

Sheboygan River Area of Concern (AOC) Habitat Restoration Projects

2013 Upper Midwest Stream Restoration Symposium

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Presentation Outline

- Sheboygan River Area of Concern (AOC)
 - Background
 - Definition of Habitat Restoration Projects
- Project Timeline
- Project Improvements
 - Taylor Drive / Indiana Avenue Project
 - Wildwood Island Project
 - Kiwanis Park Projectt
- Project Status
 - 2013 Activities
 - Long Term Maintenance
 - Future AOC De-Listing Activities



Sheboygan River Area of Concern

- AOC – 43 most degraded areas in the Great Lakes
- Sheboygan River AOC – lower 14 miles of the river
- 9 impairments identified
 - 7 related to contaminated sediment
 - 2 related to habitat
- Habitat Restoration needed
- Delisting Targets document the endpoint – needed to bridge targets with reality to create meaningful projects



Habitat Restoration Project Identification

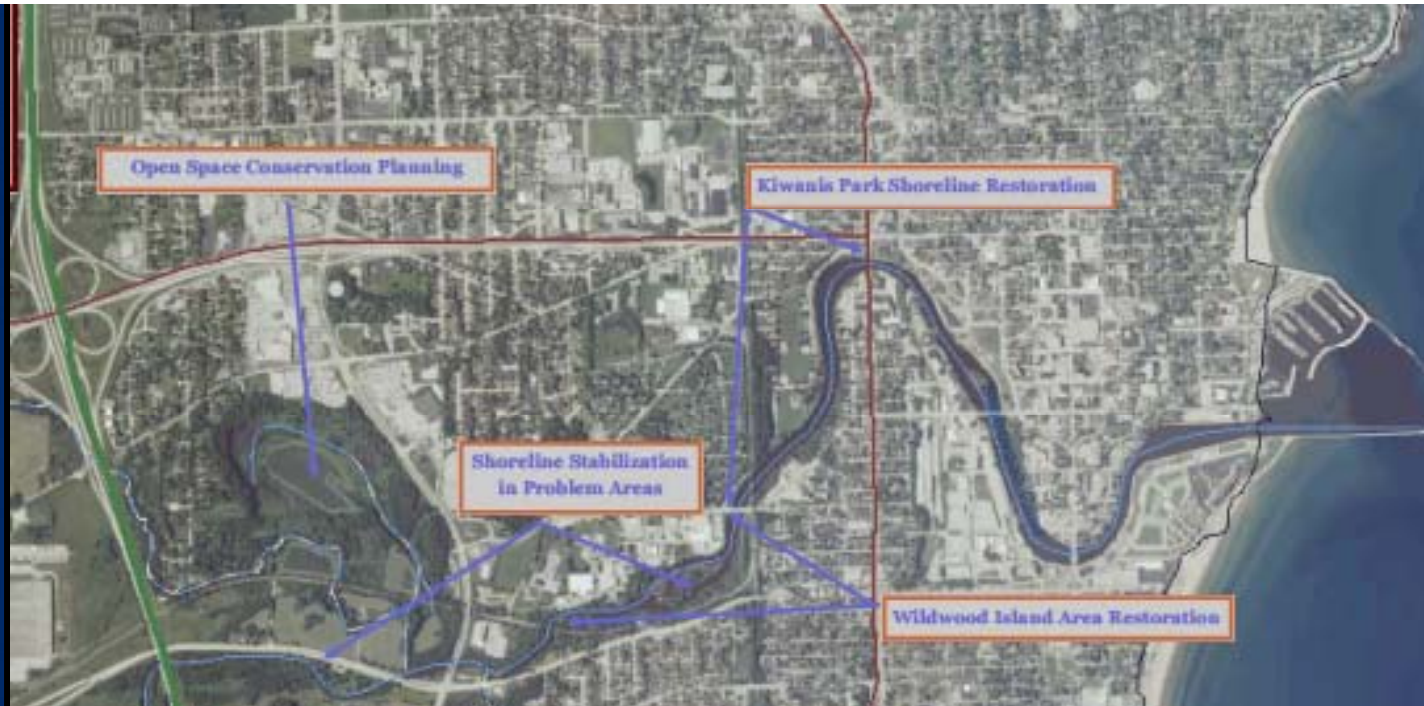
- 7 Habitat Restoration Projects were identified
- These “Tier 1” projects were vetted by the Fish and Wildlife Technical Advisory Committee
- What does the data tell us about what should be done?
 - What are the most effective projects?
- Where can we actually work?
 - Time, Access and Practical Limitations



