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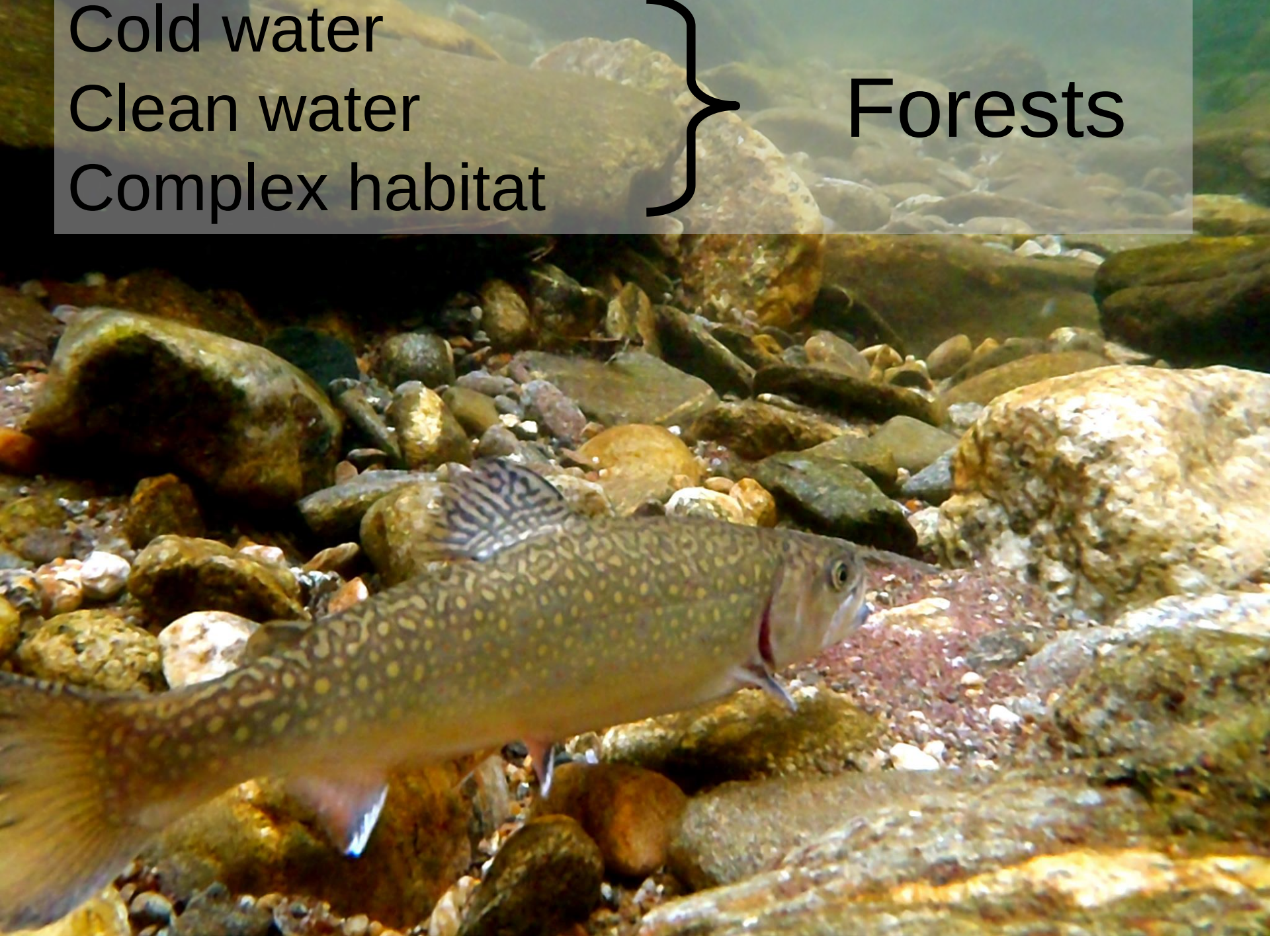
Brook trout and climate resiliency

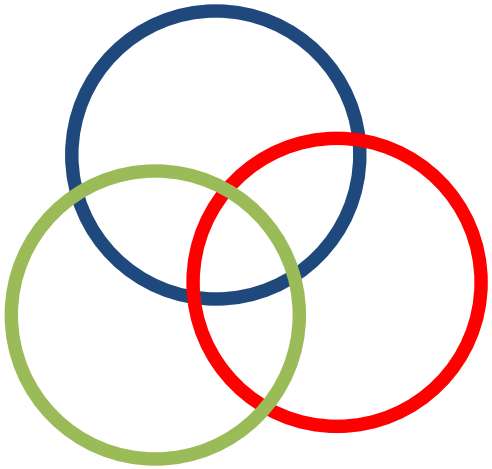
Stephen Faulkner
U.S. Geological Survey, Eastern Ecological Science Center, Kearneysville WV
CBP Brook Trout Workgroup Co-Chair


Cold water
Clean water
Complex habitat
Forests

Conceptual model for brook trout + climate change

Exposure

How and where will conditions change?



Sensitivity

Which populations will respond?

