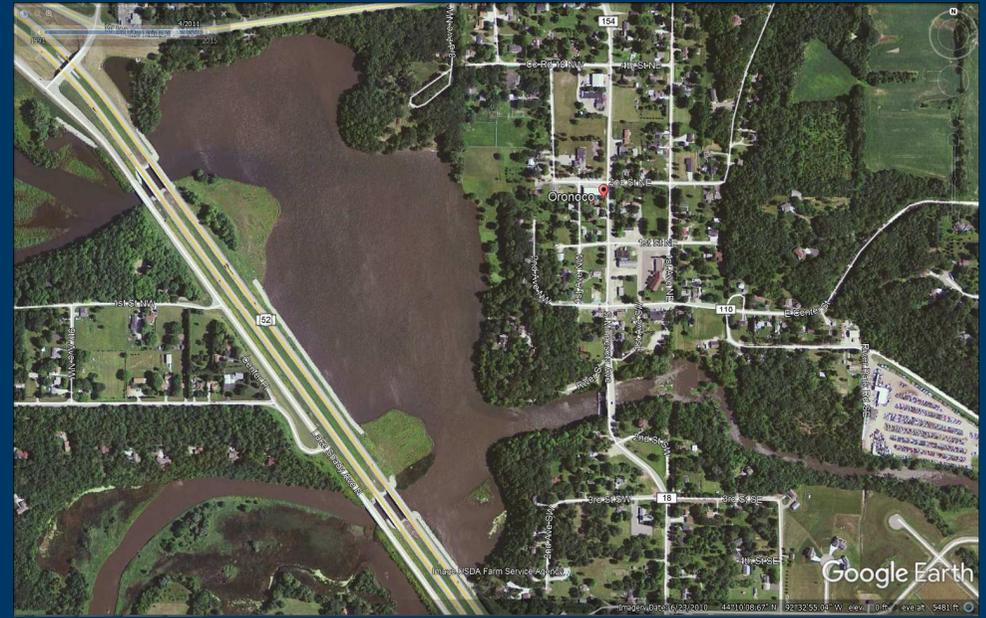


Pelican Rapids Dam: Conceptual Design for Dam Modification

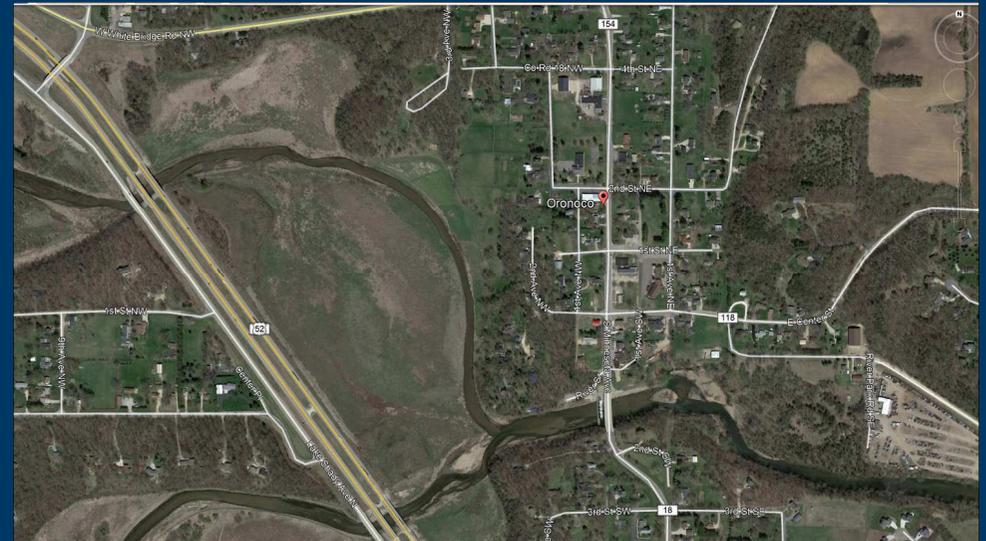
Pelican Rapids City Council Meeting
11/27/18

Amanda Hillman –Restoration Coordinator
MNDNR – River Ecology Unit





Lake Shady Before





Lake Shady After

- Completed in 2017
- Dam modification and channel restoration in reservoir
- Aerial view of new channel



