A Sand Country Almanac:

Where we've been, where we're headed, and the role of citizens in Michigan Stream Restoration Practices

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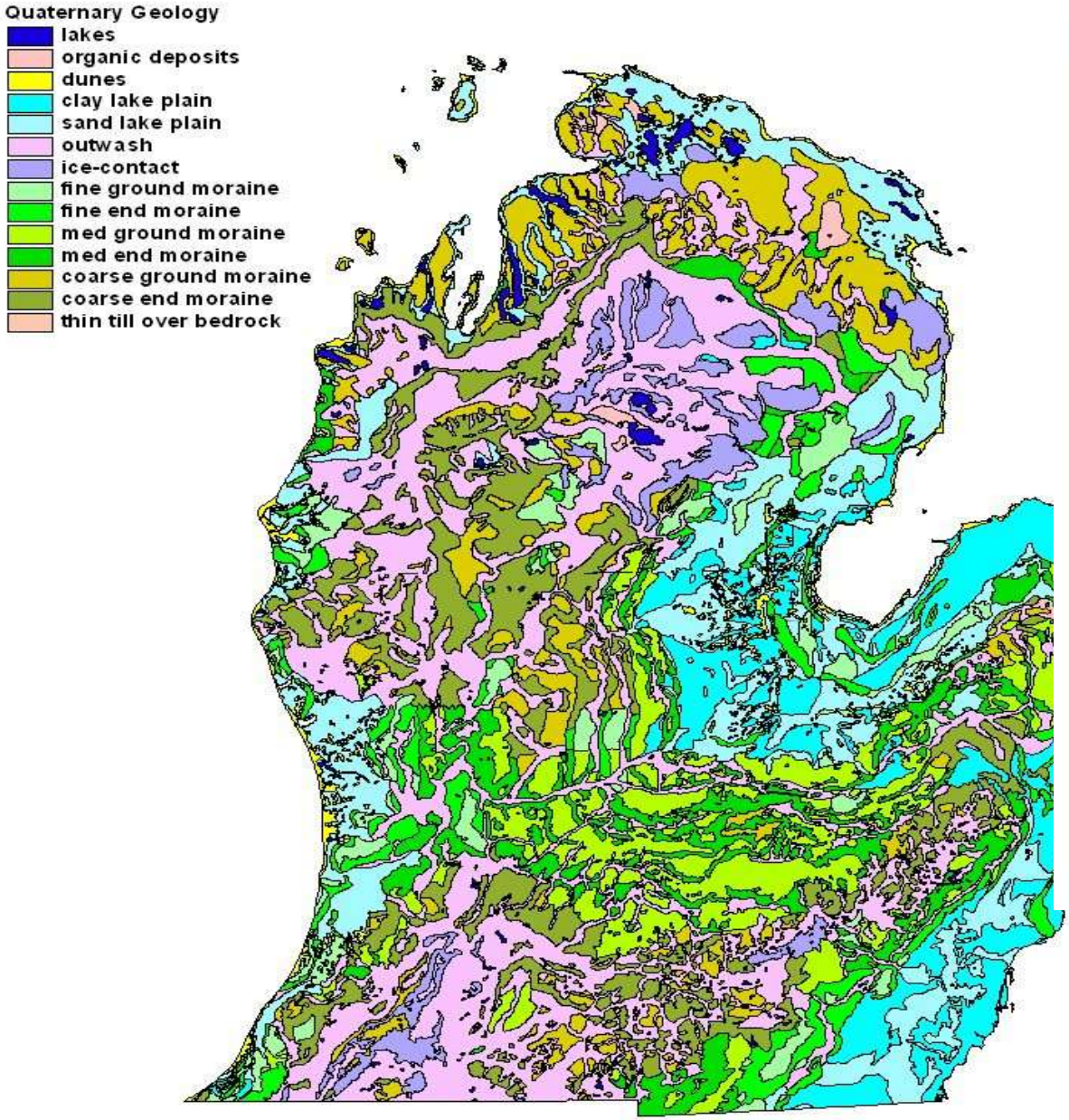
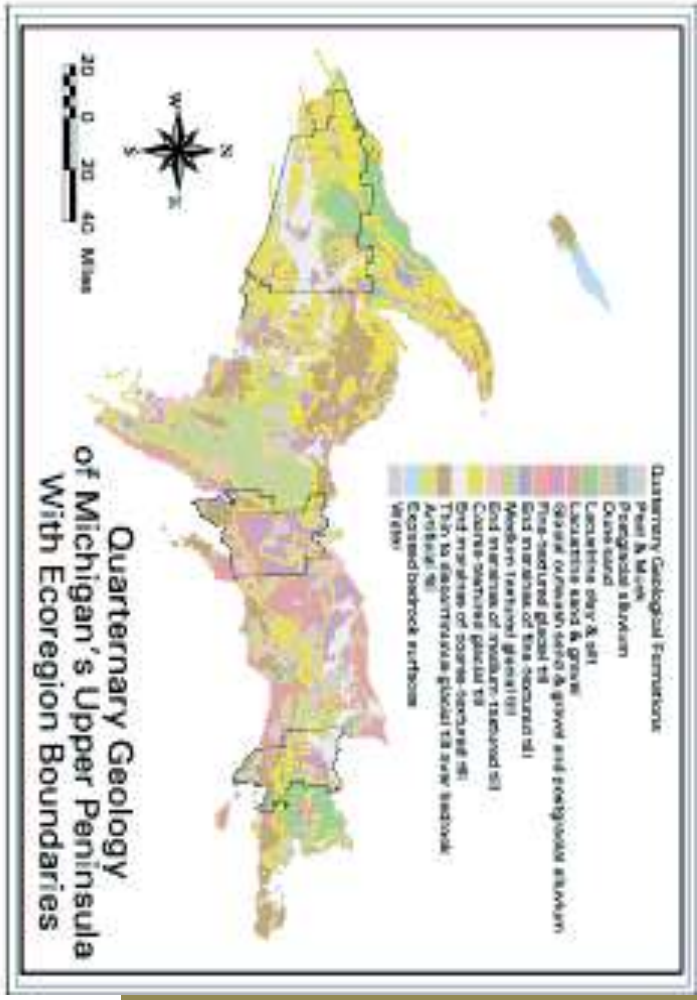
Michigan Trout Unlimited

