GLMRIS BRANDON ROAD STUDY PUBLIC MEETING

September 2017

"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

US Army Corps of Engineers

U.S.ARMY

STUDY SCOPE

2014 GLMRIS Report provided basis for this study

GLMRIS-BR Study Goal

- ❑ Reduce the risk of one-way aquatic nuisance species transfer to Great Lakes Basin
- ❑ Minimize impacts to multiple waterway users

US Army Corps of Engineers

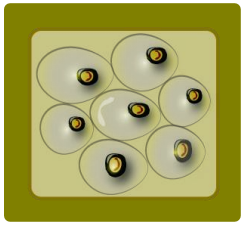
U.S.ARMY

AQUATIC NUISANCE SPECIES

Alternatives adaptable for future species

Modes of Transport:

Swimming



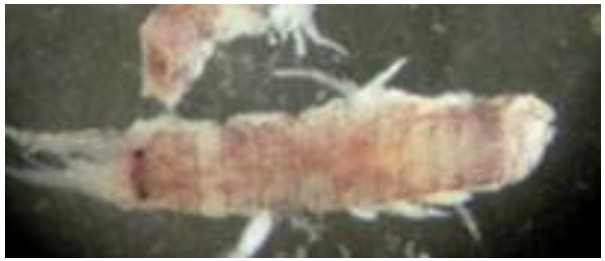
Floating

Hitchhiking

GLMRIS-BR

- Bighead and Silver Carp

- *Fresh Water Crustacean (Apocorophium lacustre)*



US Army Corps of Engineers

U.S.ARMY

WHY BRANDON ROAD?

- **Effective**
  - ~ 34 foot high dam
  - Upstream movement through lock
  - Avoids flood bypass via Upper Des Plaines
- **Relevant**
  - Identified in 3 of 6 structural alternatives (GLMRIS Report)
- **Responsive**
  - Stakeholder input
  - Upstream of leading edge of Asian Carp population

- **Valuable**
  - Enhance effectiveness of existing technologies
- **Minimizes Impacts**
  - Location seeks to minimize impacts to current waterway uses.

US Army Corps of Engineers

U.S.ARMY

LEVERAGED EXPERTISE & SHARED RESPONSIBILITY

Executive Steering Committee
USACE ● USFWS ● USCG ● NOAA ● USEPA ●USDOT
- Great Lakes Commission
- International Joint Commission
- Great Lakes Fisheries Commission
- Metro WRD of Greater Chicago
- State DNRs

Senior Executive Review Group
USACE HQ ● LRD ● MVD ● SERG Co-chairs
LRD & MVD CGs, SES
Chicago & Rock Island Commanders & DPMs
Regional Integration Team Deputies
Laboratory and CX Leadership

Stakeholders

NEPA Scoping Interest Groups:
Navigation &
Environmental
Communities

Non-Governmental Organizations
(CAWS Advisory Committee)

Brandon Road Work Group

Congressional Engagements

GLMRIS Program Management
LRC

Brandon Road Project Management
MVR

Planning
MVP/MVR
LRC

Real Estate
MVR

Communications
MVR, LRC

Economics
LRC, PCXIN

Nat Res & NEPA
MVR, LRC

ANS Risk & Tech
Eco-PCX,
LRC, MVR, ERDC

Engineering
Inland Navigation
Design Center &
LRC

Argonne NATIONAL LABORATORY
LOYOLA UNIVERSITY CHICAGO
NOTRE DAME OF MARYLAND UNIVERSITY
ERDC
MICHIGAN STATE UNIVERSITY
The University of Georgia
Canada Department of Fisheries & Oceans

US Army Corps of Engineers
USGS science for a changing world
Great Lakes Commission des Grands Lacs
US Army Corps of Engineers
U.S.ARMY

