



ODNR East Harbor
Dredging/Middle Harbor
Habitat Restoration
Unit Project

Project Description

- East Harbor
 - Recreation
 - Public and Private Boating Interests
 - Biological Value
- Middle Harbor (320 acres)
 - Recreational and Biological Value
 - History (1944-1951)
- Low water levels and nuisance vegetation in navigational channels
 - Impaired Access
 - Boating Safety Hazard
 - Economic Interest
- Severely degraded coastal wetland
 - Poor water circulation
 - Very high turbidity
 - Lack of aquatic macrophytes
 - Degraded fish community



East Harbor

Middle Harbor



West Harbor

Middle Harbor



Middle Harbor

East Harbor

Lake Erie

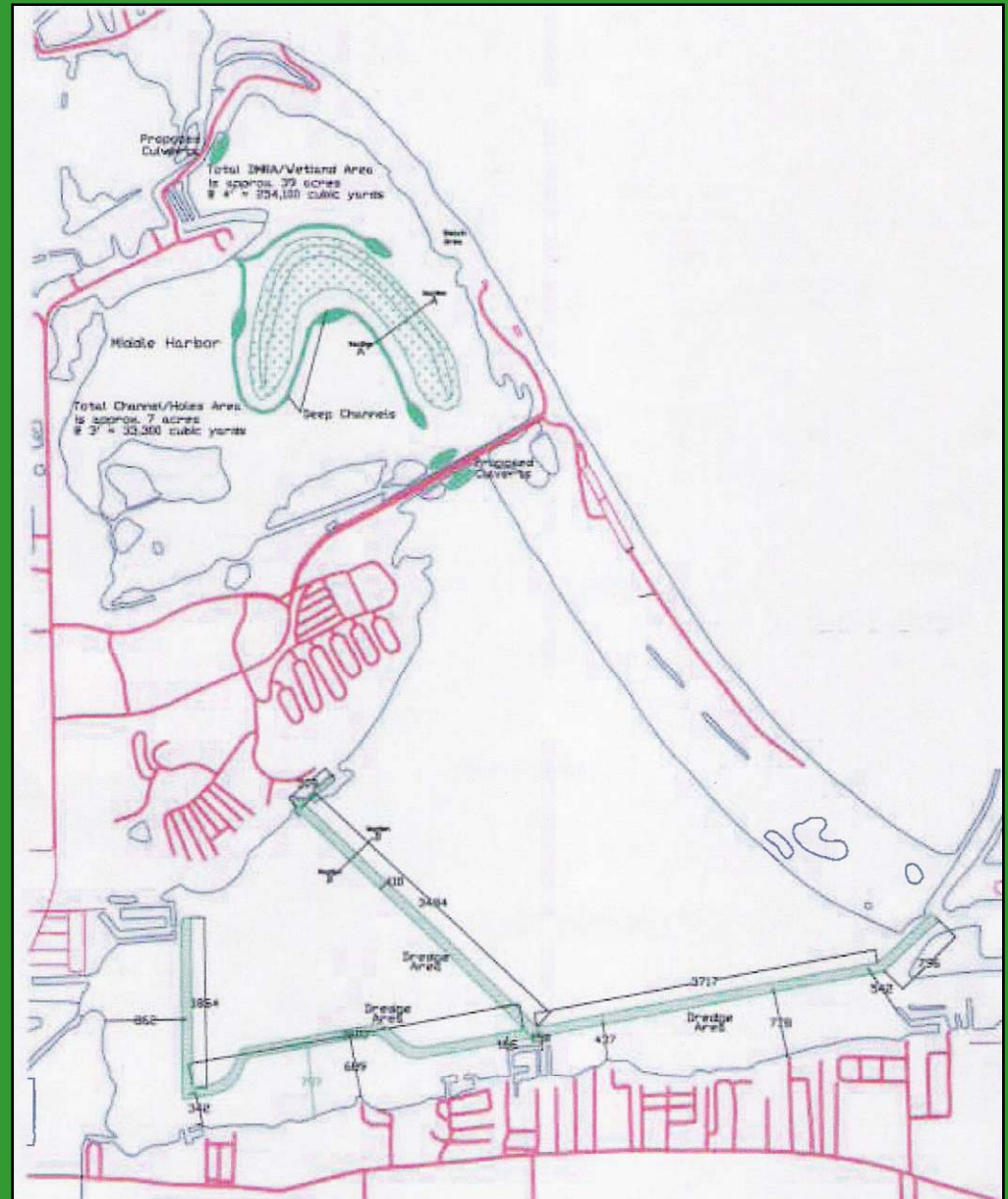


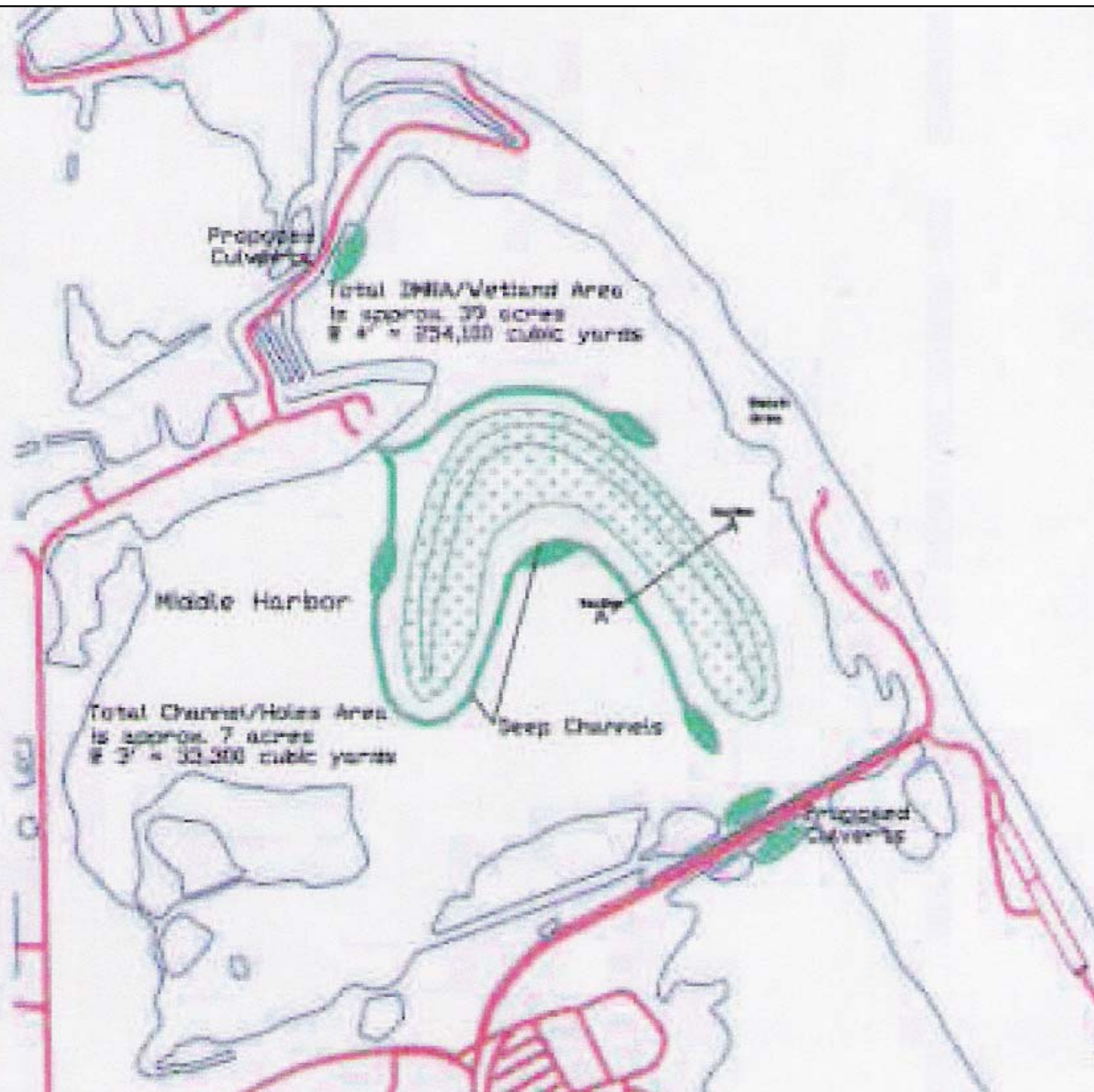
West Harbor

Middle Harbor

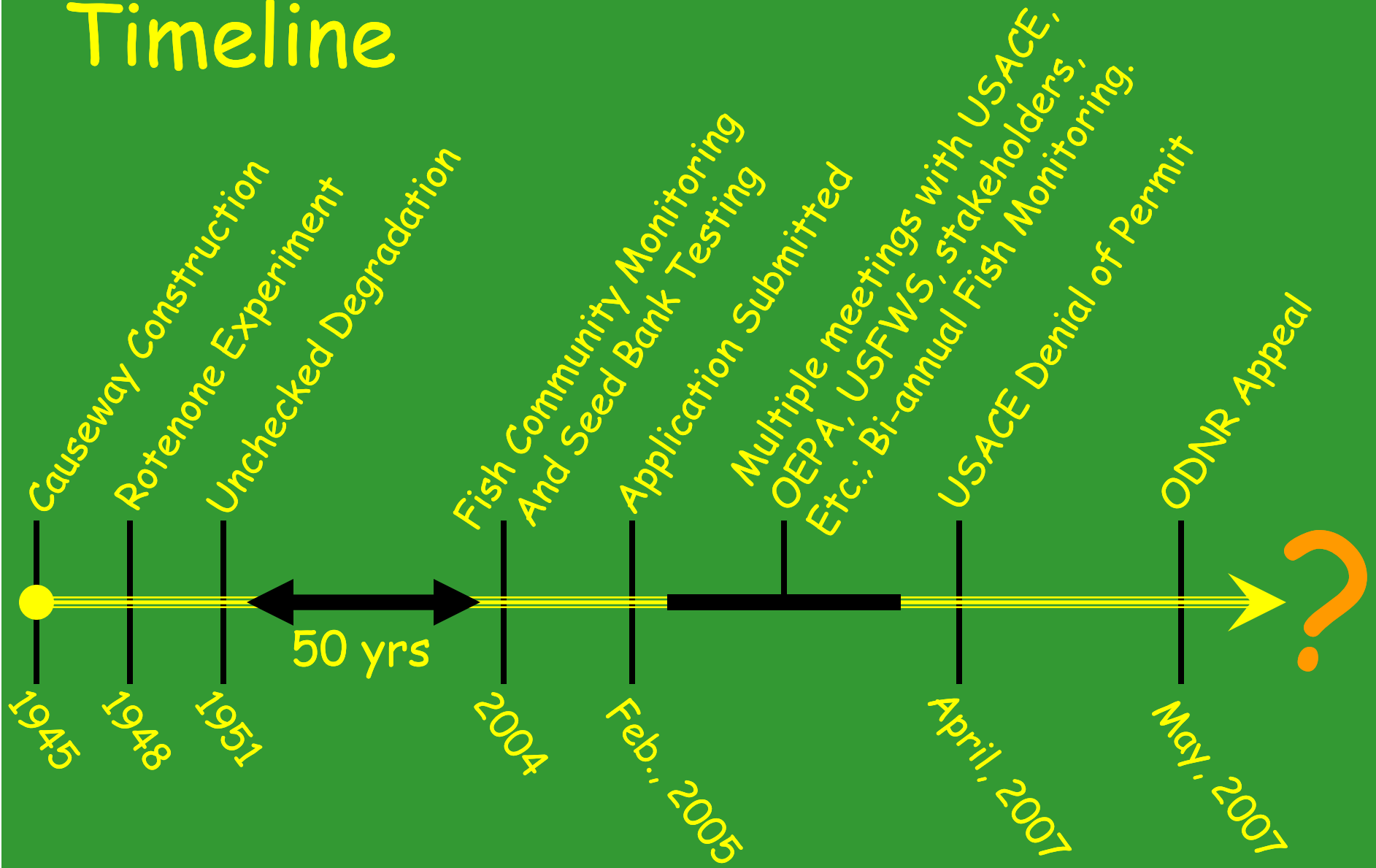
Proposal

- Use dredge material from East Harbor (~35 acres) to restore a coastal wetland (~300 acres) in Middle Harbor
 - Reconnect/movement of fish and vegetation
 - Reduce Fetch
 - Increase depth complexity (channels)
- Fully Funded under Waterworks Act





Timeline



USACE Denial of Permit

- Turbidity (“opaqueness”)
 - “interrupting the lifecycles” of invertebrates and fish
 - ODNR Sampling
 - Secchi depth less than 0.1 m
 - Fish community dominated by carp, goldfish, bullheads, white crappies, and gizzard shad (all turbidity tolerant species)
 - IBI scores (Minns et al. 1994)

Year	East	Middle
2005	83	46
2006	95	37

- Aquatic plants
 - Reduced Photosynthesis
 - Phragmites
 - Eurasian Watermilfoil
- Engineering
 - Silt curtains, soft sediments, settling material, and structure failure
 - Upland disposal: benefit?
 - Open-lake disposal

USACE Denial of Permit

- 'Least Environmentally Damaging Practicable Alternative (LEDPA)'
- USACE would prefer open water disposal in Lake Erie to beneficial reuse of dredge material
- Cost of restoration in Middle Harbor (value=?) versus cost of open water disposal to Lake Erie ecosystem (value=\$600 million)

Thanks