Outline

- History
- Present
- Future
- Citizens, TU's role and plans

MICHIGAN TROUT UNLIMITED





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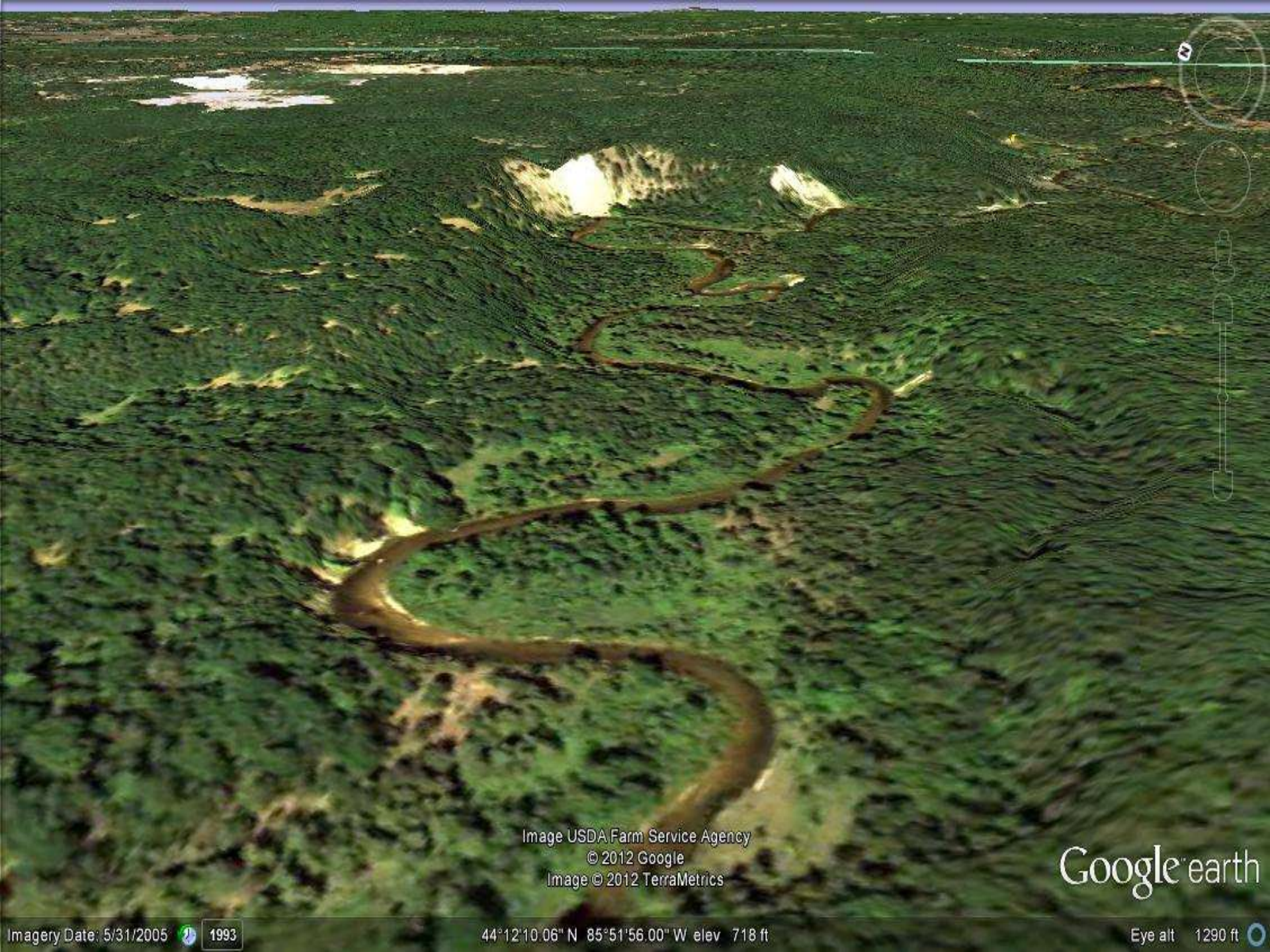
Image USDA Farm Service Agency
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Google earth
Imagery Date: 5/31/2005
1993
44°12'10.06" N 85°51'56.00" W elev 718 ft
Eye alt 1290 ft

