

Water Quality Trading and Adaptive Management



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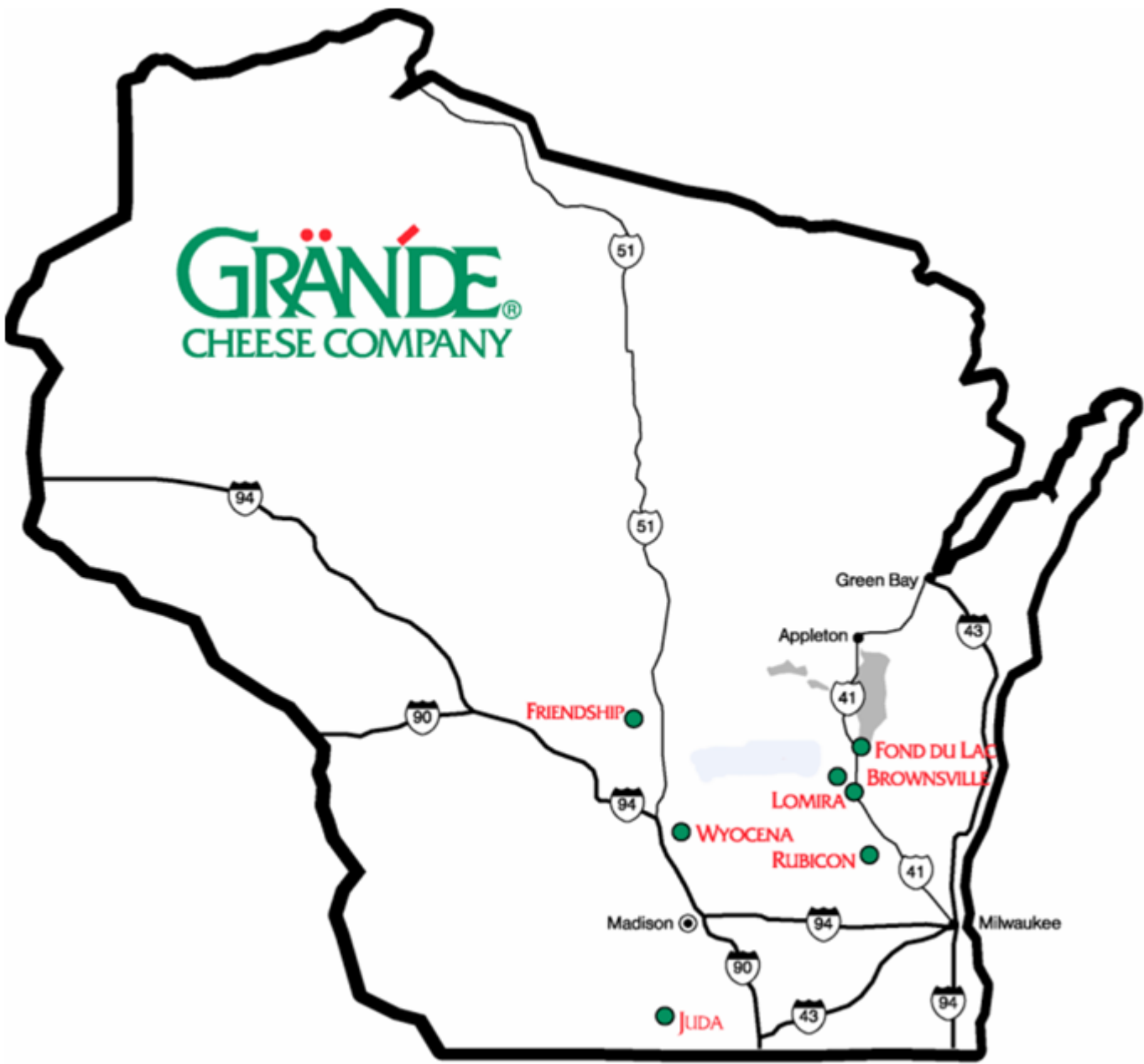
Director of Manufacturing Process Innovation



Part of Grande's Mission and Culture

“While you may not be able to change the world, you can change the world around you.”

