
Port of Pittsburgh Commission
WirelessWaterways
Securing Our Ports Through Technology
August 26, 2014

WirelessWaterways

Port of Pittsburgh Commission

Mission

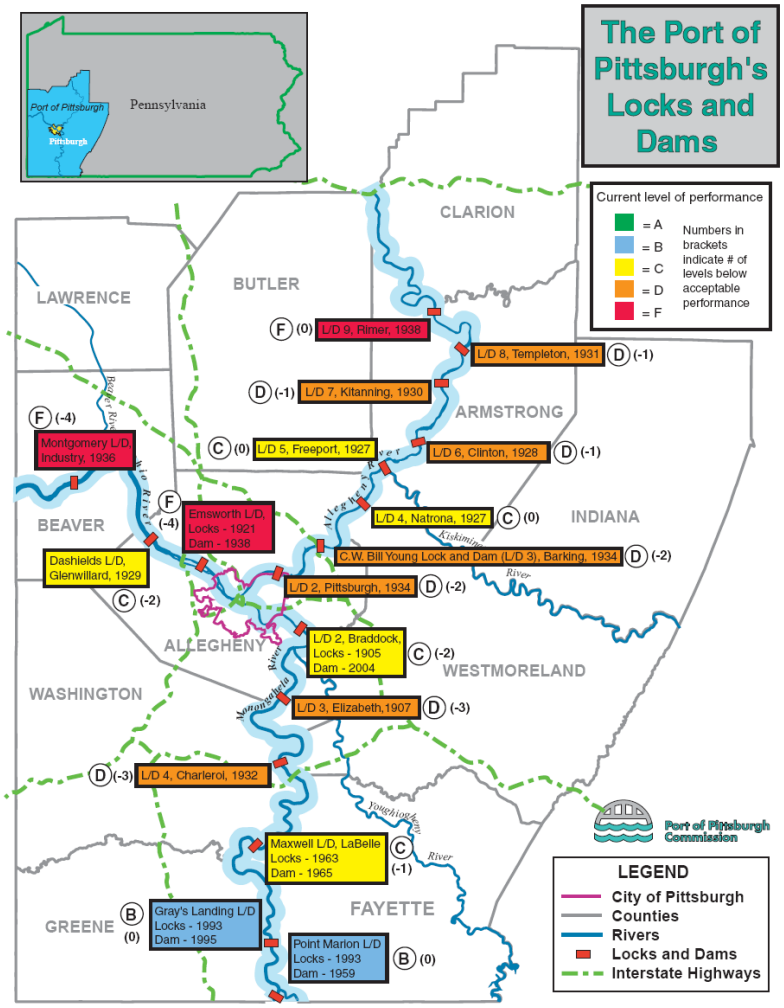
- **Promote:** The commercial use and development of the inland waterway transportation system and
- **Integrate:** That system into the economic, environmental, recreational and intermodal future of southwestern PA.

What We Do

- **Economic Development**
  - Transportation Assistance
  - River-Site Location Assistance
  - PPC Loans, bonds, grants
  - Grant management for 3rd Parties including Port Security, Marine Diesel Repowers
- **Technology Development**
- **Public Education - Lock and Dam Needs**

Does not own or operate facilities

Port of Pittsburgh Locks and Dams



Pittsburgh is 2nd Largest Inland Port in USA

What is the Wireless Waterways?