Upper Peninsula Streams

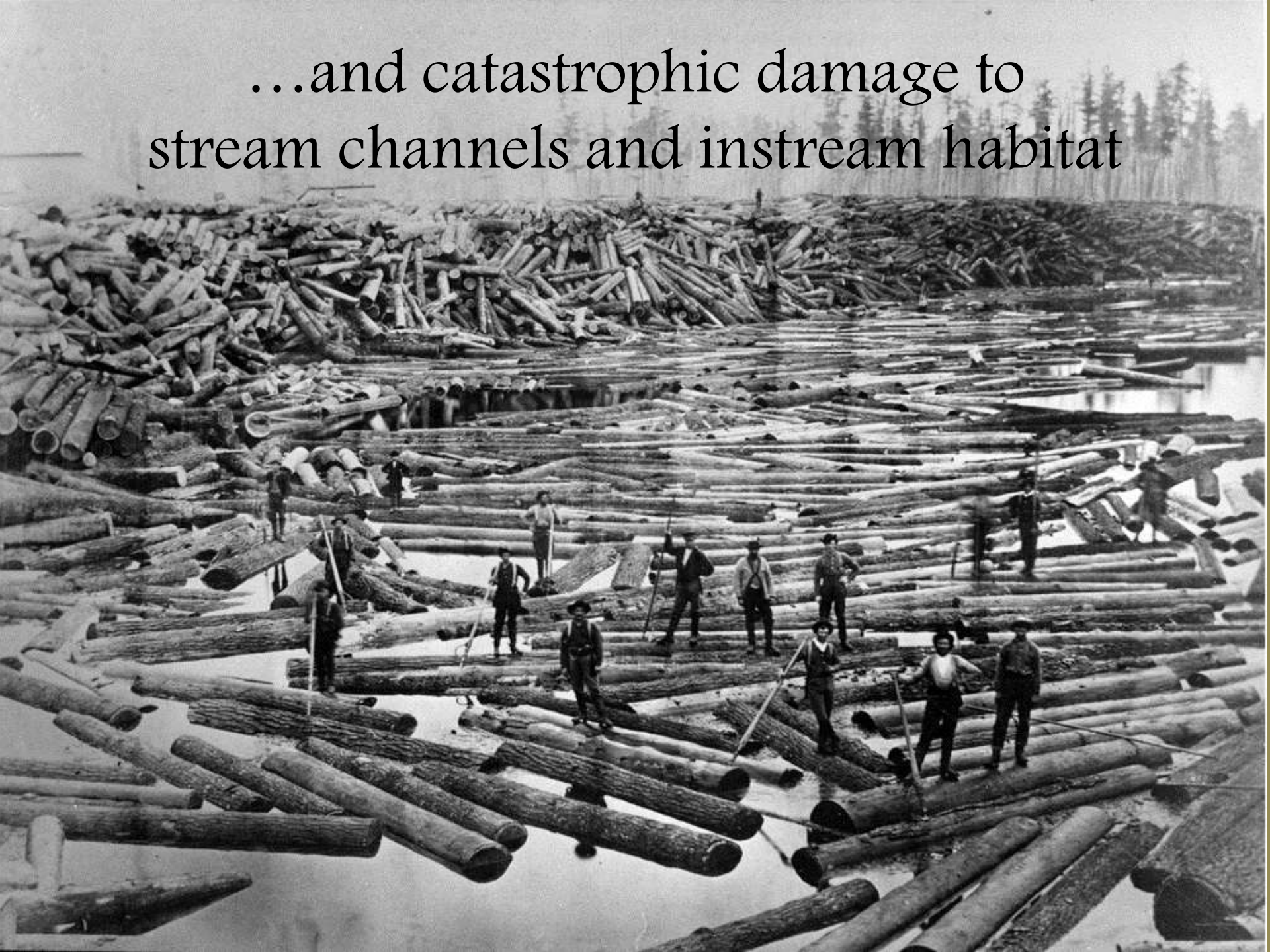
Lower Peninsula Streams

Michigan's Logging Era
circa 1840 - 1910