Habitat Restoration Project Goals

- 1) CONNECTIVITY
- 2) Protect Existing High Quality Habitats
- 3) Conservation Targets
 - Migratory Bird Stopover Habitat
 - Shorebird Stopover and Breeding Habitat
 - Resident Breeding Bird Habitat
 - Warmwater Fisheries Community Habitat
 - Herptile Habitat
 - Riparian Emergent Wetlands
 - Riparian Forested Floodplains





Selected Projects

1. Kiwanis Park Shoreline Restoration
2. Wildwood Island Area Restoration
3. Taylor Drive & Indiana Avenue Wetland Restoration
4. Shoreline Stabilization in Problem Areas
5. In-Stream Habitat Improvements
6. Targeted Invasive Species Control
7. Open Space Conservation Planning

Design Project Timeline

- Development of Conceptual Designs
 - Kickoff Meeting (Oct. 17, 2011)
 - Background Investigations (Oct. / Nov. 2011)
 - Hydrologic / Hydraulic Evaluations (Nov. / Dec. 2011)
 - Conceptual Designs (Dec. 2011 / Jan. 2012)
- Presentation of Conceptual Designs
 - Technical Advisory Committee Meeting (Jan. 10, 2012)
 - Public Information Meeting (Jan. 25, 2012)
- Preparation of Construction Documents
 - Preliminary / Final Designs (Feb. to April 2012)
 - Pre-approved 3 Vegetation Subcontractors (April 2012)
 - Posted Final Bid Documents (May 4, 2012)



Construction Project Timeline

- Bidding
 - Pre-Bid Conference (May 17, 2012)
 - Initial Bid Opening (May 24, 2012)
 - Second Bid Opening (June 26, 2012)
- Major Construction Activities
 - Contract Award to Lee and Ryan (July 2, 2012)
 - Pre-Construction Meeting (August 8, 2012)
 - Construction Notice to Proceed (August 21, 2012)
 - Earth Moving / Stabilization (Sept. to Nov. 2012)
- Completion
 - Substantial Completion Milestone No. 1 (Nov. 15, 2012)
 - Substantial Completion Milestone No. 2 (August 2013)
 - Final (September 2015)