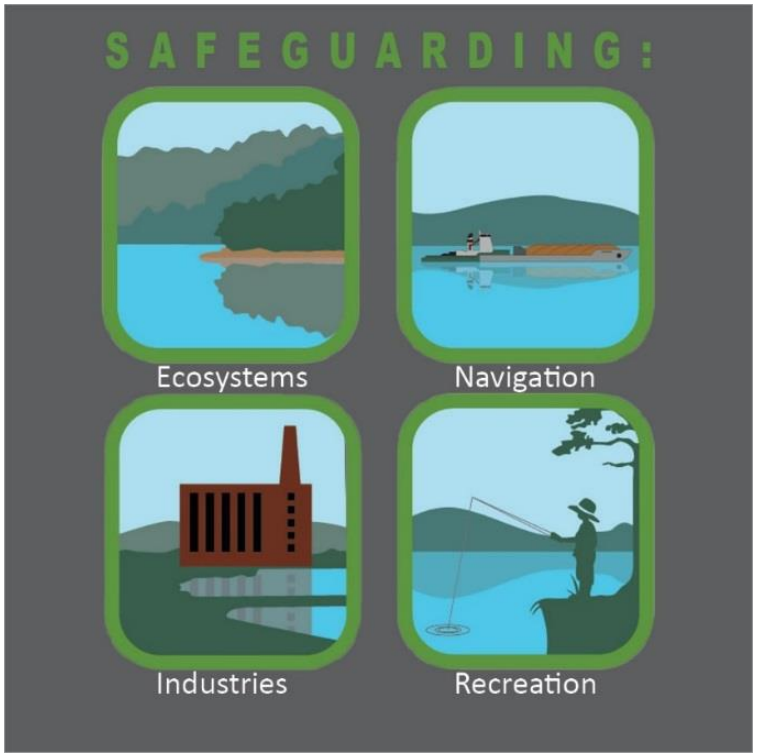
SAFEGUARDING NATION'S ECONOMIC INTERESTS IN THE GREAT LAKES BASIN AND NATION'S INLAND WATERWAYS

Brandon Road Lock

- Highly utilized for commercial navigation
- 11.3M tons of cargo transit each year
- $319M in annual transportation benefits
- Link between Great Lakes and Gulf of Mexico

Great Lakes Basin

- 63M recreational fishing trips annually with about $1.3B in net economic value
- Commercial fishing generates about $20M in revenue



US Army Corps of Engineers

U.S.ARMY

WHAT ARE WE TRYING TO PROTECT?

- 20% of the world's fresh water resource
- Over 5,000 Great Lakes tributaries
- 41% Great Lakes Basin is governed by Canada

- >60 fish species are special status
- 10 Threatened & endangered mussel species

- ~ **$1.8B** GLRI & Great Lakes Legacy Act (2010-present)

US Army Corps of Engineers

U.S.ARMY

CONSEQUENCES OF ANS ESTABLISHMENT

Bighead and Silver Carp

NOAA modeling – Lake Erie

- Asian Carp biomass could range 10% to 34%

Great Lakes Consequences:

- Substantial economic impacts
- Management actions would be in multiple locations
- Perception of quality decreased
- Safety