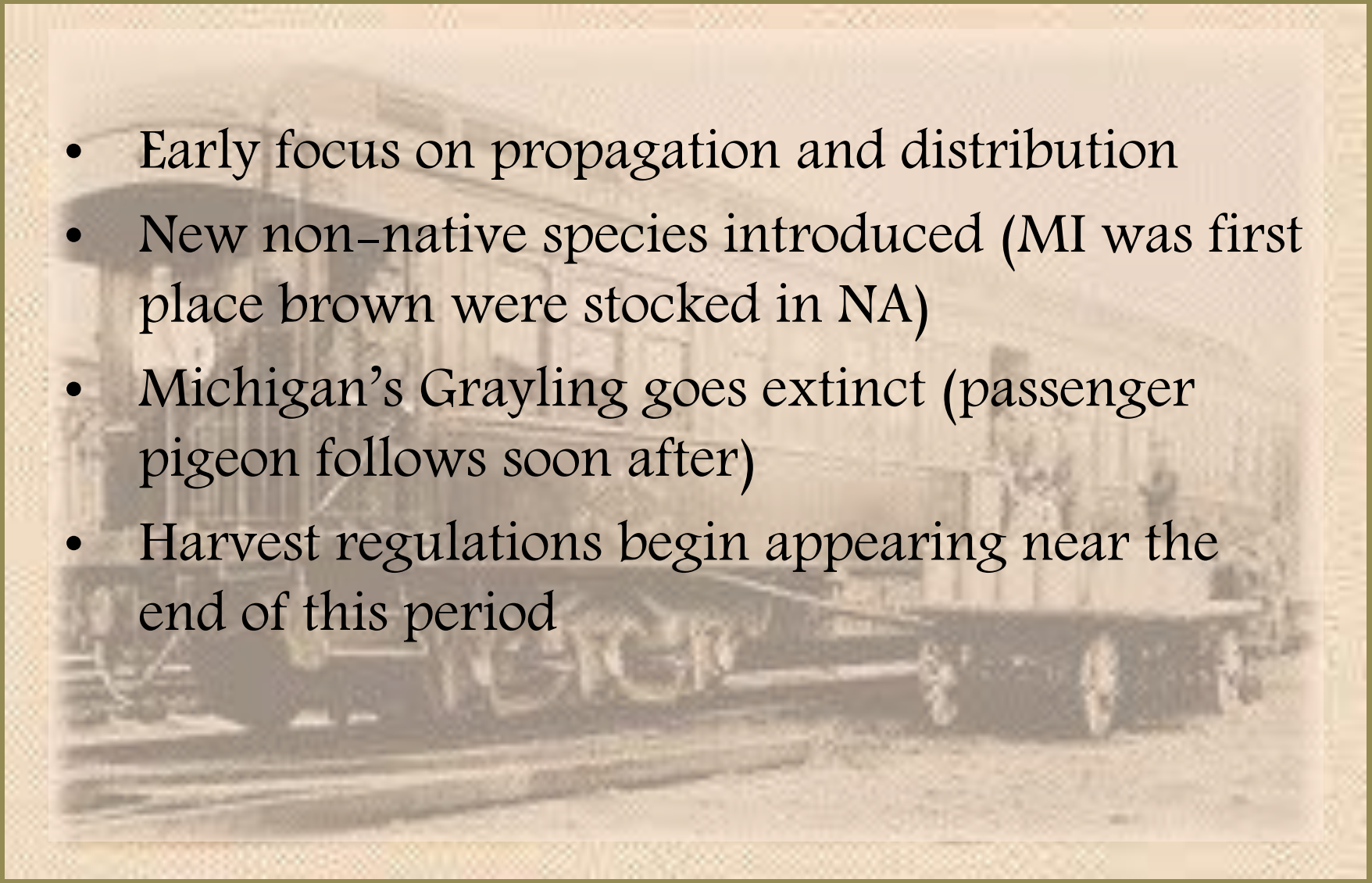
Deforestation of watersheds & gross level disturbance to riparian corridors