DESIGN PROJECT AREAS

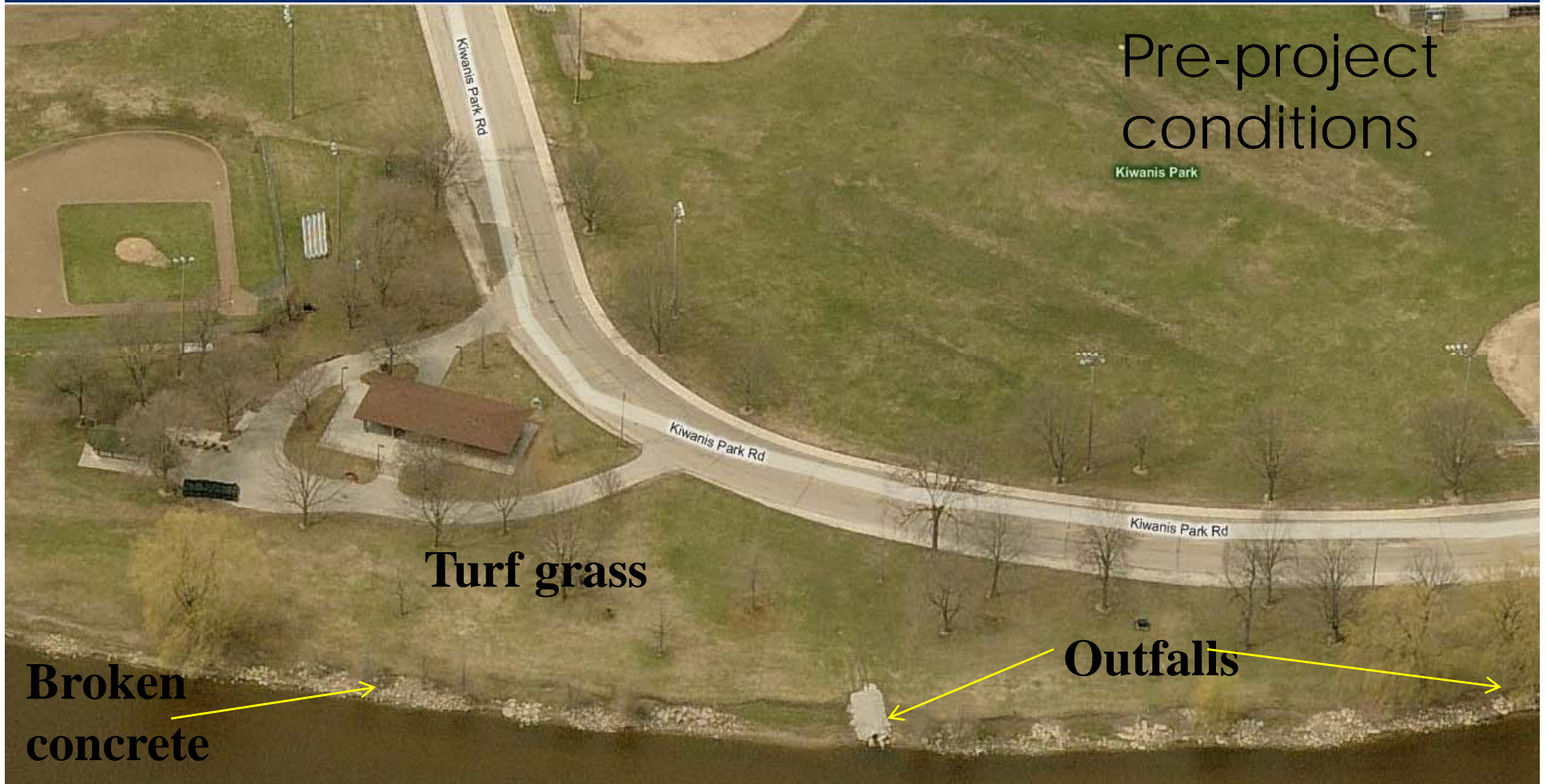


**Kiwanis
Park**

**Taylor Dr. /
Indiana Ave.**

**Wildwood
Island**

KIWANIS PARK



Pre-project conditions

Kiwanis Park

Turf grass

Broken concrete

Outfalls

KIWANIS PARK

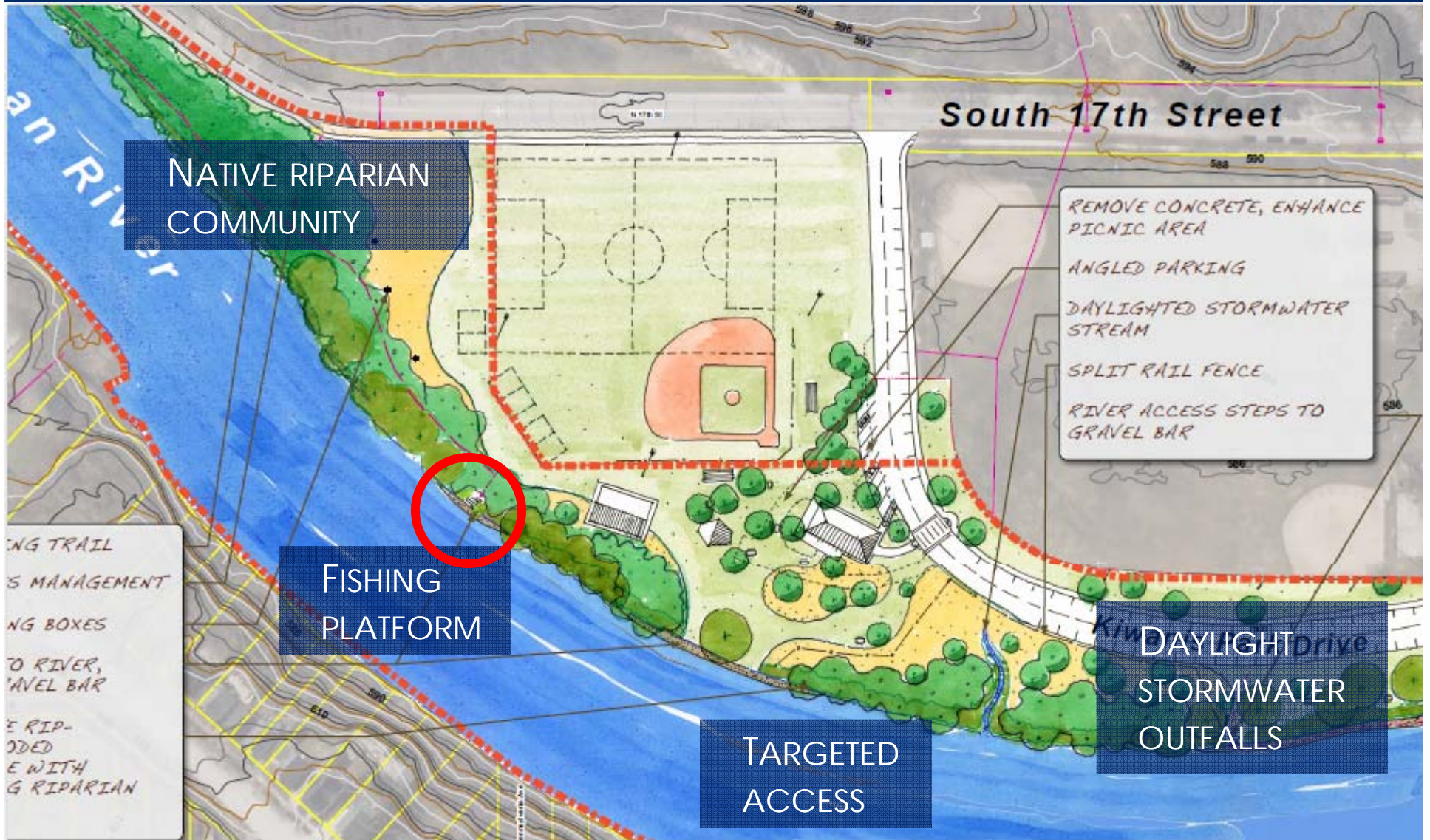
Pre-project
