

Planning Center of Expertise for Inland Navigation and Risk-Informed Economics Division (PCXIN-RED)

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Topics

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US Army Corps of Engineers
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Background PCXIN-RED Area of Concern

Inland Waterways

- **5 Corps MSCs** with Inland Navigation projects
- 12,000 miles; 9' – 14' draft
- 240 Lock Chambers
- 630 million tons annually; ~50% coal & petroleum
- Includes Great Lakes

U.S. Inland Waterway System



Background

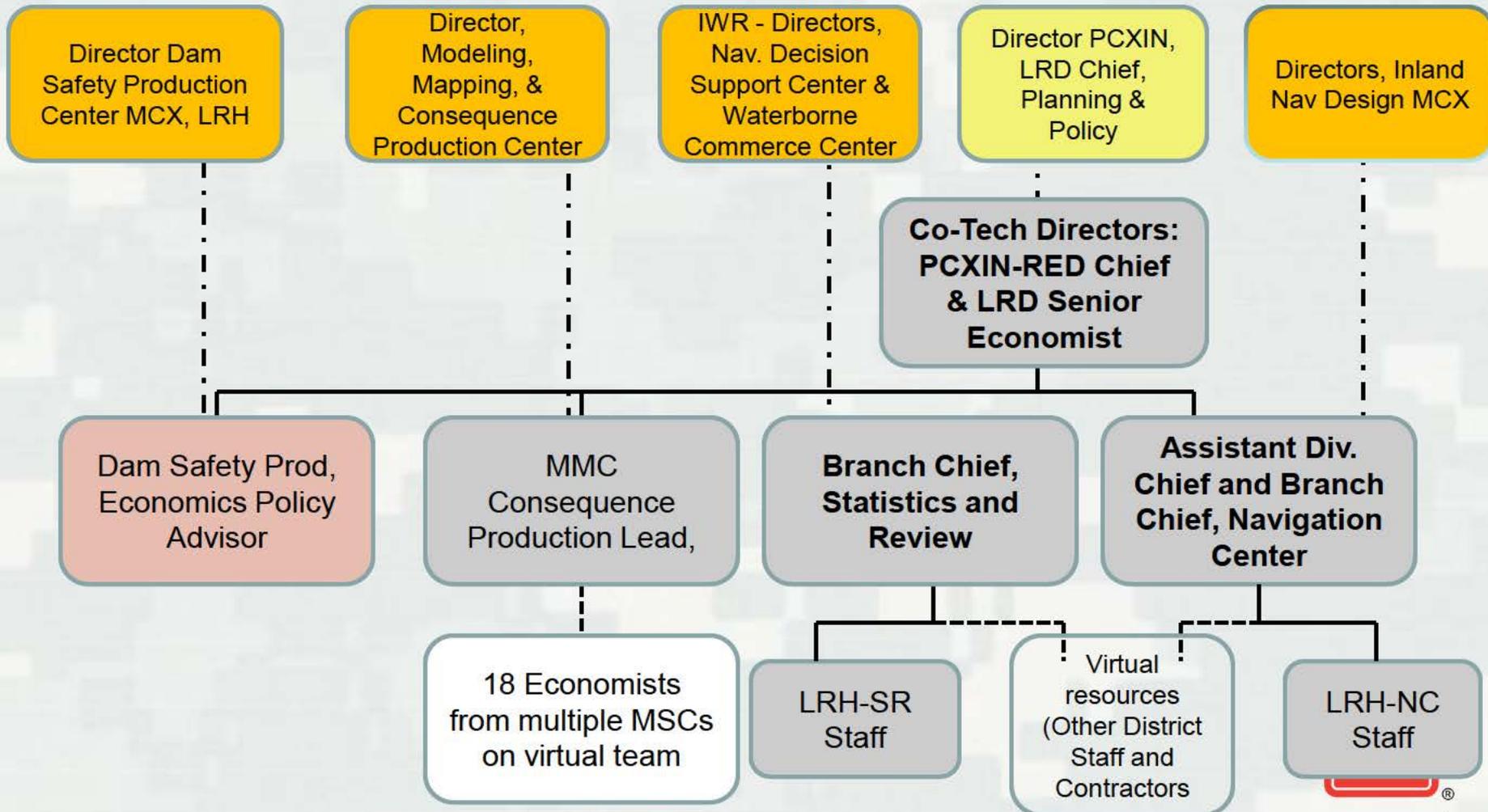
PCXIN-RED - History

- Two ORD Navigation Centers in FY 82
 - ▶ LRH - System Models/Data & LRP
 - ▶ LRL - Capacity/Environmental & LRN
- FY 92 - One Navigation Center in LRH
 - ▶ System Funding Plan Started
- FY 99 - LRD Navigation Planning Center
 - ▶ Great Lakes and the Ohio River Systems
- August 2003 - Planning Center of Expertise for Inland Navigation (PCXIN) included the Great Lakes (1 of 7 Planning Centers)