Photo of a “rollway”

…and catastrophic damage to stream channels and instream habitat



Fisheries Management early years 1860 - 1930



- Early focus on propagation and distribution
- New non-native species introduced (MI was first place brown were stocked in NA)
- Michigan's Grayling goes extinct (passenger pigeon follows soon after)
- Harvest regulations begin appearing near the end of this period

Fisheries Management
1930 – 1970

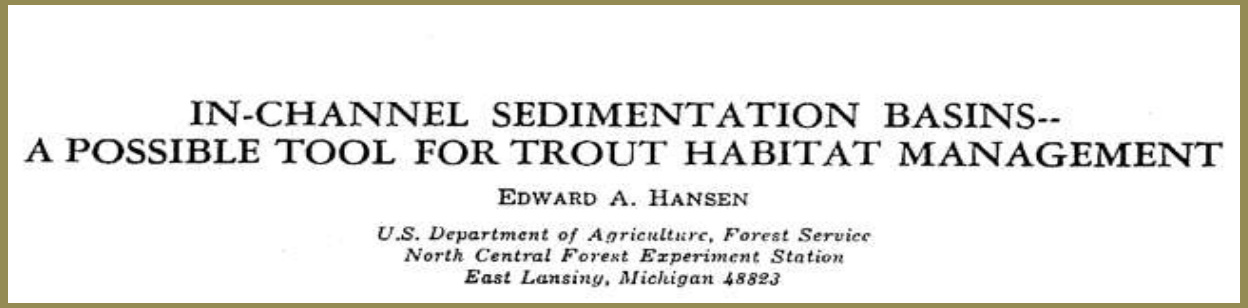
- Michigan started the Institute for Fisheries Research
- Hubbs, Hazzard, Leonard, Lagler, and others
- Focused research on fish habitat needs
- Manage for wild, self-sustaining fisheries
- State agency largely mired in put & take stocking efforts

Trout Unlimited
1959 – 1960s

- Small group of influential citizens & anglers
- Friends with preeminent fisheries scientists
- Advocated for science-based, progressive fisheries management
- Stream fish habitat management to support wild, self-sustaining fish
- Started in MI and took off nationally