conditions

Turf grass

**Broken
concrete**



KIWANIS PARK CONCEPT



KIWANIS PARK

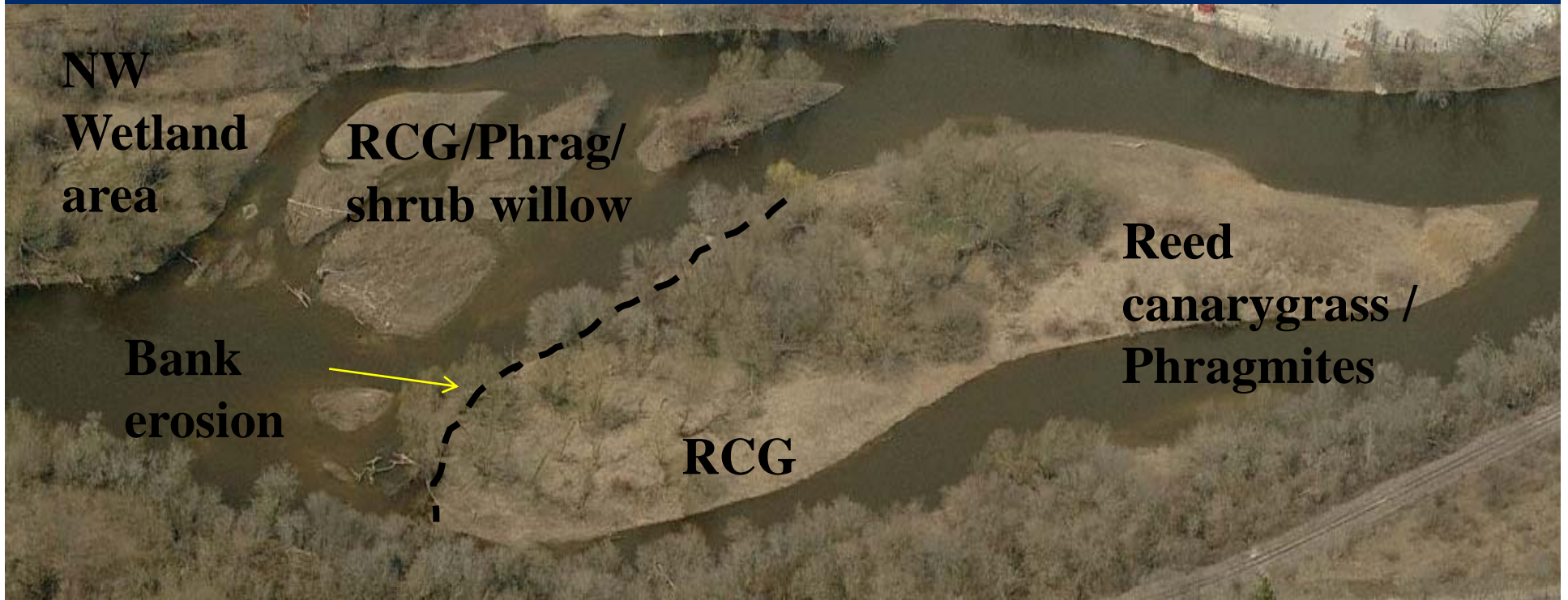
Post project

Fishing platform



WILDWOOD ISLAND

Pre-project
conditions



WILDWOOD ISLAND

Pre-project
conditions

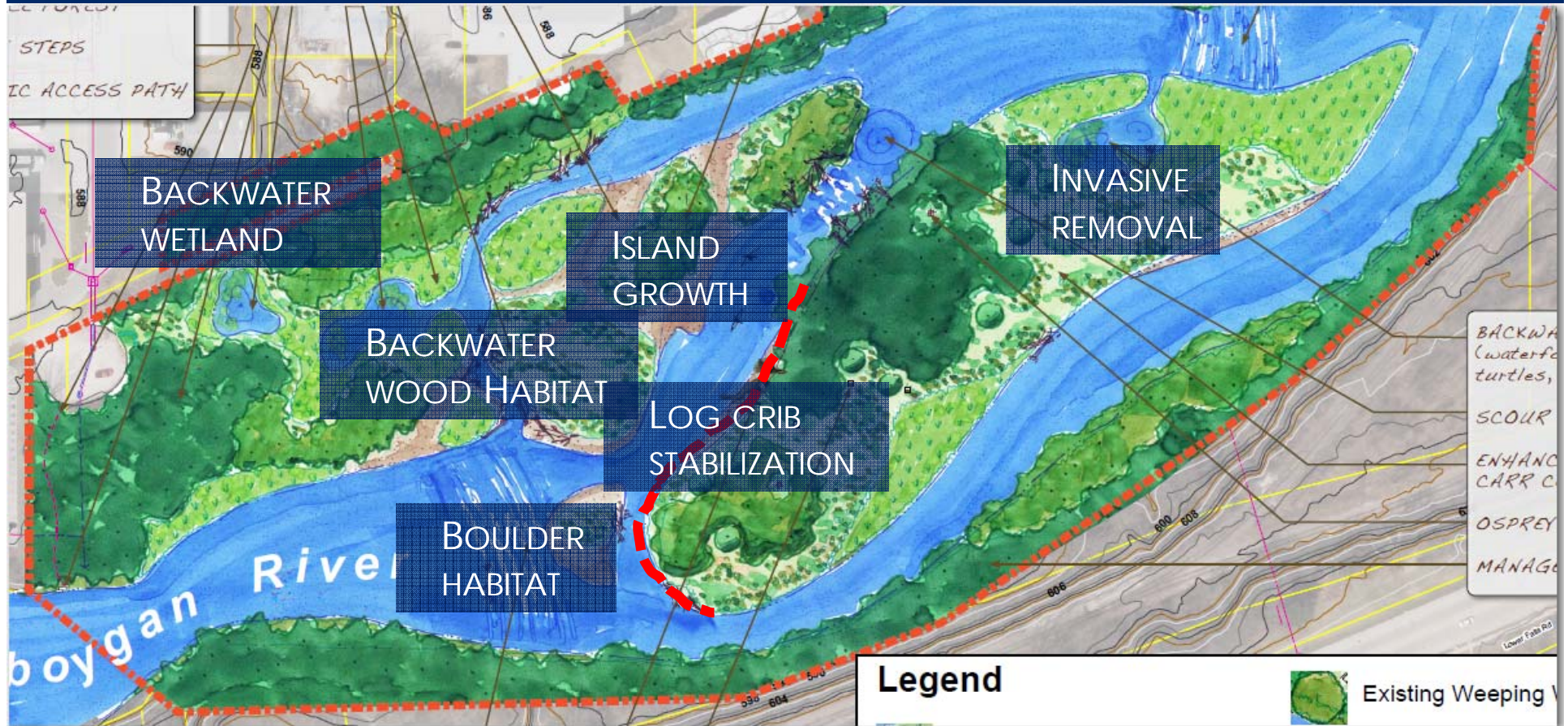
**Bank
erosion**



RCG



WILDWOOD ISLAND CONCEPT



WILDWOOD ISLAND

Post project



Floodplain roughness

WILDWOOD ISLAND

During construction



Wood placement

WILDWOOD ISLAND

During construction

**Bank construction over
wood toe**



WILDWOOD ISLAND

During construction



WILDWOOD ISLAND

Post project



WILDWOOD ISLAND

Post project



Reconstructed island

WILDWOOD ISLAND

Post construction

salmon

Boulder placement



WILDWOOD ISLAND

Post construction



Backwater wetland

PLANTED 1030 SHRUBS, 22 TREES AND 14,150 HERBACEOUS PLANTS (1800 LIVE STAKES AND 675 UPLAND PLANTS AND WILL BE INSTALLED IN 2013).

