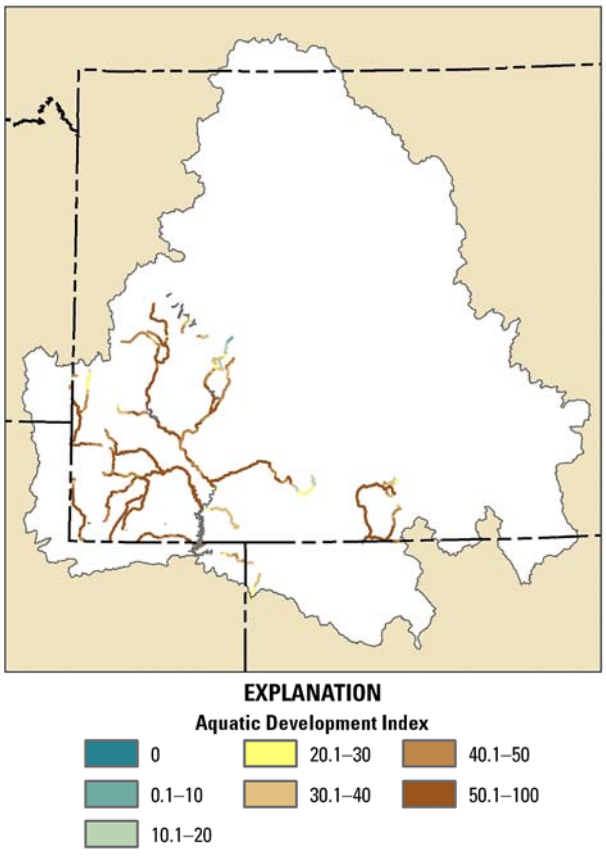
Three-Species Fish Assemblage:

Bluehead Sucker
Flannelmouth Sucker
Roundtail Chub

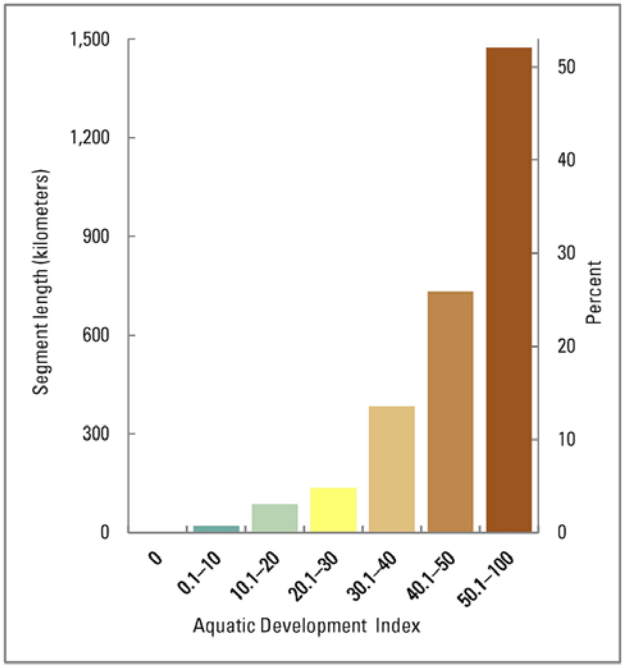
Photo credits: Bluehead sucker, Carlin Girard, University of Wyoming and roundtail chub, Wikimedia, Creative Commons Attribution-Share Alike 4.0.