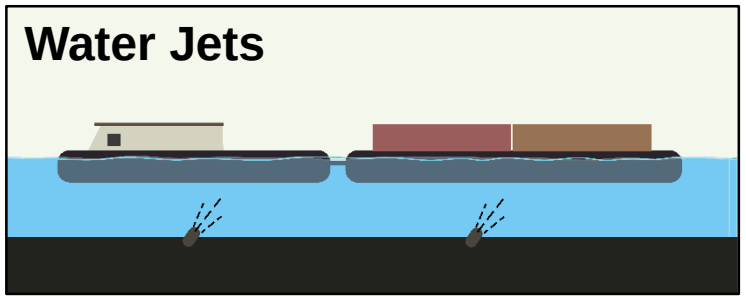
US Army Corps of Engineers

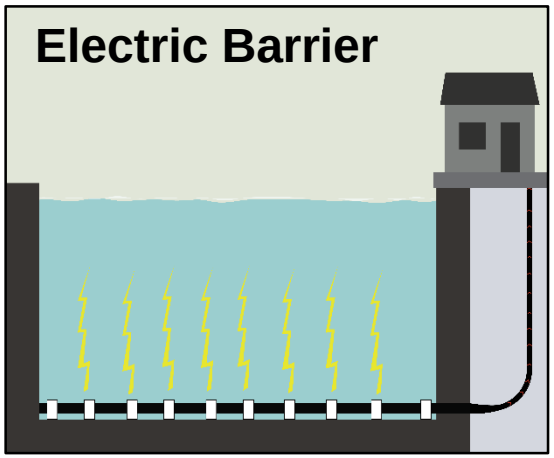
U.S.ARMY

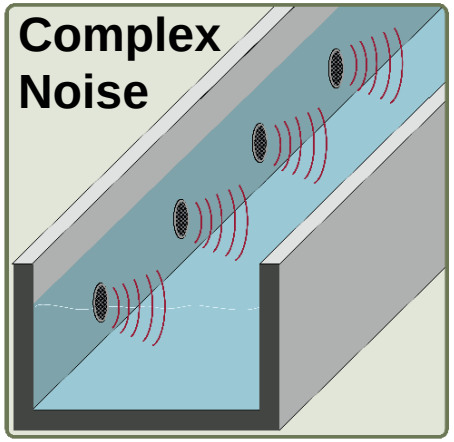
ANS CONTROLS

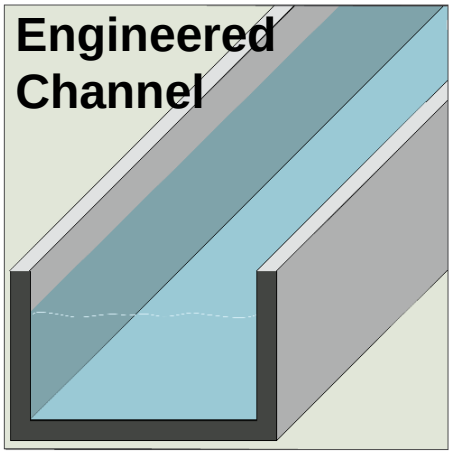
Modes of Transport:

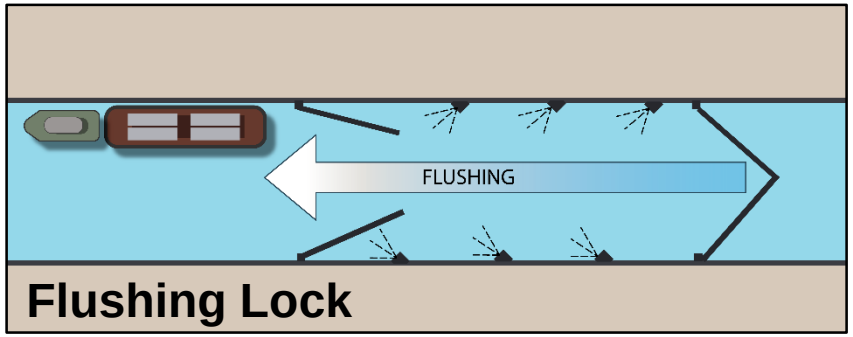
- Swimmers
- Floaters
- Hitchhikers









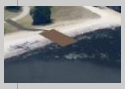
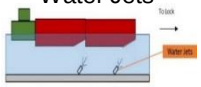
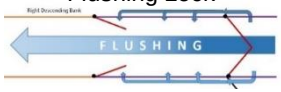
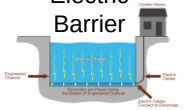
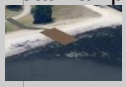
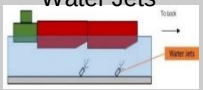
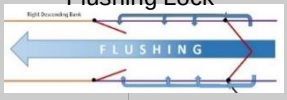
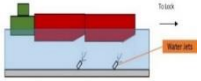
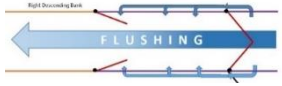
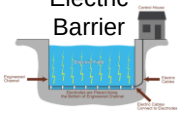
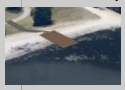
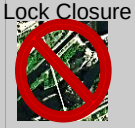


Nonstructural Measures

US Army Corps of Engineers

U.S.ARMY

ALTERNATIVES

Alternative	ANS Control Measures/Features
No New Action (No Action)	FWOP   Public Education and Outreach Monitoring Overfishing/Removal
Nonstructural Alternative	FWOP  Nonstructural  Boat Ramp 
Technology Alternative – Electric Barrier	FWOP  Nonstructural  Boat Ramp  Engineered Channel  Water Jets  Flushing Lock  Electric Barrier  Mooring Area 
Technology Alternative – Complex Noise	FWOP  Nonstructural  Boat Ramp  Engineered Channel  Water Jets  Flushing Lock  Complex Noise 
Technology Alternative – Complex Noise with Electric Barrier	FWOP  Nonstructural  Boat Ramp  Engineered Channel  Water Jets  Flushing Lock  Complex Noise  Electric Barrier  Mooring Area 
Lock Closure	FWOP  Nonstructural  Boat Ramp  Lock Closure 