TAYLOR DRIVE POND

Pre-project
conditions



TAYLOR DRIVE POND

Pre-project
conditions

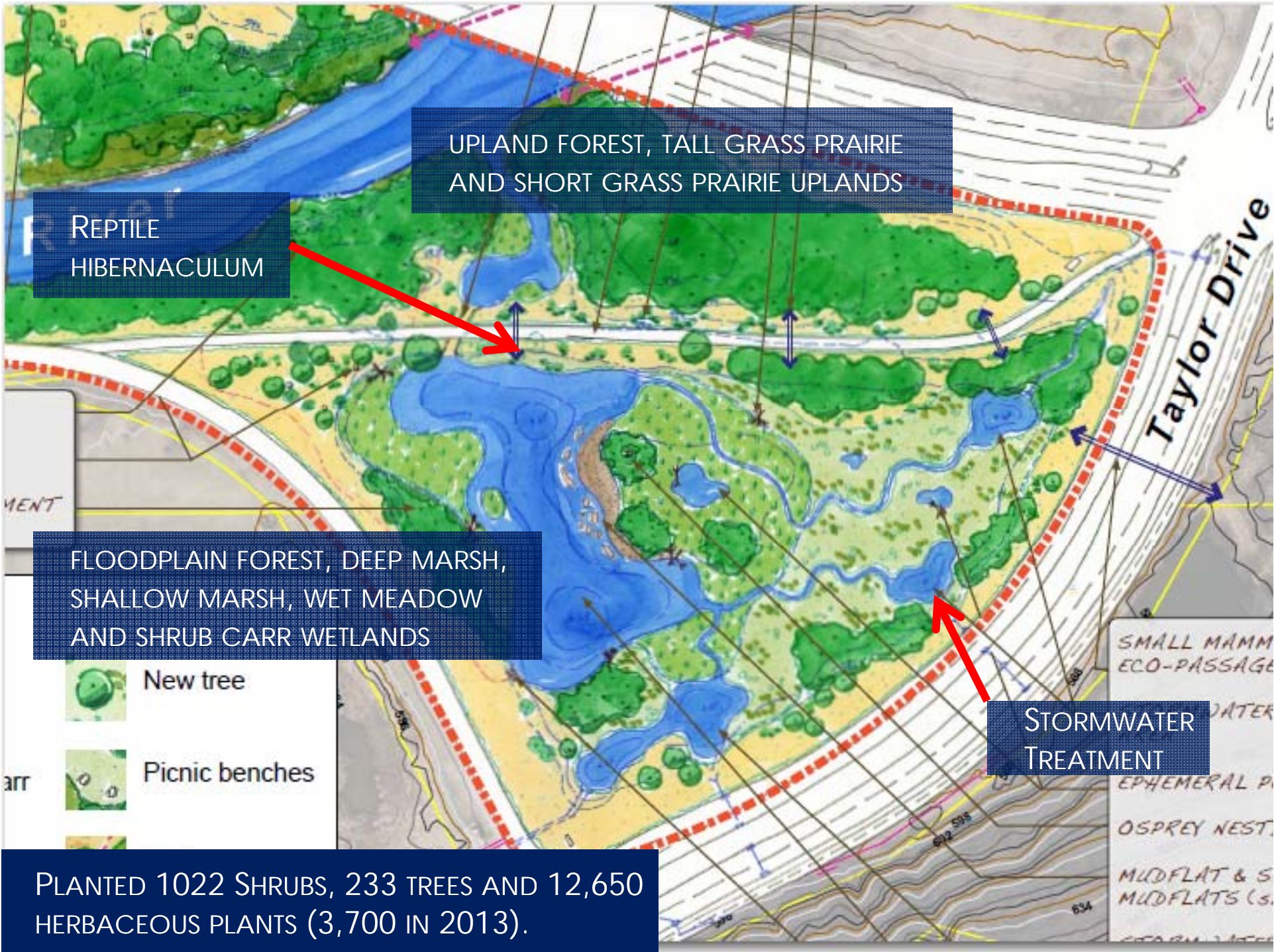
Pond
outlet



Clay pond
bottom

Invasives





UPLAND FOREST, TALL GRASS PRAIRIE AND SHORT GRASS PRAIRIE UPLANDS

REPTILE HIBERNACULUM

FLOODPLAIN FOREST, DEEP MARSH, SHALLOW MARSH, WET MEADOW AND SHRUB CARR WETLANDS

Taylor Drive

SMALL MAMM
ECO-PASSAGE

STORMWATER TREATMENT

EPHEMERAL P
OSPREY NEST

MUDFLAT & S
MUDFLATS (S

- New tree
- Picnic benches

PLANTED 1022 SHRUBS, 233 TREES AND 12,650 HERBACEOUS PLANTS (3,700 IN 2013).