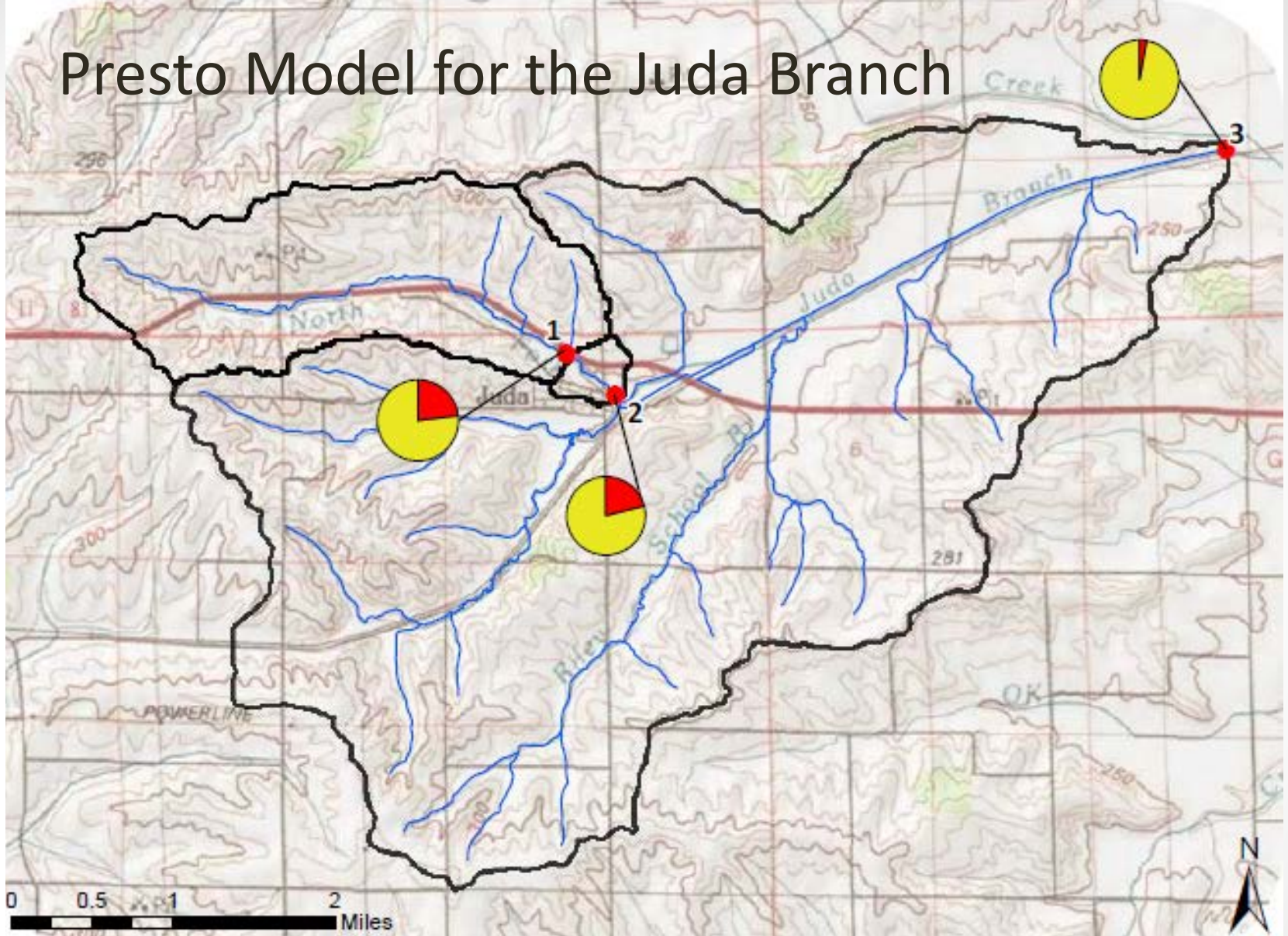
GRANDE[®] CHEESE COMPANY



Education and Networking

- Past three years evaluating what it all means...TMDL, Adaptive Management, and Water Quality Trading
- Get to know the players...WDNR, County Land and Water Conservation Departments, Land Owners in the watershed, NGOs
- Evaluate the projects that are going on now...Madison Met Adaptive Management, Erv with the USF&W and Horicon Marsh
- Get involved with (or start) a local water association...Rock River Coalition, Lower Sugar River Watershed Association
- Start your own sampling if data isn't available...Watershed Action Volunteers and Citizen Based Monitoring

Presto Model for the Juda Branch



Station ID	Basin Area (mi ²)	Average Annual Nonpoint P Load (lbs)	Average Annual Point P Load (2007-2009) (lbs)	Point to Nonpoint P Load Ratio (%)
1 (PGP International)	2.96	1,283	377	23:77
2 (North Fork Juda Branch Outlet)	3.09	1,410	377	21:79
3 (Juda Branch Outlet)	18.63	12,051	377	3:97