Wireless-Hybrid Broadband Systems

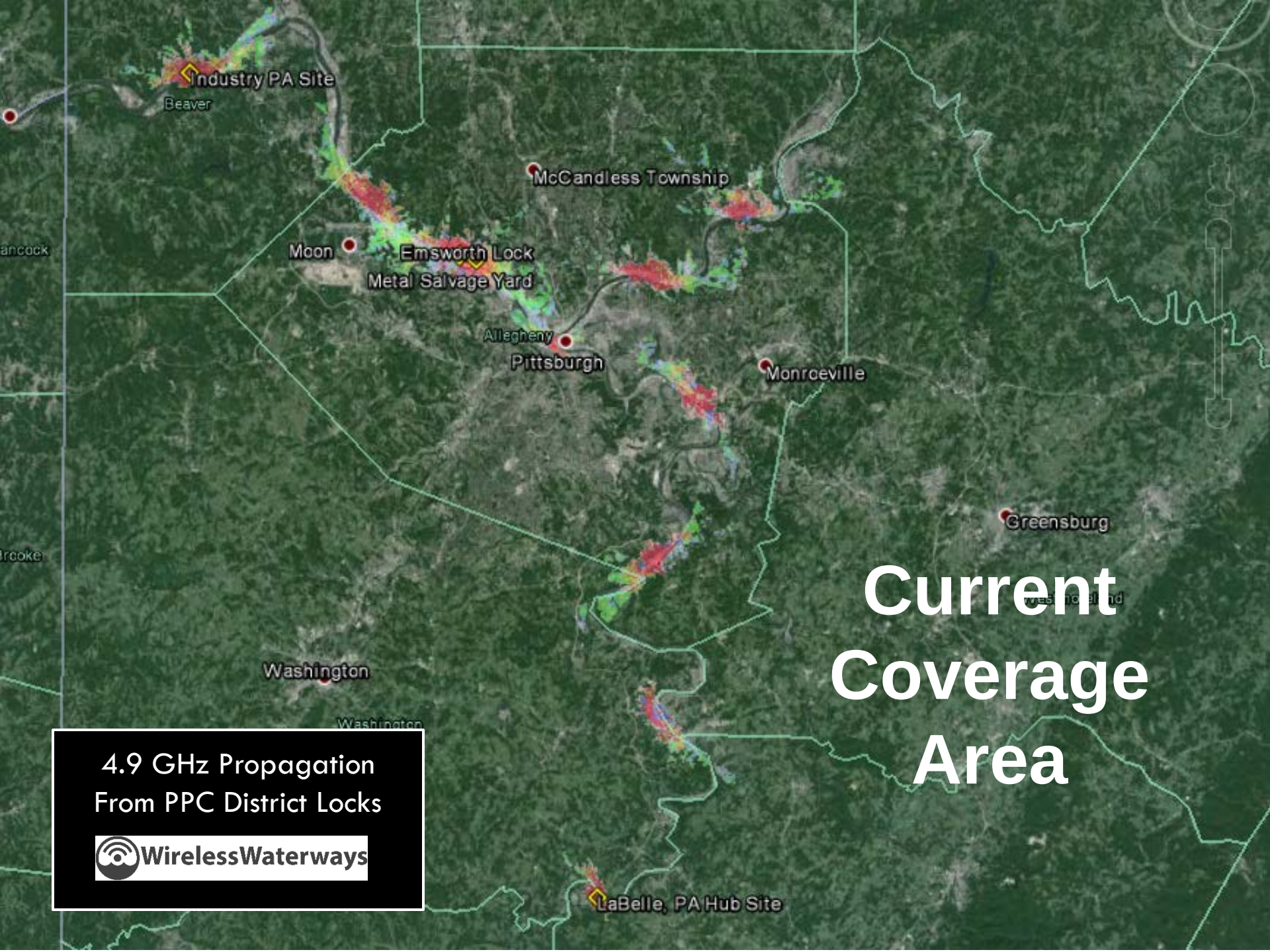
- Presently covering areas throughout 120 Miles of Pittsburgh 3 Rivers area
- Wireless-Wired Broadband Communications
- Cyber Security harden

Maritime Situational Awareness Portal (MSAP)

- Track vessel info on Google Earth like display
- Website
- Environmental Info Overlays including weather, depth, water quality info

Wireless Waterway Interoperability Test Bed (WWITB)

- Living laboratory used to test hardware and software technologies and products in a river environment


Industry PA Site
Beaver
McCandless Township
Moon
Emsworth Lock
Metal Salvage Yard
Allegheny
Pittsburgh
Monroeville
Greensburg
Washington
LaBelle, PA Hub Site
Current Coverage Area
4.9 GHz Propagation From PPC District Locks
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Birth of the Network

- AMSC recognized the need to bring the MTSA facilities and other critical locations
- Had all sites recognized as critical infrastructure for port area – no way to bring those locations back under an umbrella that could provide safe security data capabilities

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Network Needs

- Critical Infrastructure
- Security, Safety, Emergency Response
- Data Gathering
- Navigation, Environmental, University, USACE, Dept.0f environmental Resources.