Michigan Stream Restoration 1960s – present

- Sand traps – widespread 1970 - 2010
- Focus shifted to also remediating the sand inputs (eroding banks, road stream crossings, Ag and Forestry BMPs)
- "319 Grant" watershed plans still focus heavily on eroding banks & crossings, and leads to funding for them
- Recent – wood debris additions



IN-CHANNEL SEDIMENTATION BASINS--
A POSSIBLE TOOL FOR TROUT HABITAT MANAGEMENT

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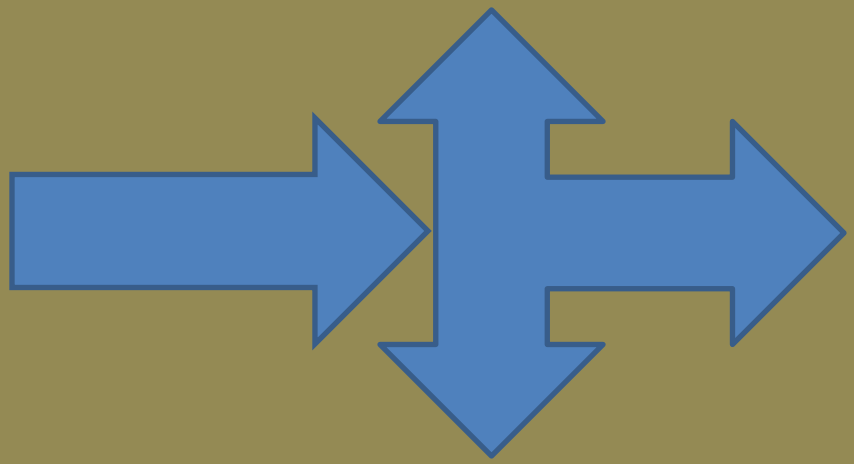
MI Stream Restoration at Present – A Divide Emerging

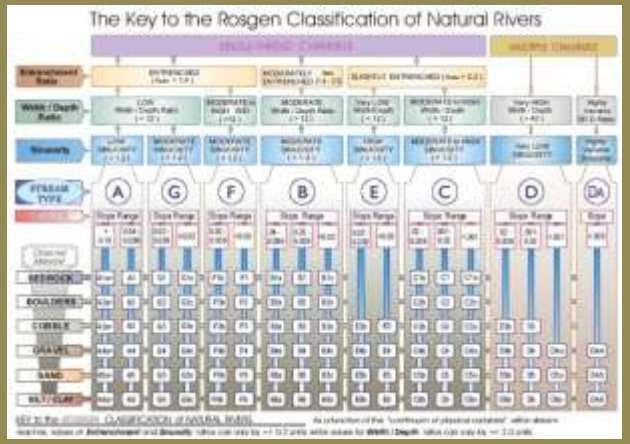


The "Camps"

- The "sand reduction" paradigm
  - Entrenched like the "prevent forest fires" campaign
  - Use of sand traps is diminishing
  - Remediation of sand inputs still predominates
  - Focus still largely on coarsening of surficial substrates,
  - Need more discussions of in-channel stored sediment status and impacts

The “Camps”

- The “reference reach” engineering paradigm
  - Practitioners largely from fisheries or engineering field
  - Primary training available is largely rooted in “Rosgen” methodology
  - Still too focused on “form” and creating the “ideal” stable form, with instability as undesriable
  - “Rosgen” approach permeating into permitting requirements for state