TAYLOR DRIVE WETLAND

Post- construction



TAYLOR DRIVE WETLAND

Post- construction



TAYLOR DRIVE WETLAND

Post project



TAYLOR DRIVE NE

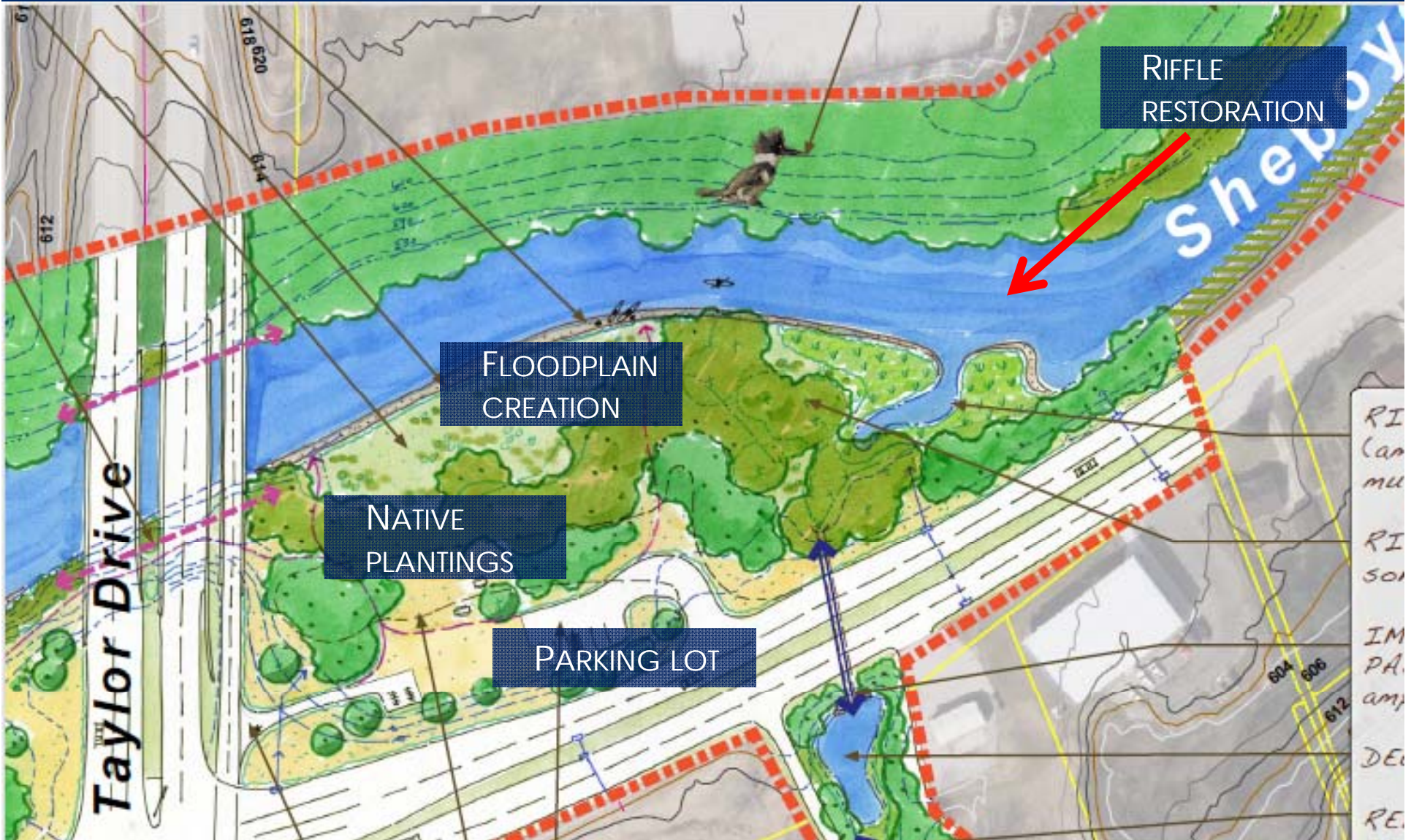
Pre-project conditions



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TAYLOR DRIVE NE

Pre-project conditions



NE TAYLOR DRIVE

Post- construction



TAYLOR DRIVE NE

Post project



ESSLINGEN PARK

Pre-project
conditions



**Heavily used
for fishing and
kayaking**

Turf grass

ESSLINGEN PARK CONCEPT



ESSLINGEN PARK

Post project

**Boulder
habitat**

**Gravel bar features for
kayak and canoe
launching/fishing access**



Next Steps

- 2013 Construction Activities
 - Complete remaining plantings
 - Repair winter damage, as needed
- Monitoring and Maintenance
 - Through 2015
 - Landscape Contractor: Applied Ecological Services
- Fish and Wildlife Monitoring
 - On-going
 - Intent: Demonstrate that goals have been met.
- Delist Sheboygan River AOC
 - Remove Beneficial Use Impairments (BUI's)
 - Involves local stakeholders in long term stewardship



Photos Courtesy of
Gary Casper (GLES)

Acknowledgements

- EPA – GLRI Funding
- Sheboygan River AOC Fish & Wildlife TAC
- City of Sheboygan
 - Chad Pelishek
 - Bernie Rammer
 - Jordan Sucha
 - Dave Biebel ...
- Sheboygan County
 - Pat Miles
 - Eric Felhaber
- Wisconsin DNR
 - Vic Pappas
 - Travis Motl
- Other SEH Team Members
 - Rose Chmielewski (Eco. Services of Milwaukee)
 - Scott Horzen (Oneida Total Integrated Enterprises)
 - Gary Casper (Great Lakes Ecological Services)
 - James Havel (NES Ecological Services)
- SEH Staff
 - Ryan Van Camp
 - Doug Bach
 - Jason Martin
- Inter-Fluve Staff
 - Andy Selle
 - Lauren Brown
 - Ben Lee