US Army Corps of Engineers

U.S.ARMY

EVALUATION CRITERIA

- Effectiveness
- Relative Life Safety
- Impacts to Navigation (NED Costs)
- Costs
  - Construction
  - Operation, and Maintenance, Rehabilitation,
    - Repair and Replacement
  - Mitigation
- Ability to cycle in new
  - Nonstructural ANS Controls
  - Structural ANS Controls
- Number of Structural Control Points in the CAWS
- Modes of Transport

US Army Corps of Engineers

U.S.ARMY

TENTATIVELY SELECTED PLAN (TSP)

Overview:

- ❑ Reduces risk of Mississippi River Basin ANS establishment in Great Lakes Basin
- ❑ Allows for continued navigation
- ❑ Nonstructural measures
- ❑ Mitigation required to address impacts to connectivity

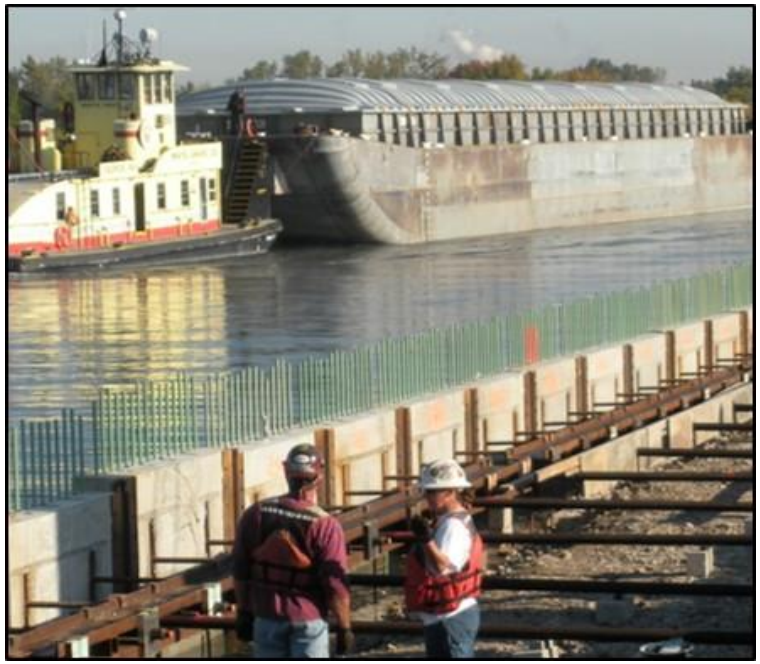
Estimated Cost to Construct: **$275.4M**
Estimated Cost to Operate and Maintain: **$8.2M/yr**
Estimated Nonstructural Measures: **$11.3M/yr**
Estimated Time to Construct: **5 yr**

US Army Corps of Engineers

U.S.ARMY

TSP IMPLEMENTATION

- Life safety primary consideration
- Safety evaluation of constructed project
  - USCG, USACE and Navigation Community
- Assumed Operations:
  - Electric Barrier: When **no** vessels are immediately downstream of barrier, within channel or lock
  - Complex noise on when electric barrier off
- Seek to operate as effectively as possible within acceptable safety parameters
- Nonstructural measures begin as soon as project funded