Adaptive capacity

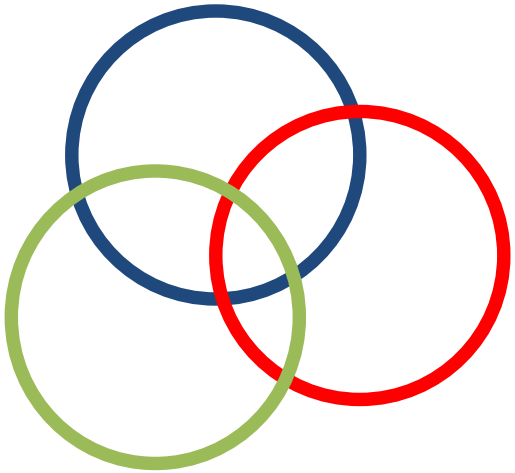
Will evolutionary/genetic changes enable persistence?

Adapted from Foden et al. 2013.

Where are we most/least confident?

Exposure

- *High certainty at landscape level*
- *Lower certainty at management-relevant scales (GW-influenced streams)*



Sensitivity

- *High certainty for single-year effects*
- *Low certainty for multi-year effects*

Adaptive capacity

- *Low certainty*

BTWG Climate Resiliency Action Items

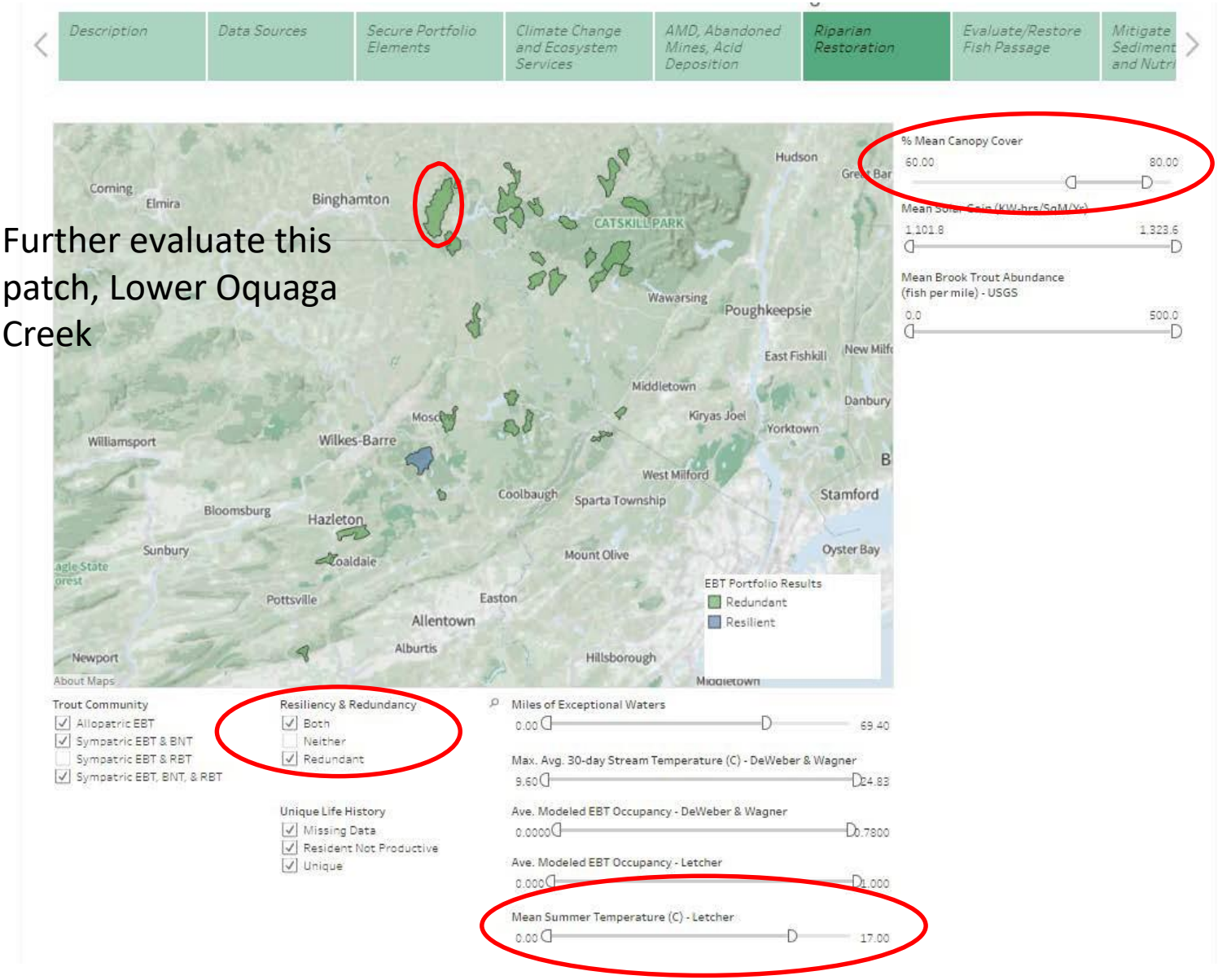
- Large-scale priority action items with greatest impact
  - 75% Riparian Forest Cover in all brook trout watersheds
  - Better private landowner engagement/incentives
  - Promote land stewardship
  - Support habitat protection/restoration

