

Large Rivers



Marty Holtgren

Muskegon River Watershed Assembly





Citizen Scientists

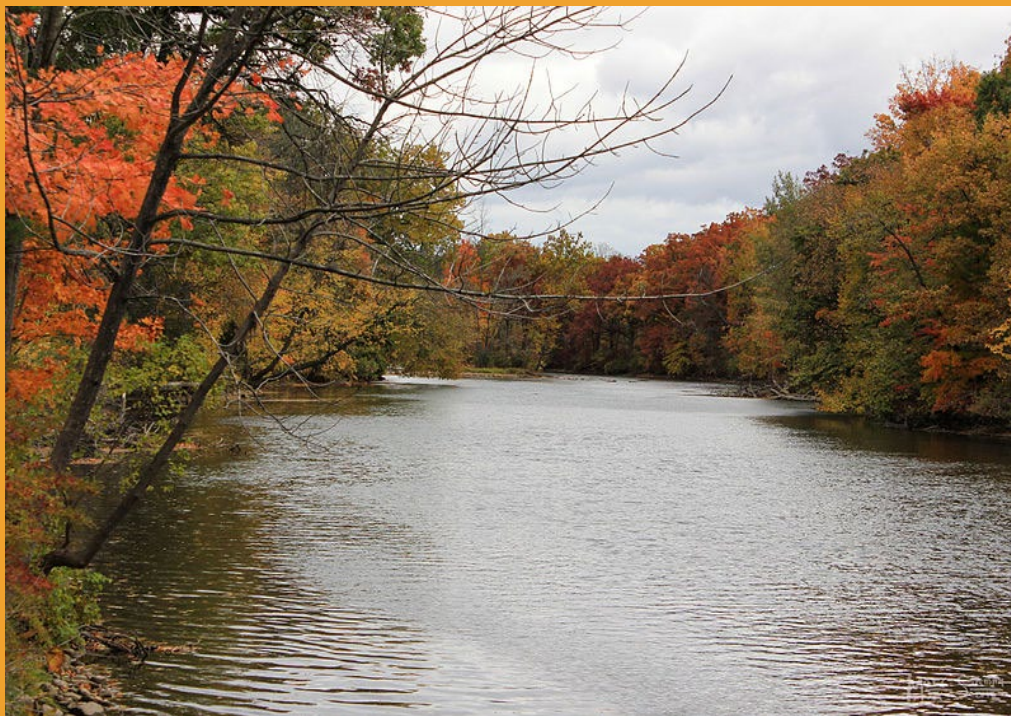
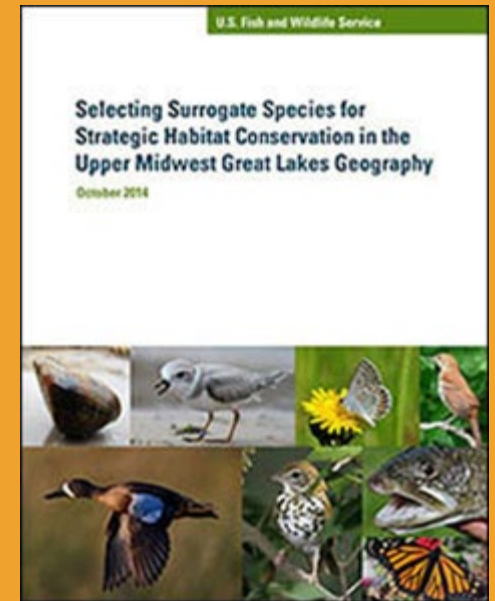


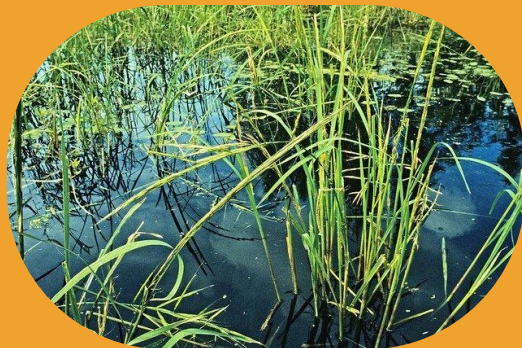
Photo by Marc Steensma

CHAMPIONS

Surrogate Species



Citizen Science Surrogates?





MRWA & Sturgeon

Summary of Approach

Surrogate Term	Beneficiary Species	Data Needed	Role in Conservation
Umbrella Species	Many other fish	Survival of young	Assess Response
Flagship Species	Habitat and all species within it	Basic information	Public involvement & support



Why Sturgeon

Life-cycle

Volunteers

State Plan

Answers many questions



Adults



Courtesy of Manistee Nme'



Eggs



Courtesy of Gregory AD



Larvae



Courtesy of Manistee Nme'



Young-of-Year



Courtesy of Manistee Nme'