- September 2013 – PCXIN and Risk-Informed Economics Division named and realignment



Organizational Structure

PCXIN & Risk-Informed Economics Division



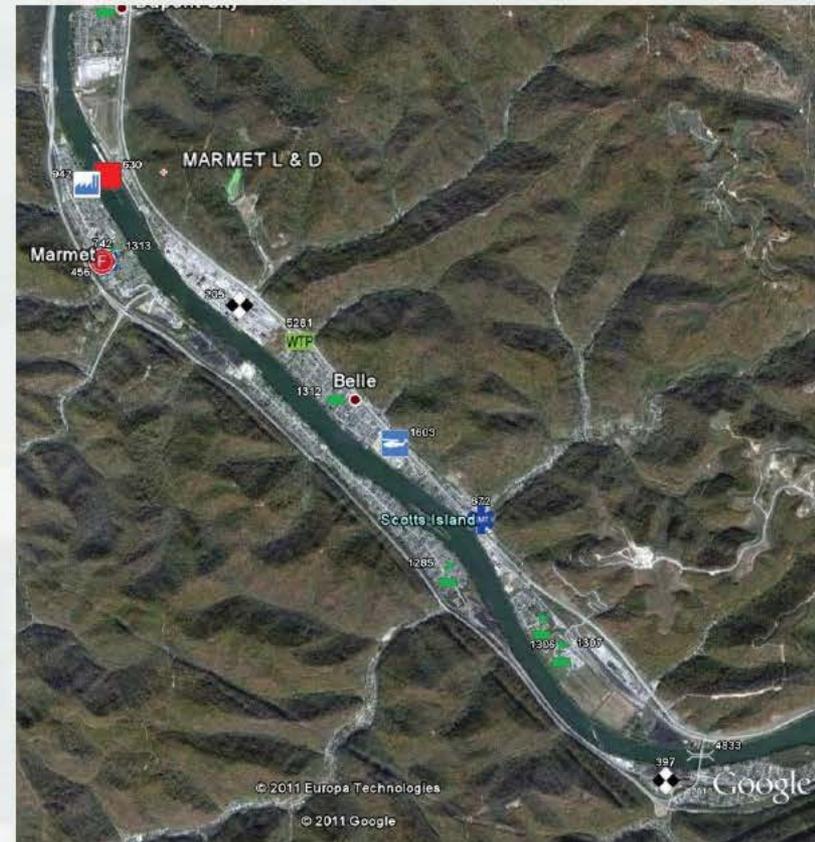
Dam Safety Modification Mandatory Center of Expertise (DSMMCX)

- National center supporting all aspects of dam modification projects across USACE
- Economics Lead
 - ▶ Advice and guidance on interpretation of national economic policy
 - ▶ SME in Dam Safety Consequences and modeling
 - ▶ Support drafting of new national policy
 - ▶ Develops and advises on consequence assessment, both human safety and economic
 - ▶ Performs and coordinates ATR of DSM studies, focusing on Consequences
 - ▶ Develops and evaluates methodologies and technical processes for inclusion in Dam Safety Modification analyses
 - ▶ Develops and advises on appropriate consequence analyses as needed to apply to unique situations
 - ▶ Trains and mentors District and DSPC economists in consequence assessment