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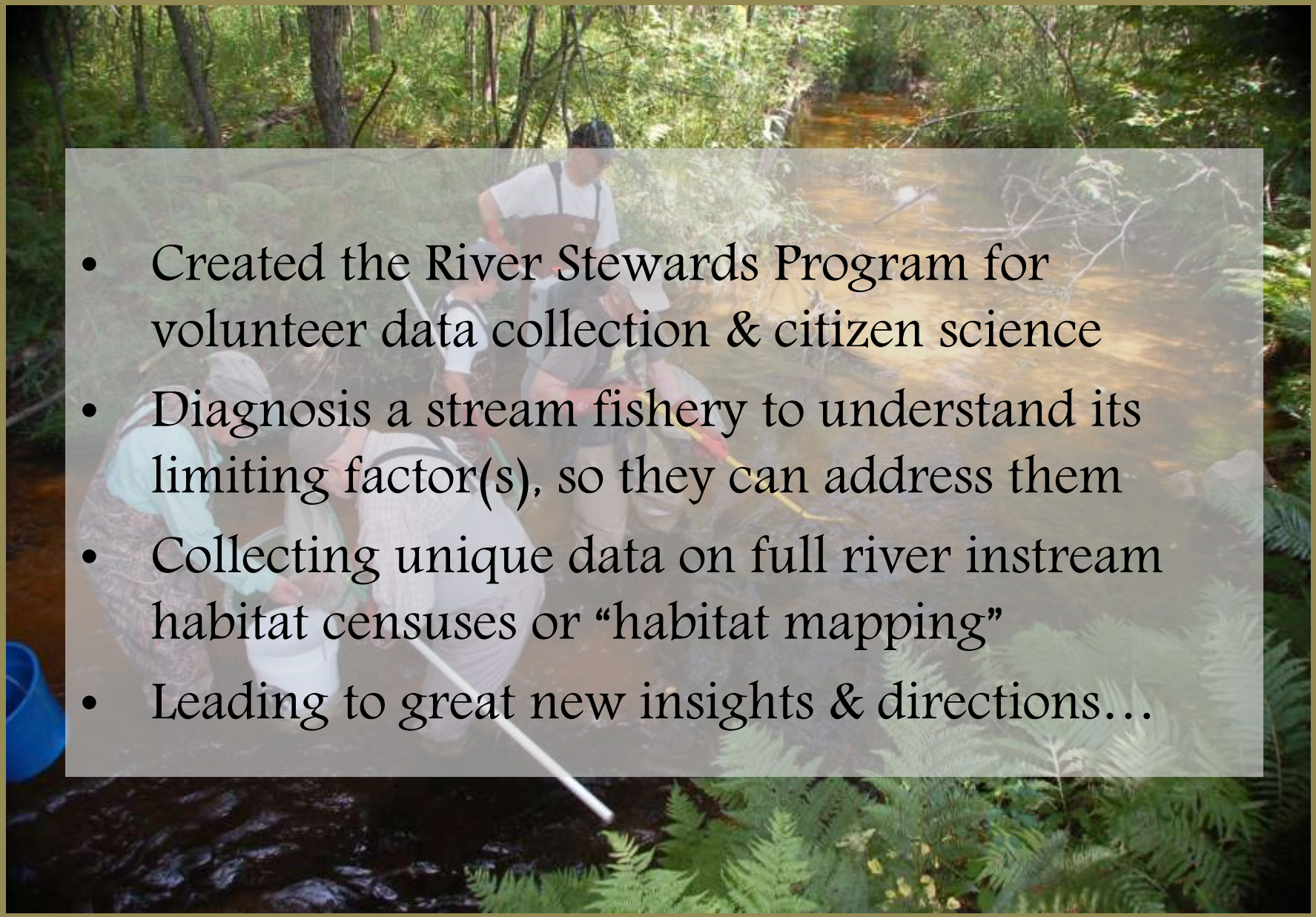
The "Camps"

- "Where are we and where should we be?" Camp
  - Seeking to understand:
    - Current status – lack of available data
    - Relationships between instream habitat variables and fish population metrics quantitatively
    - What dynamic equilibrium should look like
    - How much sand should we have or do we need in our streams
    - If our river channels have the "right" dimensions (still stored sediments resulting in over-widening?)
    - Seeking to ensure we have an ideal diversity of instream habitats present
    - What's the limiting factor now?