Year One

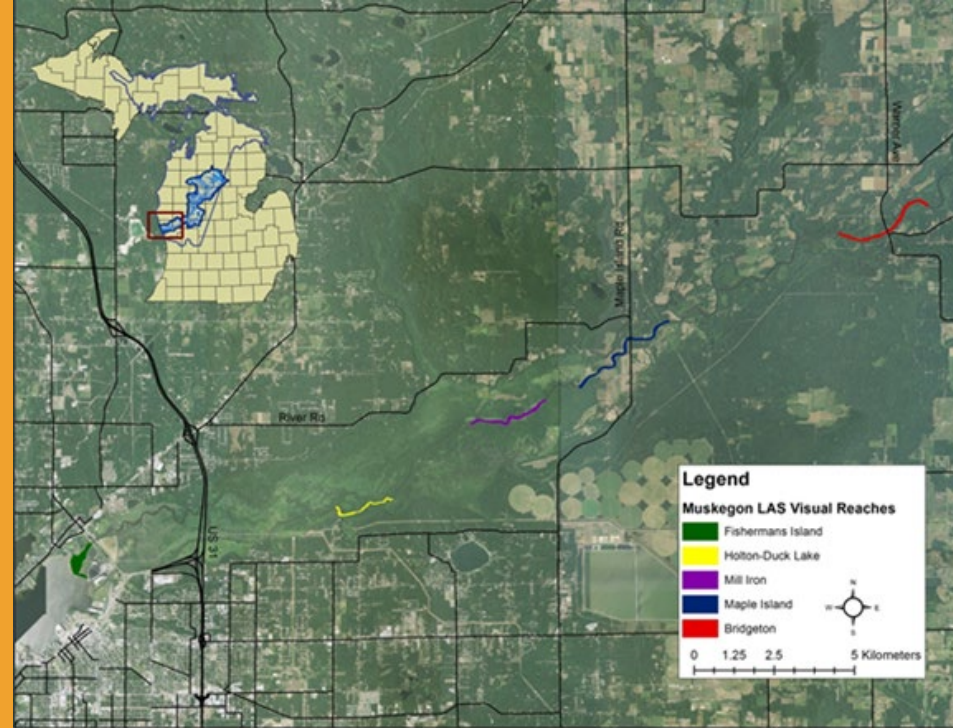


Figure 1. Location of survey reaches on the Muskegon River.

Four Citizen Scientists

Partners – Little River Band, MDNR, USFWS



Year One



Sturgeon Release



Year Two

Eleven Citizen Scientists

6 days

Partners: USFWS



Year Three and...

Volunteers



Logistics

Permits

Coordination with Partners

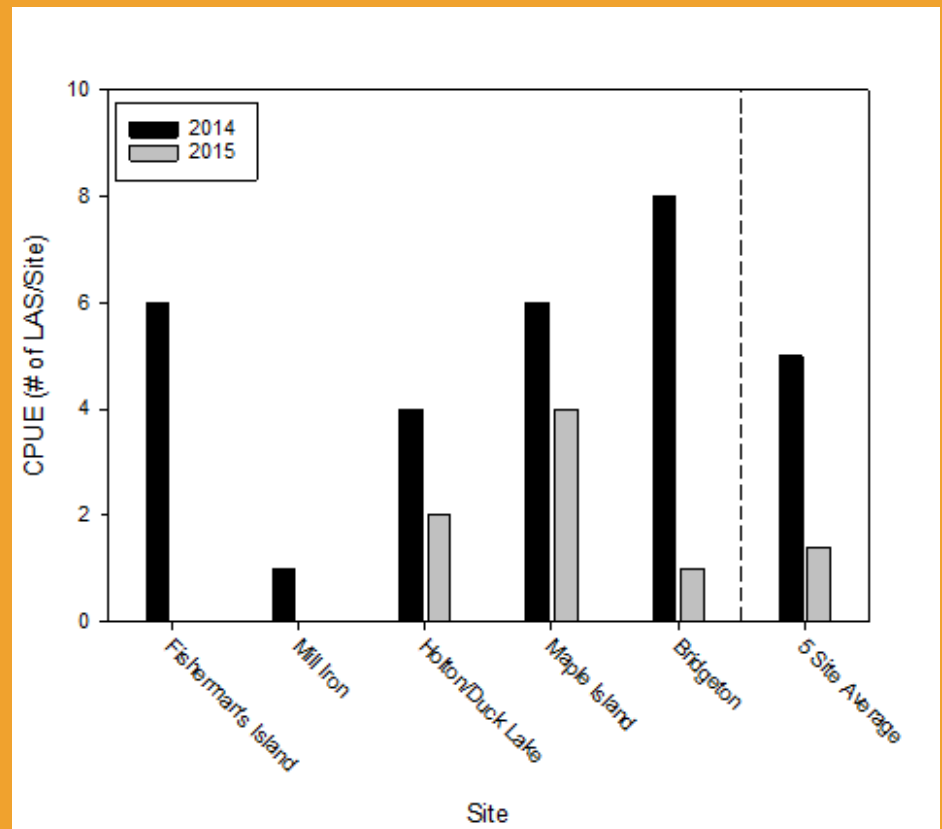
Coordination with Volunteers

Long-term Support



Data

Trends in Recruitment Growth



Benefit

Monitor Watershed

Increase Public Involvement and Understanding

Engage Different People

Promote Uniqueness of Watershed

WE LEARN!