Modeling Mapping & Consequence Center (MMC)

- Dam & levee safety programs – director in Vicksburg; LRH-PX has one of three MMC branch chiefs (Omaha & Kansas City the other two)
- Consequence Team estimates
 - ▶ Physical damages
 - Inundation depth at the structure
 - Apply the appropriate depth-damage curves by structure type
 - Economic Consequences
 - ▶ Life loss
 - Was population warned and mobilized?
 - Assign a fatality rate for remaining population based on inundation depth and structure type



- Waterborne Commerce Statistics Center
 - ▶ 1985 – LRD vessel operators
 - ▶ Census – collect & code vessel moves (500K)
 - ▶ Vessel inventory
- Research
 - ▶ Panama Canal modernization
 - ▶ Drought 2012 - low water impacts
 - ▶ Lockage fee analysis
 - ▶ Development of system simulation model (IPAT/IMTS)
 - ▶ Recons Harbor



Inland Nav Design Center

- INDC – Rock Island and Pittsburgh leads
- MOU Scope
 - ▶ Evaluation of efficiency of navigation alternatives
 - Reliability
 - Lockage processing times
 - Screening criteria
 - ▶ Engineering reliability & risk analysis
 - ▶ Quality management
 - Develop cadre of inland SME's (engineers and economists)
 - ▶ Guidance update
 - SMART planning
 - WRDA 2007 – RMO's