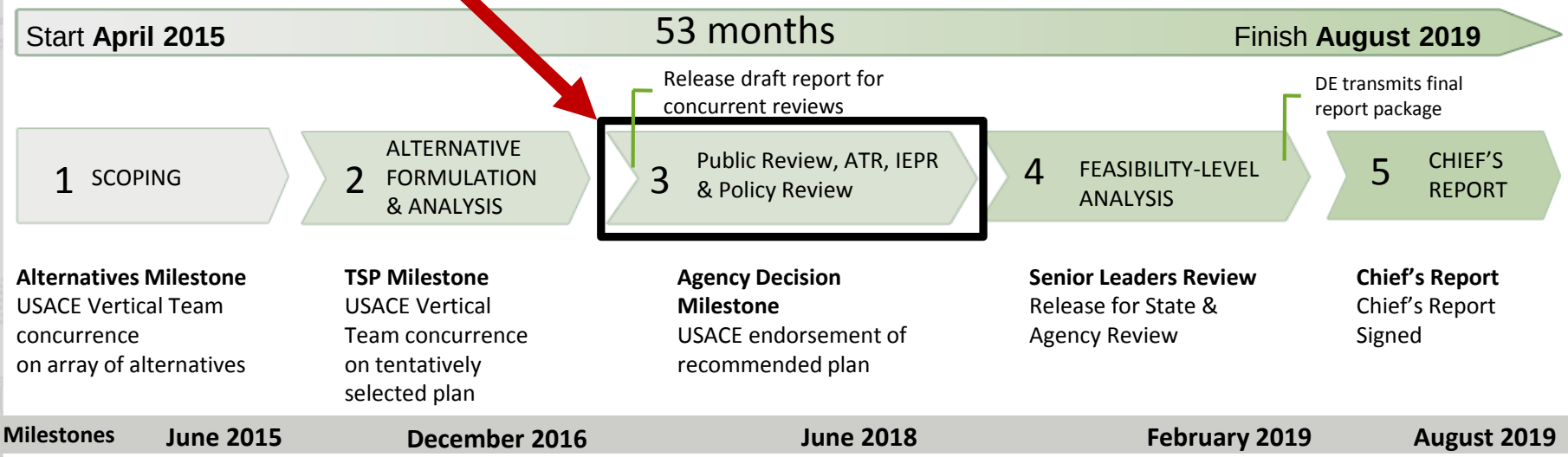
US Army Corps of Engineers

U.S.ARMY

STUDY SCHEDULE

Current Phase

SMART Feasibility Study Process

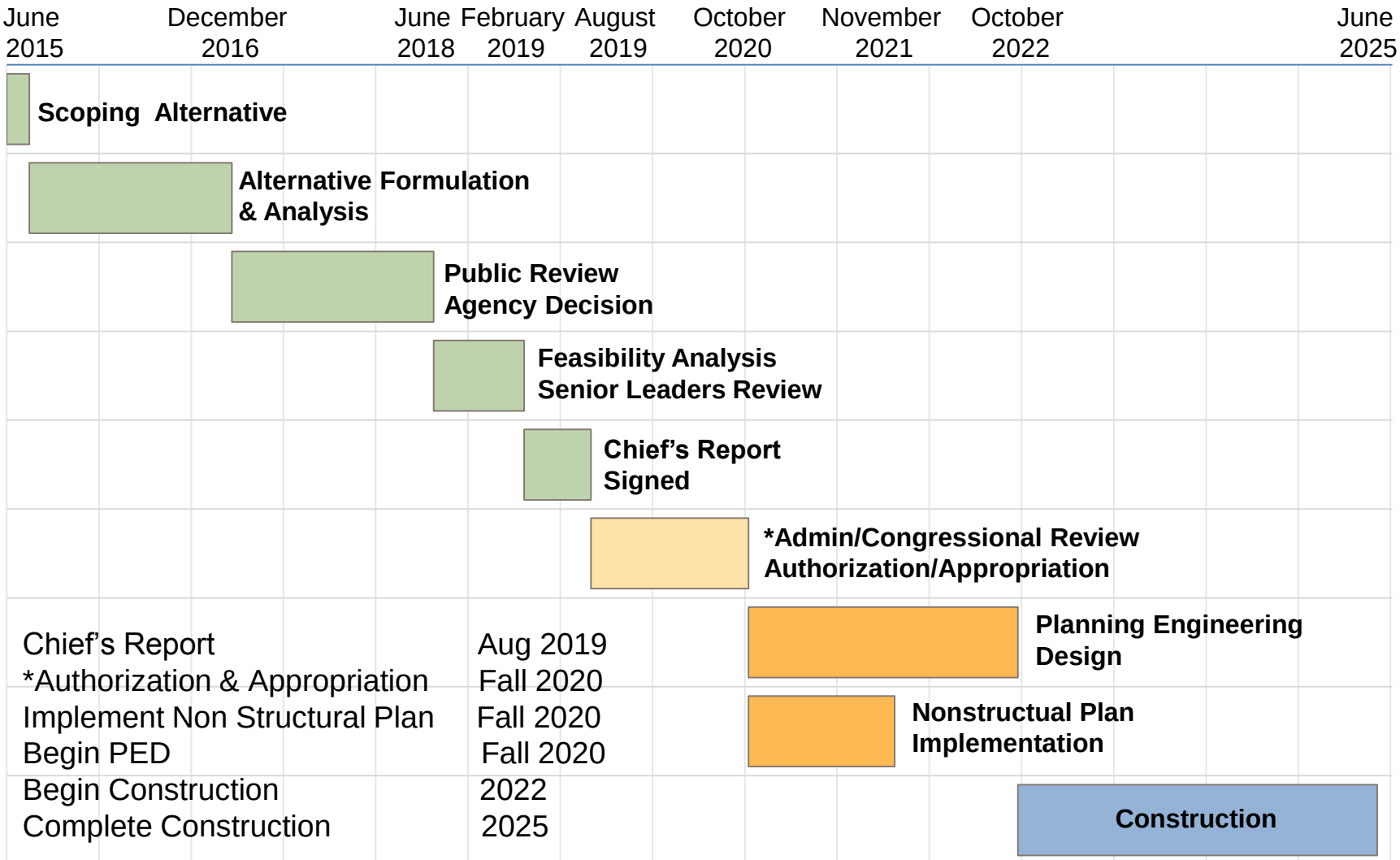


Public Comment Period Ends	November 16, 2017
Agency Decision Milestone	June 2018
Chief's Report	August 2019

US Army Corps of Engineers

U.S.ARMY

PROJECT SCHEDULE



Chief's Report	Aug 2019
*Authorization & Appropriation	Fall 2020