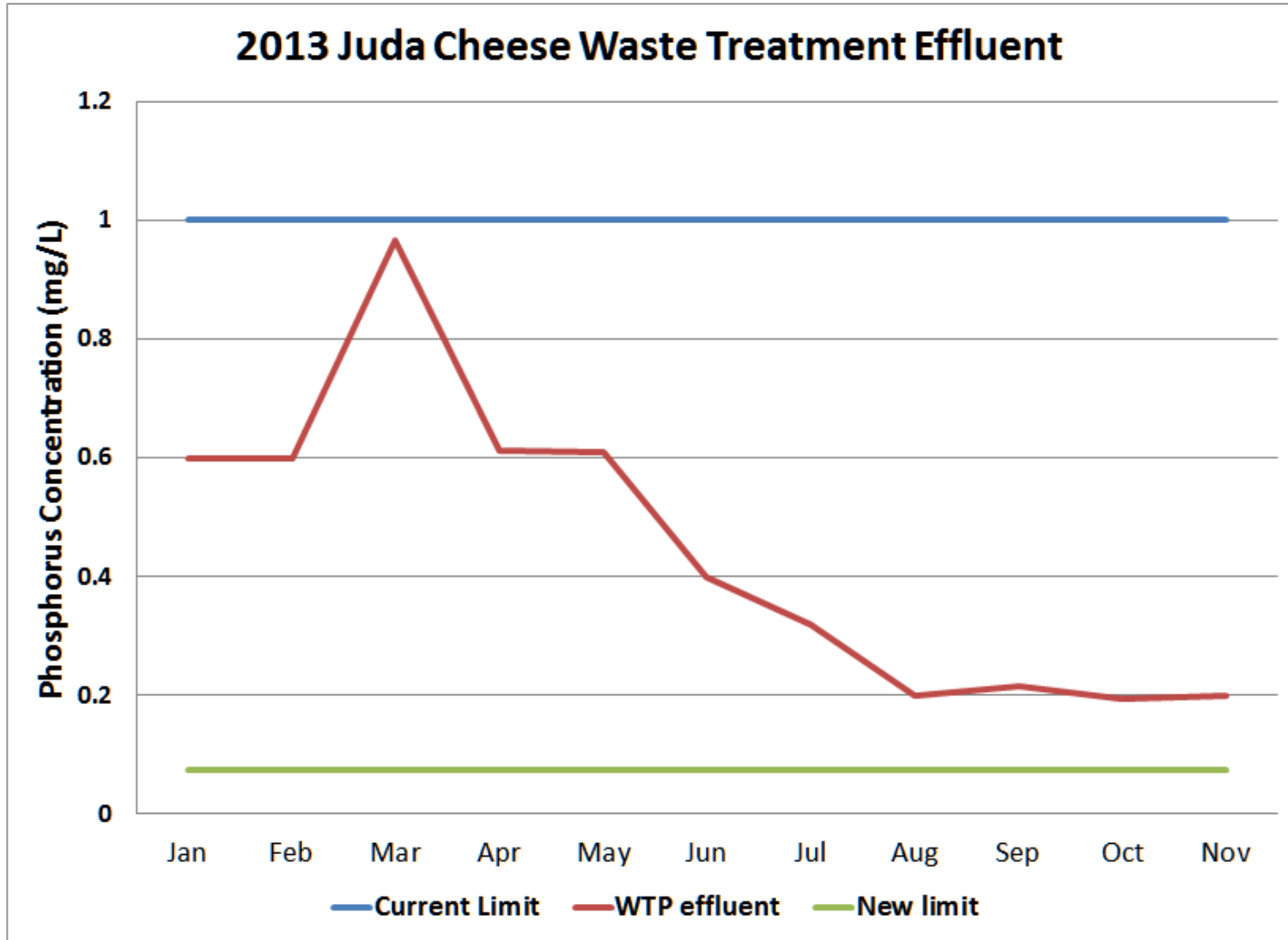
WAV Citizen Based Monitoring



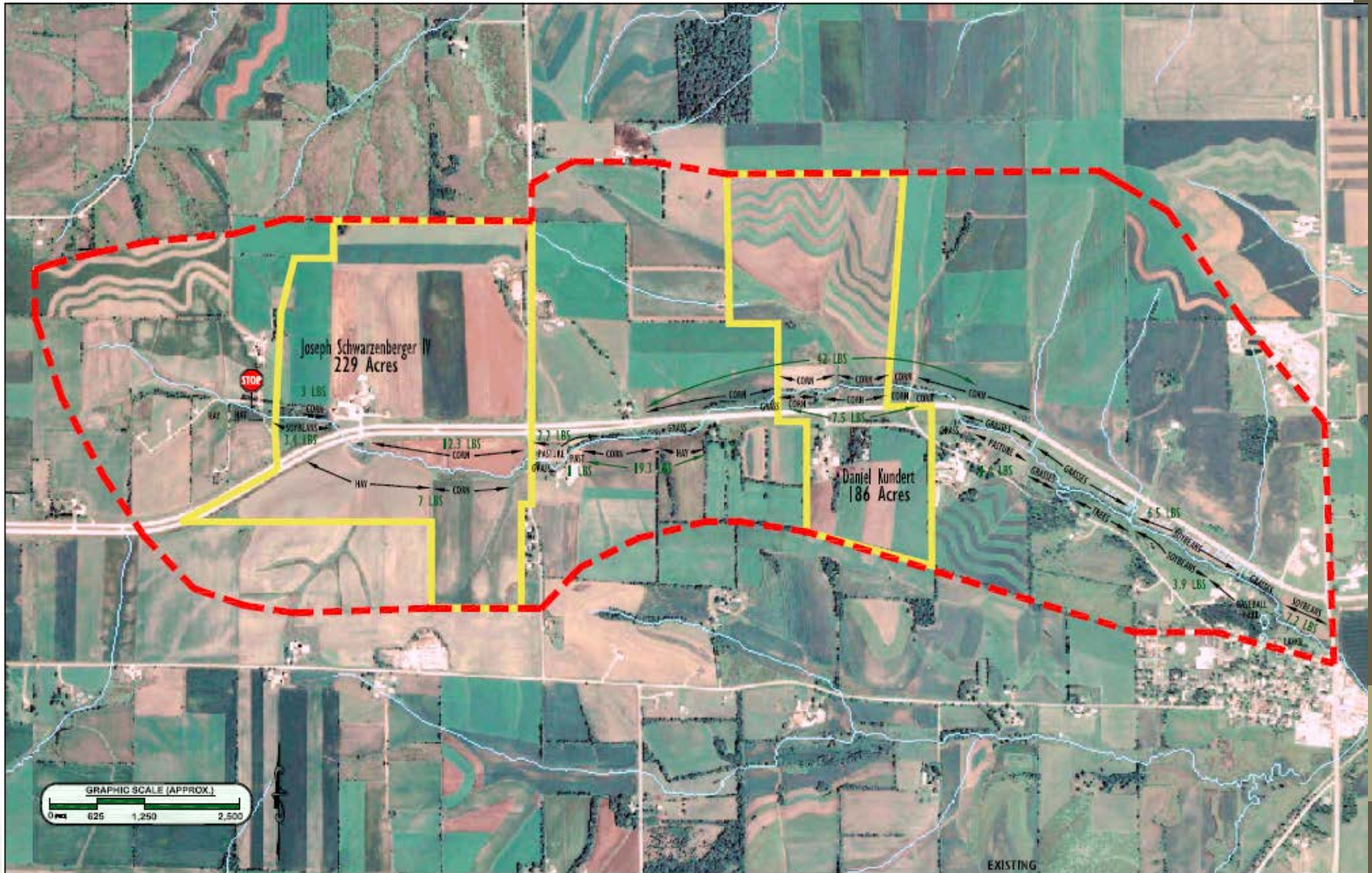
Water Quality Trading

- Start by looking at internal source reduction efforts
- Grande feels trades are risky outside our control but is evaluating partners.
- Currently managing 200 acres of farmland we own at a PI of 3 vs PI of 6 in TMDL for 600 pounds of phosphorus.
- Converting 200 acres to native prairie saves another 1,000 pounds
- Brownsville plant is currently meeting TMDL limits. Trade if we expand.
- Juda upstream trading is limited.

Source Reduction-Juda Cheese



North Fork Juda Branch Watershed



Grande Juda Options

- Proceeding as if Adaptive Management was in place.
- Monitoring in stream phosphorus since 2012
- Working with watershed partners:
 - Lower Sugar River Watershed Association-adopted North Fork for pilot watershed restoration project
 - Juda School District-education and stream bank and buffer pilot projects
 - Landowners
- Document changes in the event we need them for WQT.

Questions?