Great Lakes-Mississippi River Interbasin Study

Background, Notes, and Caveats

Authorization
- WRDA 2007 – original study authorization
- MAP-21 – accelerated due date to January 2014; placed emphasis on Chicago Area Waterway System and required consideration of hydrologic separation

Report Contents
- Objectives
  - Prevent Aquatic Nuisance Species (ANS) Transfer
  - User and Resource Mitigation
- Main Strategies
  - Nonstructural
  - Technologies
  - Hydrologic Separation
  - Combo of Technologies and Hydrologic Separation
- Alternatives – Eight total; all relevant only to Chicago Area Waterway System
  - 18 other potential paths – Appendix N and previous interim reports
- Species considered
  - 13 Species pose High or Medium Risk
  - 3 threaten Great Lakes – all Medium Risk
  - 10 threaten Mississippi River – 2 High Risk
- New Technologies
  - GLMRIS Lock – active pumping out of water while ANS-free water pumped in
  - ANS Treatment Plant – a wastewater treatment plant specifically for providing ANS-free water for buffer zone, GLMRIS locks, etc.; screens, filters, and UV

Caveats
- No National Environmental Protection Act (NEPA) Analysis included
- Does not address: invasions via non-aquatic pathways; invasive species in nearby basins; future potential invaders not identified
- Vessel movement of commercial vessels considered but not recreational vessels portaged over land (or trailered)
- Potential for Adaptive Management (i.e. use of Buffer Zones)
- Nonstructural technologies not traditionally within purview of Army Corps – would require partnership implementation
- Risks to implementation: Funding, Real Estate, Permitting

Next steps
- Stakeholder engagement
- Identification of non-federal sponsor (35% cost-share of environmental restoration projects plus O&M) or waiver of statutory requirement
- National Environmental Protection Act (NEPA) analysis

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### Great Lakes-Mississippi River Interbasin Study

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Total Costs</th>
<th>Timeline (Yr)</th>
<th>Annual O&amp;M Costs</th>
<th>Technology</th>
<th>Buffer Zone</th>
<th>Physical Barriers</th>
<th>Reduces ANS Impacts to Low*</th>
<th>Mitigation Measures</th>
<th>Water Quality Mitigation Costs</th>
<th>Flood Mitigation Costs</th>
<th>Navigation Impact Costs</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No New Action</td>
<td>-</td>
<td>Immediate</td>
<td>$51.7 M (FY12)</td>
<td>-</td>
<td>-</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Continues Status quo</td>
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<tr>
<td>2 – Nonstructural</td>
<td>-</td>
<td>Immediate</td>
<td>$68 M</td>
<td>-</td>
<td>-</td>
<td>Yes - 2 species</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Minimal</td>
<td>Implemented w/all Alternatives 3-8</td>
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<tr>
<td>3 – Mid-system control NO Buffer Zone</td>
<td>$15.5 B</td>
<td>25</td>
<td>$210 M</td>
<td>GLMRIS Locks (2) ANS Treatment Plants (2)</td>
<td>No</td>
<td>None</td>
<td>Stormwater Reservoirs (3) Conveyance Tunnels</td>
<td>N/A</td>
<td>$9.1 B</td>
<td>$0.75 M</td>
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<tr>
<td>4 – Control Technology w/ANS Buffer Zone</td>
<td>$7.8 B</td>
<td>10</td>
<td>$220 M</td>
<td>GLMRIS Locks (3) ANS Treatment Plants (3) Screened Sluice Gates (3)</td>
<td>B/T Lake Michigan &amp; Brandon Rd (IL) State Line (IL/IN) Hammond (IN)</td>
<td>Yes - 8 species</td>
<td>Stormwater Reservoirs (2) Conveyance Tunnels</td>
<td>$1.6 B</td>
<td>$2 B</td>
<td>$0.5 M</td>
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<tr>
<td>5 – Lakefront Hydrologic Separation</td>
<td>$18.3 B</td>
<td>25</td>
<td>$160 M</td>
<td>ANS Treatment Plants (3)</td>
<td>No</td>
<td>Wilmette (IL) Chicago (IL) Calumet City (IL) Hammond (IN)</td>
<td>Yes - all 13 species</td>
<td>Stormwater Reservoirs (2) Conveyance Tunnels</td>
<td>$0.5 B</td>
<td>$14.5 B</td>
<td>$210 M</td>
<td>Positive water quality impacts on Lake Michigan</td>
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<tr>
<td>6 – Mid-System Hydrologic Separation</td>
<td>$15.5 B</td>
<td>25</td>
<td>$140 M</td>
<td>ANS Treatment Plants (2)</td>
<td>No</td>
<td>Stickney (IL) Alsip (IL)</td>
<td>Yes - all 13 species</td>
<td>Stormwater Reservoirs (3) Conveyance Tunnels Relocate WRP outfalls (2) Sediment Remediation</td>
<td>$12.9 B</td>
<td>$0.024 B</td>
<td>$250 M</td>
<td>Separation near original divide Minimizes flooding impacts to Chicago</td>
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<td>7 – Mid-System Separation Cal-Sag Open Control Technologies w/ANS Buffer Zone</td>
<td>$15.1 B</td>
<td>25</td>
<td>$180 M</td>
<td>GLMRIS Locks (2) ANS Treatment Plants (2) Screened Sluice Gates (1)</td>
<td>B/T T. J. O’Brien &amp; Brandon Rd (IL) Stickney (IL) State Line (IL/IN) Hammond (IL)</td>
<td>Yes - 8 species</td>
<td>Stormwater Reservoirs (3) Conveyance Tunnels Relocate WRP outfall (1) Sediment Remediation</td>
<td>$8.3 B</td>
<td>$1.9 B</td>
<td>$7.3 M</td>
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<tr>
<td>8 – Mid-System Separation Chicago Open Control Technologies w/ANS Buffer Zone</td>
<td>$8.3 B</td>
<td>25</td>
<td>$160 M</td>
<td>GLMRIS Locks (2) ANS Treatment Plants (3) Screened Sluice Gates (2)</td>
<td>B/T Wilmette &amp; Brandon Rd (IL) Alsip (IL)</td>
<td>Yes - 8 species</td>
<td>Stormwater Reservoirs (2) Conveyance Tunnels Relocate WRP outfall (1) Sediment Remediation</td>
<td>$4.3 B</td>
<td>$0.145 B</td>
<td>$8.8 M</td>
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</table>

**KEY**

- **O&M**: Operation and Maintenance Costs. Includes costs of non-structural measures for Alternatives 3-8
- **GLMRIS**: Great Lakes-Mississippi River Interbasin Study
- **ANS**: Aquatic Nuisance Species
- *Reduction of impacts of ANS assessed at the 50-year timeframe. All Structural Alternatives 3-8 reduce risk of Asian carp species to low

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