Implement Non Structural Plan	Fall 2020
Begin PED	Fall 2020
Begin Construction	2022
Complete Construction	2025

*Assumes Authorization & Appropriation by Fall 2020

US Army Corps of Engineers

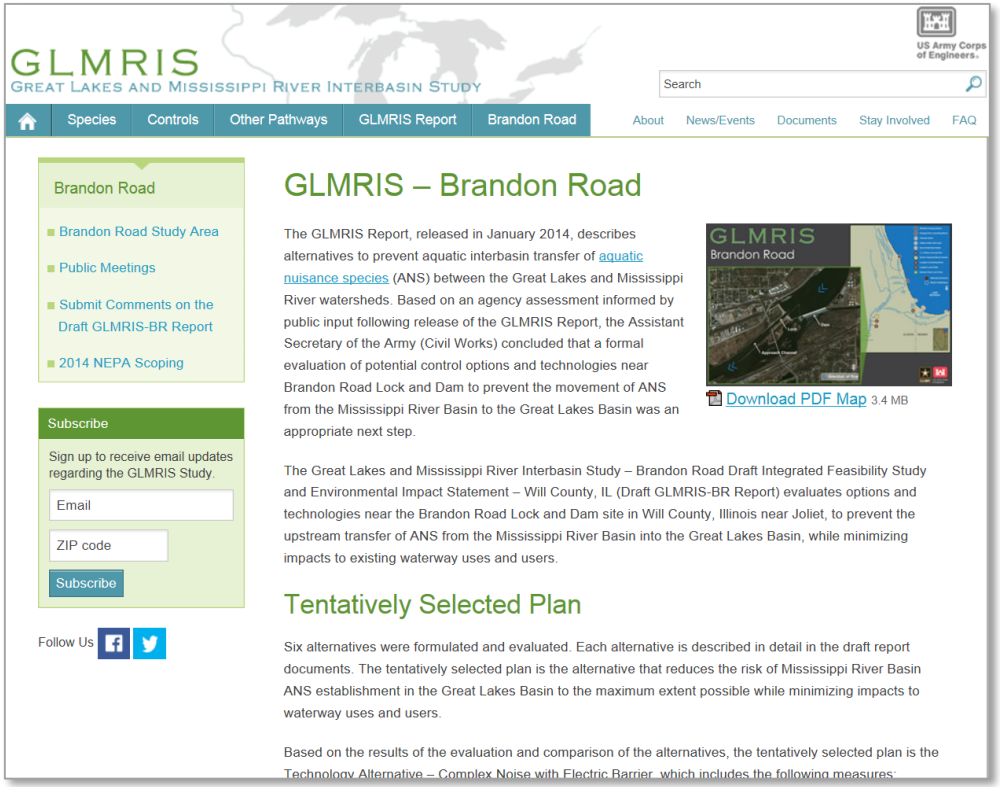
U.S.ARMY

STAY INFORMED ABOUT GLMRIS – BRANDON ROAD

On the web at:
www.glmris.anl.gov

On Facebook
www.facebook.com/glmris

On Twitter @GLMRIS



Email us at:
glmris@usace.army.mil

US Army Corps of Engineers

U.S.ARMY