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IN NETWORK CHALLENGES

- Problems and challenges
  - Security vs Accessibility
  - With other problems being borne through cyber intrusions, cyber security an important aspect of network design.
  - Cyber Security Evaluation Program
    - US Dept. of Homeland Security, Cyber Security Division
    - Blueprint and roadmap for Cyber Security for WW Network

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What's Next

- Envisioned Wireless Waterways
- Scalable architecture allows growth to other areas including other port districts
- Network will bring connectivity and services including domain awareness and other applications to areas in need –
- Ultimate goal is to tie in whole inland river system.

What's Next

Envisioned Wireless Waterways

Scalable Basis to be grown to other areas including other port areas

Projection somewhere down road network will bring to those areas in need of connectivity and services including domain awareness and other applications – goal is to tie in whole inland river system.

Network Growth

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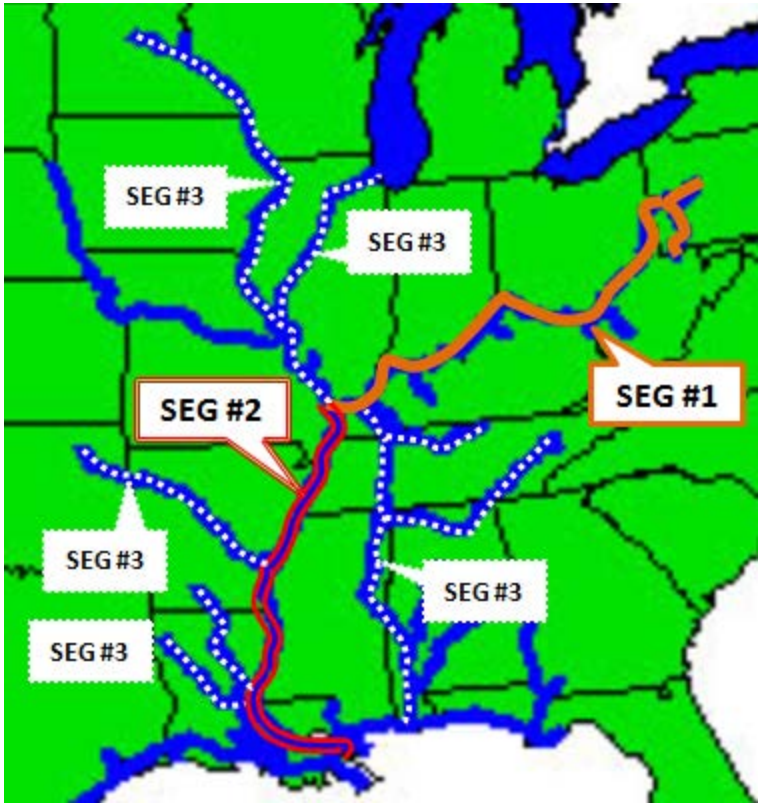
FUTURE EXPANSION



Description	Coverage(mi)	Locks	Site Qty
Segment 1: PPC and Ohio River Only			
PPC Area - Allegheny, Monongahela, PA part of OH,	120	14	
Total PPC Area of Responsibility	120	14	29
Total Ohio River	950	21	137
Total Segment 1	**1070**	**35**	**166**
Segment 2: Lower Mississippi	970	0	
Total Segment 2	**970**		**130**
Total Segment 1 and Segement 2	**970**	**35**	**296**
Segment 3: Upper MS, IL and Chicago Rivers			
Upper Mississippi	29	29	29
Illinois River & Chicago River	9	9	9
Red River	5	**5**	5
Mc-Kerr Arkansas River Nav System	18	18	18
Ouachita and Black Rivers	4	4	4
Old River	1	1	1
Tenessese River	9	9	9
Tennesse-Tombigbee Waterway	10	10	10
Total Segment 3	**85**	**85**	**85**
Entire System --- Total Segement 1, 2 & 3	**2,125**	**120**	**381**