- New river channel and riffles
- About 6 months after construction



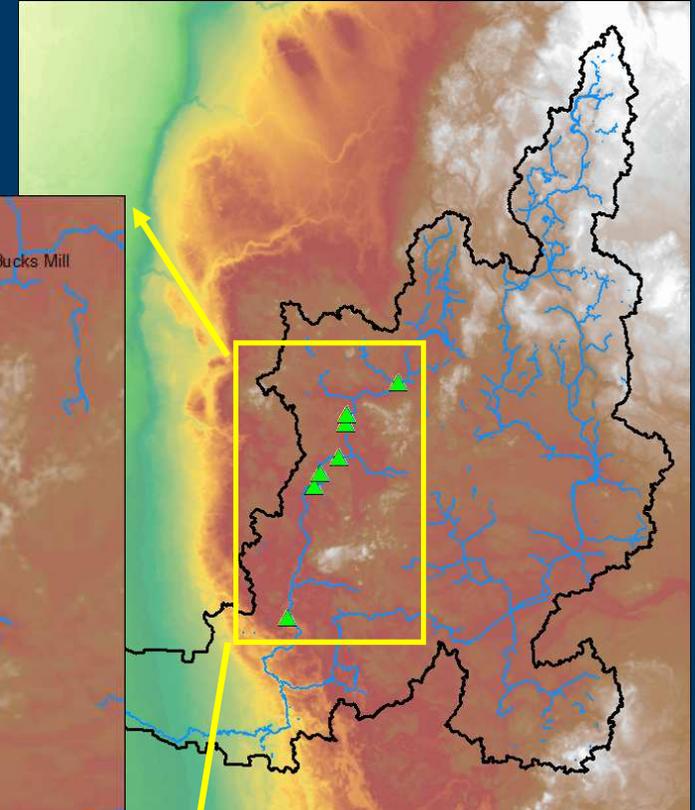
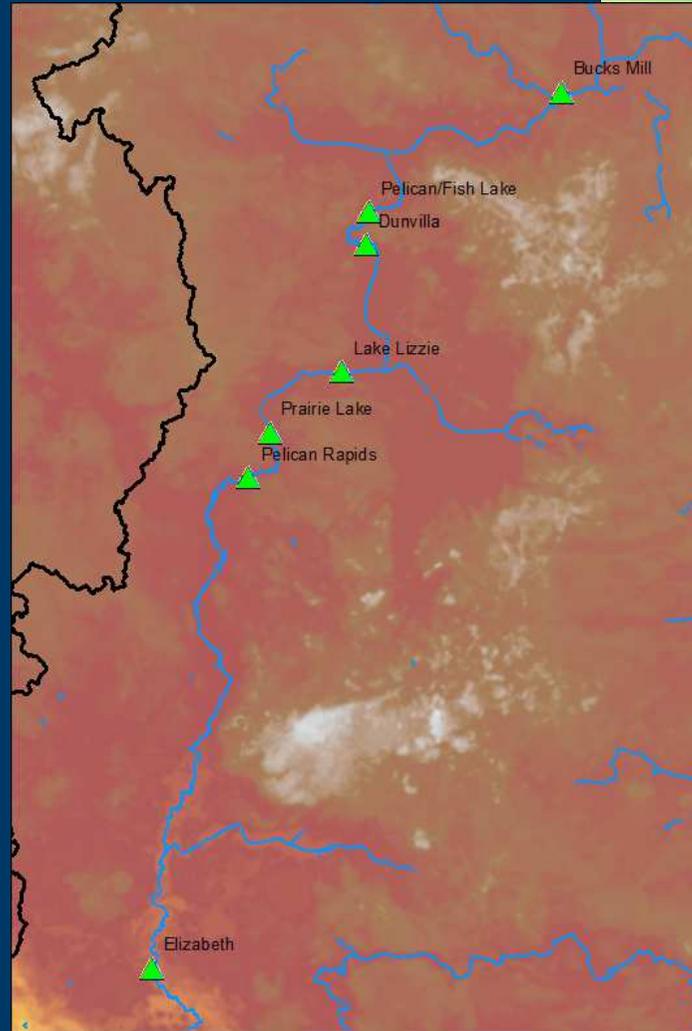






Pelican Rapids -Watershed Setting

- Fish Lake Modified
- Letter of Support to modify dams for fish passage
 - Prairie Lake
 - Lizzie Lake
- Elizabeth Dam
 - Discussions with DNR Fisheries



Pelican Rapids - 2017 Draw Down



Drone image by Houston Engineering



Bathymetry by Jamison Wendel, DNR





During 2017 draw down
River more narrow than a restored channel would be

Conceptual Design

- 5 foot rapids
- 165ft length
- River alignment based on bathymetry
- Historic Rapids exposed
- No channel work



- 5 foot rapids
- 165ft length
- River alignment based on bathymetry
- Historic Rapids exposed
- Excavation areas – backwater habitat

Approximate waterline with 5-foot high rapids; pool at elevation 1299 NAVD88
(assumes adjustment of the upstream channel to natural river width)





- Bridge would still have ponded water under it
- Upstream view would be of historic rapids upstream
- Trails
- Sandy area





- Keep Pelican Pete and windmill
- Hydraulic modeling - ensure no impact to buildings downstream
- Flat stones for fishing
- Bridge installation (funding specific)

Questions?