The role of citizens going forward: MITU's next steps

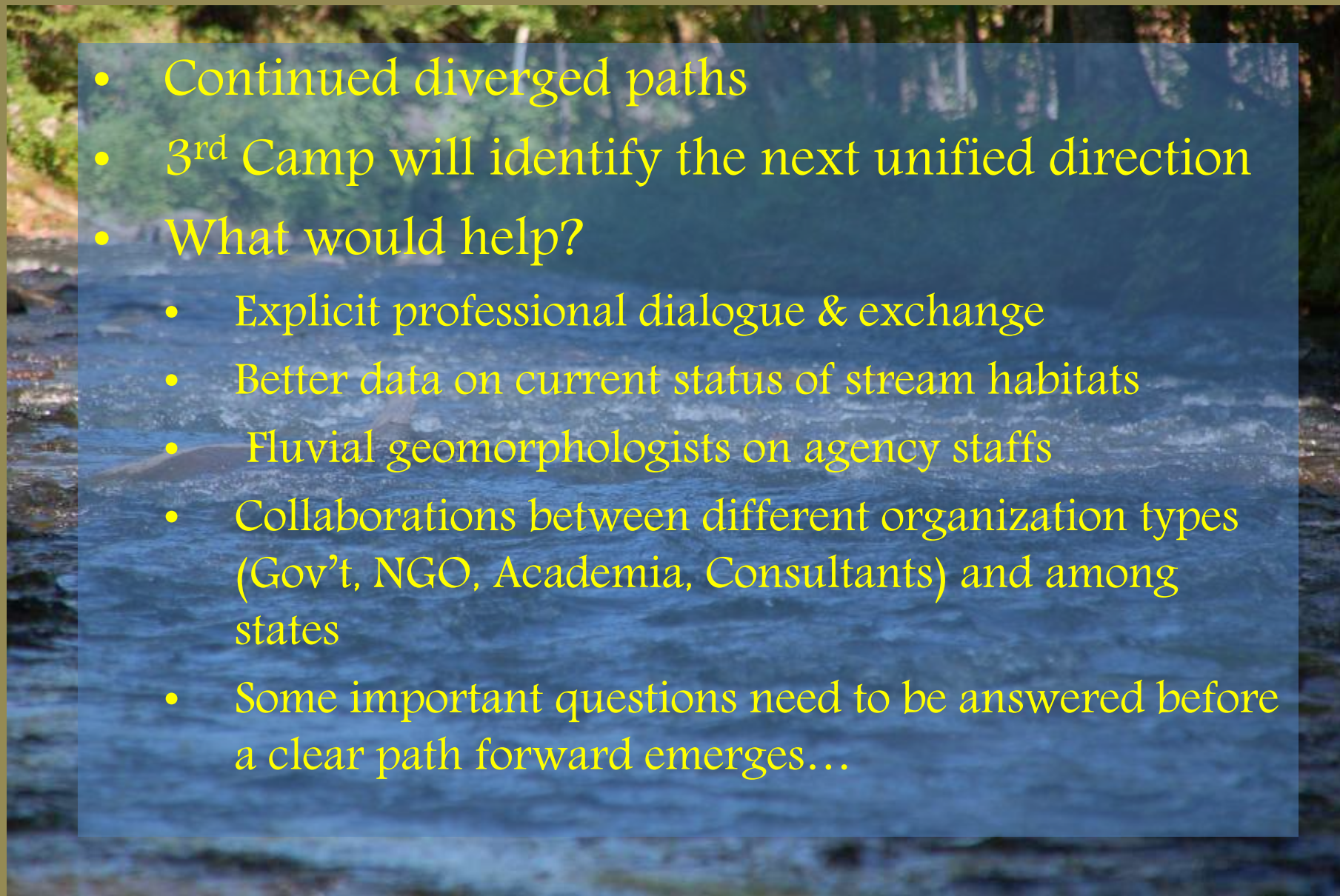
- Members in all three current "camps"
  - Mostly in 1st or 3rd camp
- Guardians, Advocates, Funders, Do-ers
- Want to focus on most critical needs

TU River Stewards Program



- Created the River Stewards Program for volunteer data collection & citizen science
- Diagnosis a stream fishery to understand its limiting factor(s), so they can address them
- Collecting unique data on full river instream habitat censuses or “habitat mapping”
- Leading to great new insights & directions…

Looking Downstream…



- Continued diverged paths
- 3rd Camp will identify the next unified direction
- What would help?
  - Explicit professional dialogue & exchange
  - Better data on current status of stream habitats
  - Fluvial geomorphologists on agency staffs
  - Collaborations between different organization types (Gov't, NGO, Academia, Consultants) and among states
  - Some important questions need to be answered before a clear path forward emerges…


The End
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