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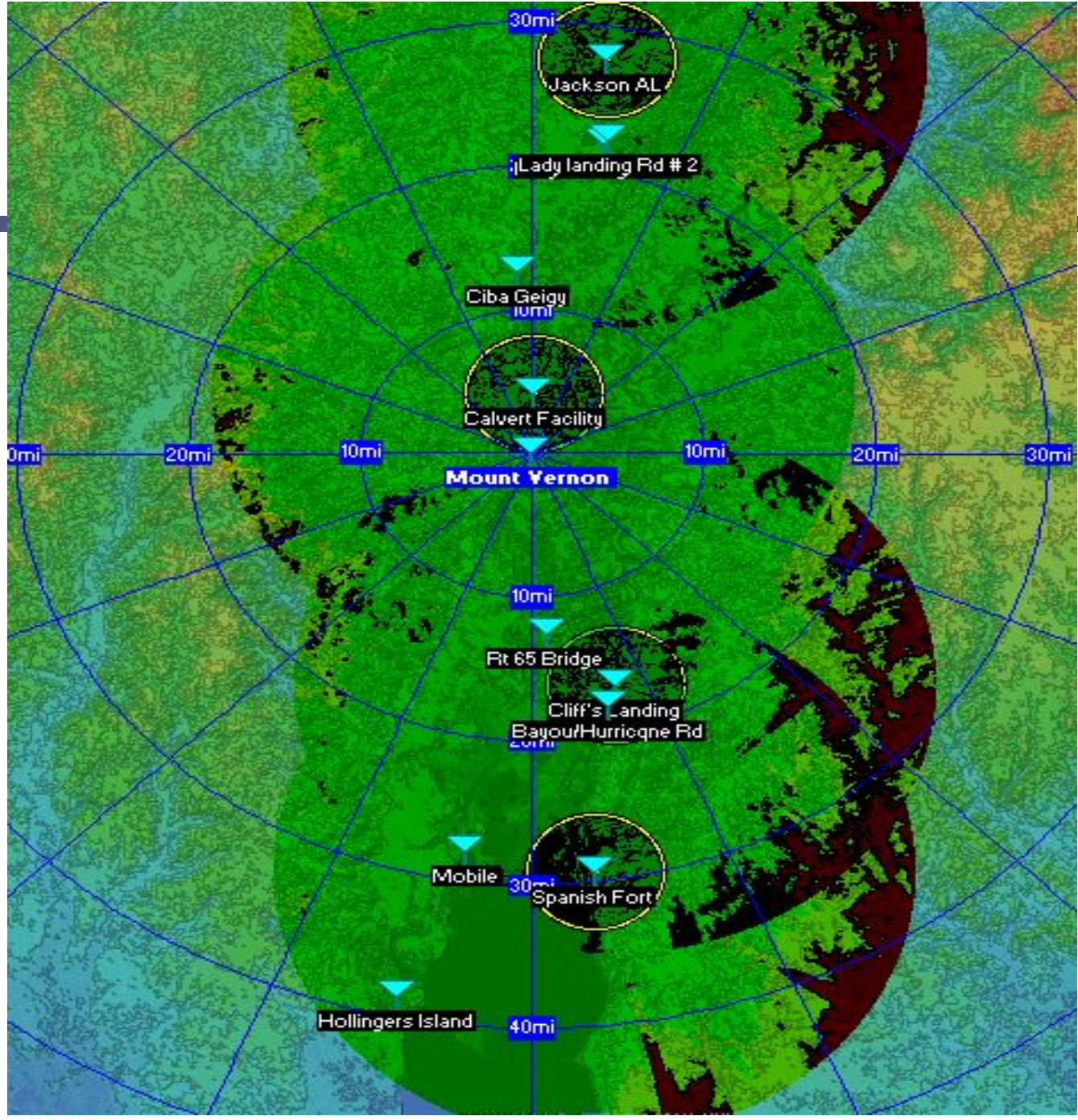
Tennessee - Tombigbee River

Jackson to Mobile White Space Coverage



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QUESTIONS ?

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