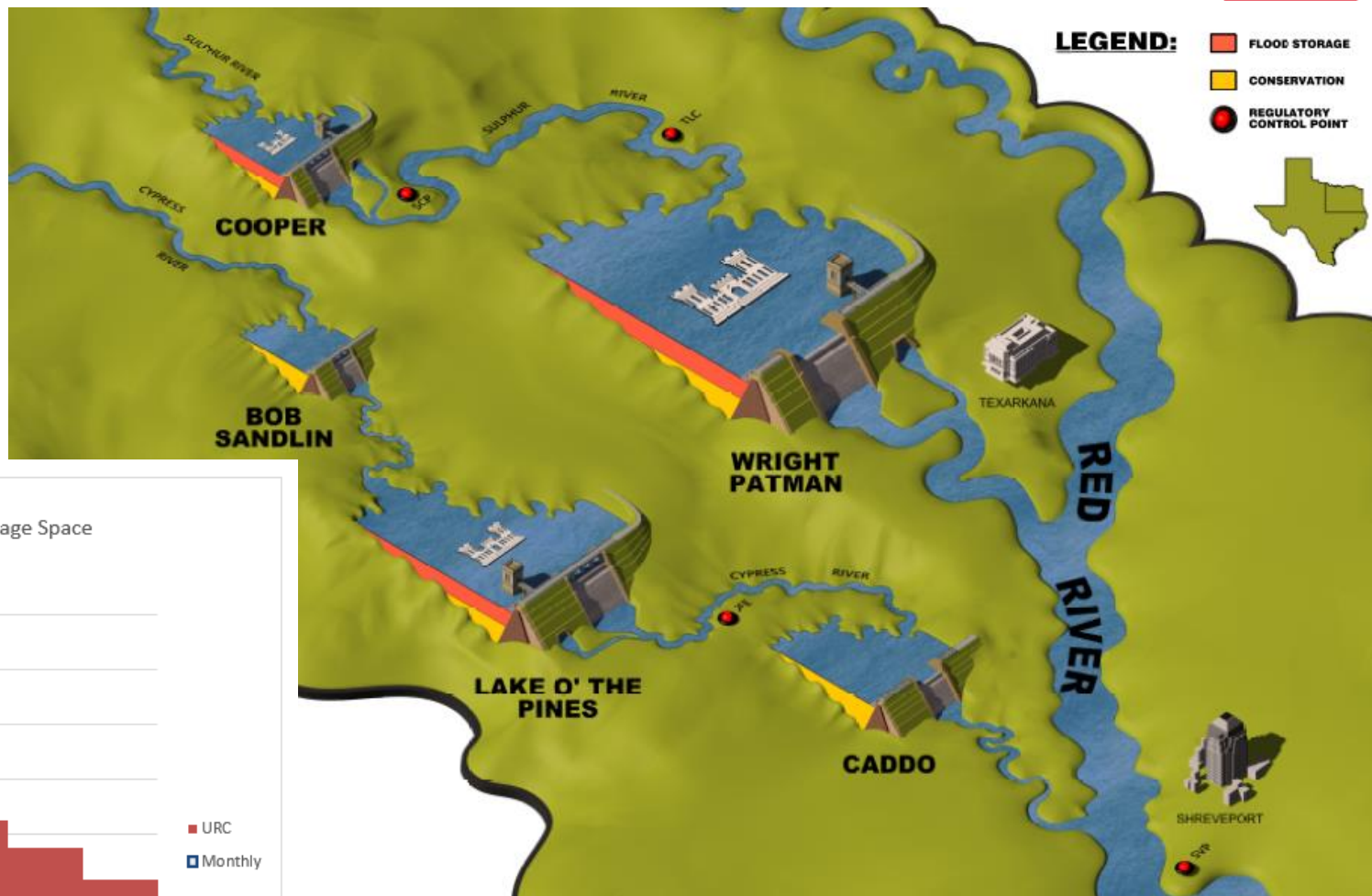




# SEASONAL CURVE EXAMPLE - WRIGHT PATMAN



- Winter through spring offer the highest inflow into the reservoir
- More conservation storage becomes available as inflow begins to drop off in the summer months





# NEXT STEPS



Lavon Lake Dam – USACE SWF District



Whitney Lake Dam – USACE SWF District

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**Water Control Manual Updates**

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**Trinity Operation Study**

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**Multiple Reservoir Reallocations**

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**Water Accounting Builds**

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**Operation Optimization**

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**Control Point Studies**

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**Forecast Informed Reservoir Operations (FIRO)**

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**White River Study**

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**Sediment Studies**

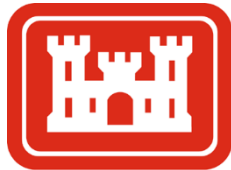
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**Seasonal Guide Curves**

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Big thanks to the  
incredible **CADSWES**  
team!



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