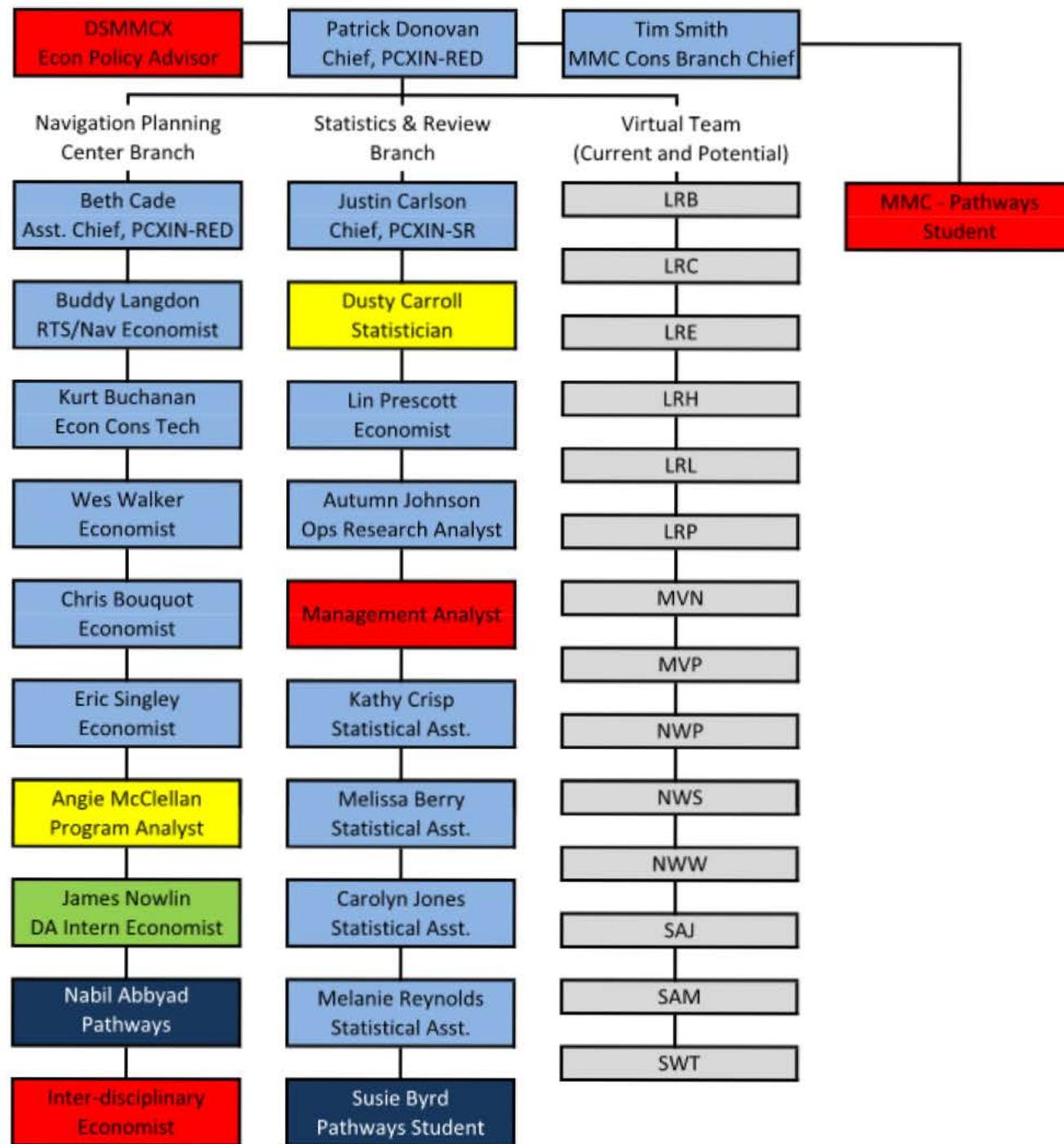


Planning Center of Expertise for Inland Navigation (PCXIN)

1. **Technical services** → LRH-PX-NC
2. **Peer Review** → LRH-PX-SR
3. **R&D** → LRH-PX-NC
4. **Training** → LRH-PX-NC
5. **Model Certification** → LRH-PX-SR
6. **Policy Development Support** → LRH-PX-NC
7. Process Improvement
8. Lessons Learned
9. **Outreach** → LRH-PX-SR



PCXIN-RED Org Chart



- = Full Time PCXIN Personnel
- = DA Intern
- = Pathways Student
- = Vacant Position
- = Temp position
- = Home District of Virtual PCXIN Member



Current Work Efforts

Work for Other Districts

- * Lock and Dam 25
- * Brandon Road – GLMRIS
- * Inner Harbor Navigation Canal
- * Missouri River Recovery Mgmt Plan/EIS
- * Columbia River Treaty (Portland District)
- * Upper Ohio Feasibility Study
- * Chickamauga Lock Economic Update
- * Soo Locks ERR
- * Navigation Environmental Sustainability Program (NESP)

Research & Development

- * Lockage Fee Analysis
- * Industry Profiles
- * Waterside Facility Inventory
- * National Waterborne Traffic Forecast
- * National Transportation Rates

Work For Other Fed

- * Columbia River Treaty (State Dept)
- * Potential work from Coast Guard
- * Potential work from MARAD

Huntington District Support

- * Marmet Major Rehabilitation Report
- * NavBook and Closure Reports
- * Ohio River Nav Dams Study
- * Greenup Lock Expansion

HQ Support

- * IMTS/IPAT
- * Navigation Project Profiles
- * Planning Associates Course
- * Planning Guidance Update Team

Statistical Support (IWR/WCSC)

- * WCS Data Collection & Processing
- * LPMS Lead
- * WARP Contract
- * Data Requests
- * Waterway Stakeholder Outreach
- * Outreach Website

MMC Activities

- * ATR - Dam Safety Projects
- * Periodic Assessments
- * Standardize Consequence Assessments
- * Dam Safety Modification Studies
- * Issue Evaluation Studies
- * Tech Support for HEC-FIA (Life Loss)

RMO

- * Marmet Major Rehabilitation Report ATR
- * SCC Model Cert
- * Soo Locks @Risk Model Cert
- * Soo Locks Review Plan
- * Ohio River Nav Dams ATR
- * NaSS Model Cert



Challenges

- Completion of personnel actions
 - Building a Bench
 - Mentoring
 - Cultivating Virtual Resources
- Model certification
- Develop and maintain updated national forecasts
- Implement action plan for Navigation Economics Research & Development/
Transportation Systems Funding
- Establish Peer to Peer partnerships with Industry and Public Sector
- Contracting
 - IDIQ
 - Software purchases
 - Economy Act/Oak Ridge National Lab