BTWG Climate Resiliency Action Items

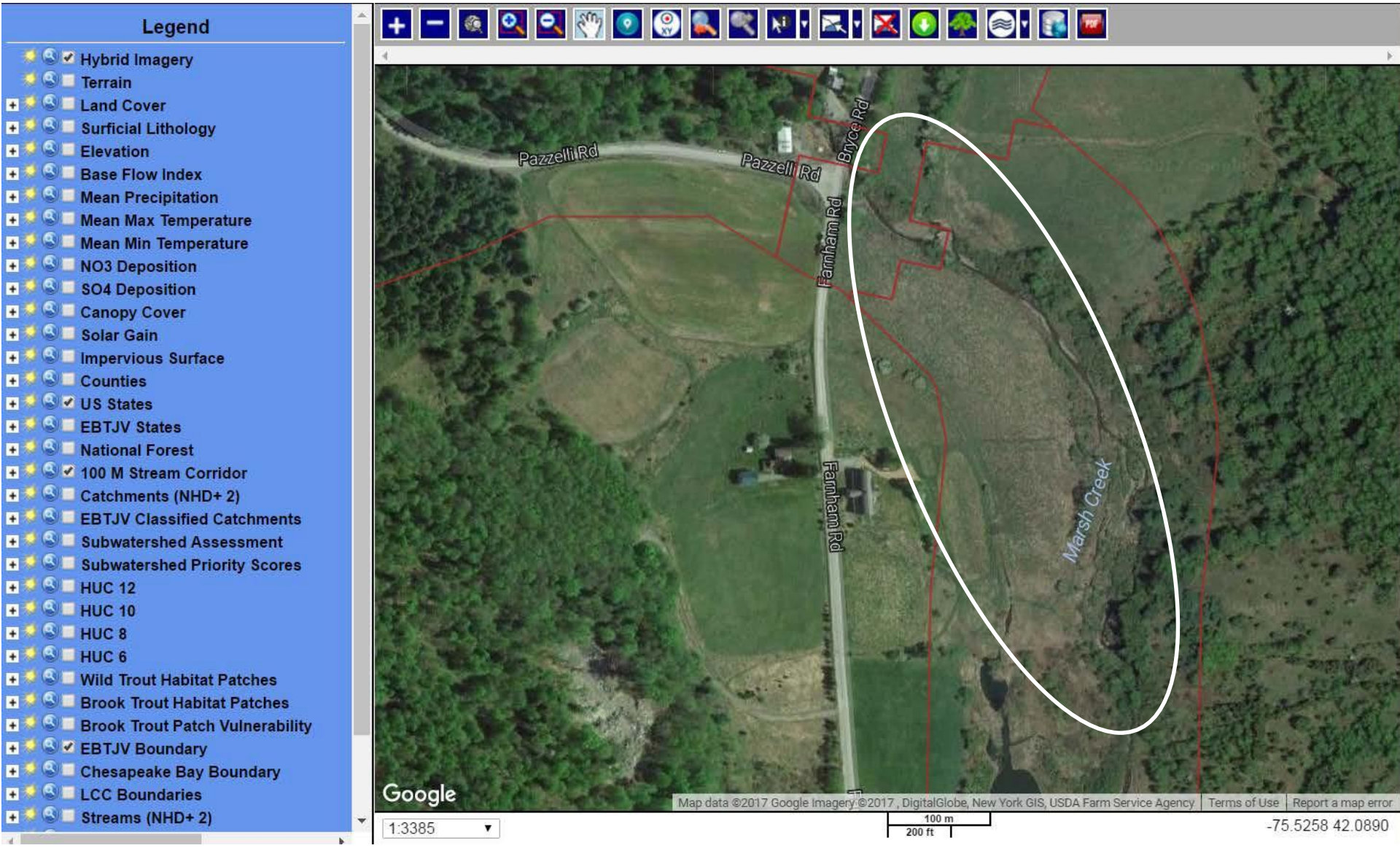
Need help coordinating/collaborating with Healthy Watersheds, Fish Passage, Forest Buffers, Protected Lands, other brook trout partners to coordinate actions at the scale necessary to overcome the detrimental impacts on brook trout habitat

Many partners/tools: Trout Unlimited Conservation Portfolio – Riparian Restoration

Further evaluate this patch, Lower Oquaga Creek



Identify potential riparian restoration sites



Resiliency – defined differently, need consensus

- Maryland
  - five criteria: Allopatric, Public land ownership, abundance, Diverse spawning stock (N_e), and private conservation easements.
  - patches that met at least 4 criteria are considered **resilient** and emphasized as priority habitat restoration areas

- Trout Unlimited
  - capacity for populations to recover from environmental disturbances a
  - associated with larger population patches with diverse stream habitats and fewer non-native trout species


Questions?
faulkners@usgs.gov