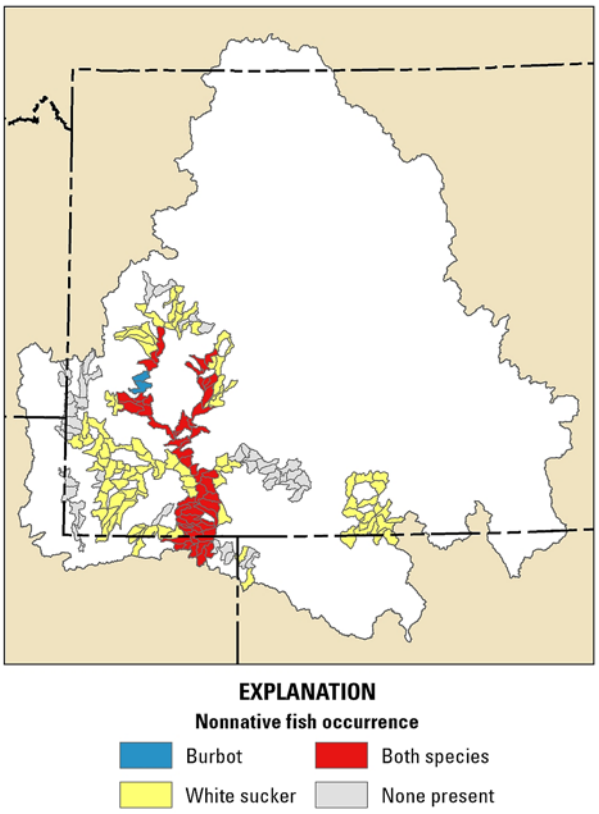


Aquatic Development Index scores for the three-species fish assemblage habitat in the Wyoming Basin Rapid Ecoregional Assessment project area.

Management Questions

- Where is baseline habitat for the three-species assemblage, and what is the total amount occupied per species?
- Where does development pose the greatest threat to baseline three-species assemblage habitat, and where are the relatively undeveloped habitats? (Left map below)
- Where do dams, diversions, and road crossings pose potential barriers to three-species assemblage movements, and where are watersheds with the highest structural connectivity?
- Where are three-species assemblage populations at risk of hybridization and competition or predation from nonnative species? (Top left map following page)
- Where could three-species assemblage populations be at risk from projected shifts in hydrological regime in 2040?
- How does development risk vary by land ownership or jurisdiction for three-species assemblage habitat?
- Where are the fifth-level watersheds with the greatest landscape-level ecological values? (Top right map following page)
- Where are the fifth-level watersheds with the greatest landscape-level risks? (Center right map following page)
- Where are the fifth-level watersheds with the greatest conservation potential? (Bottom right map following page)



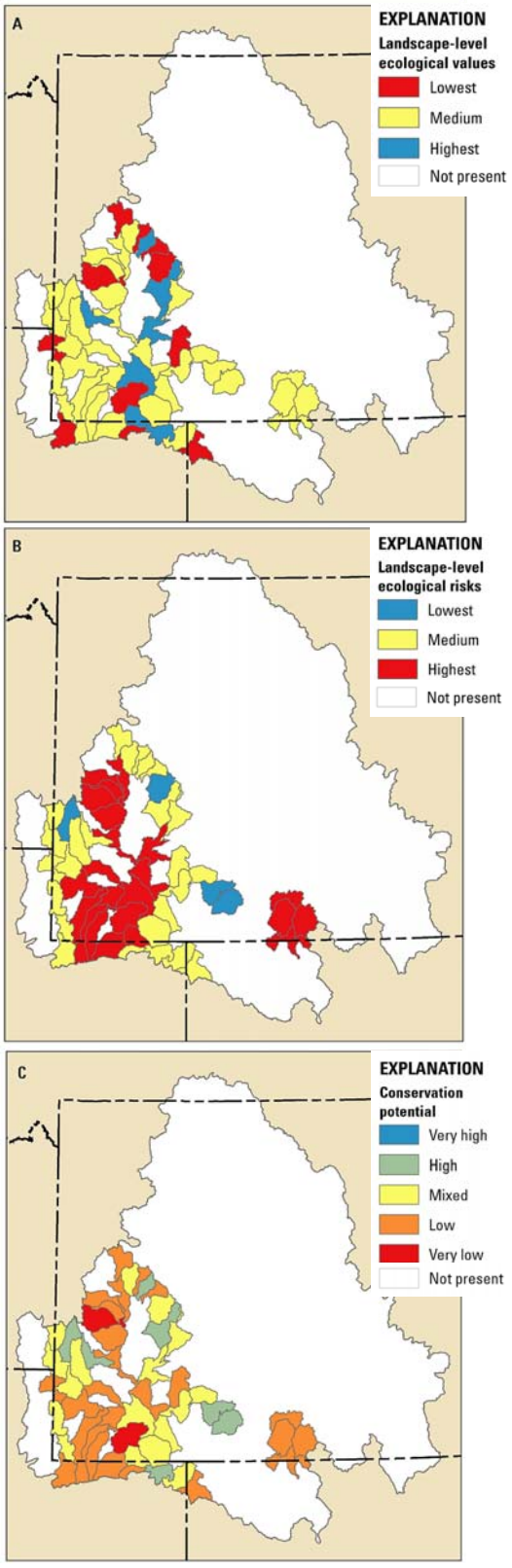


Potential risk from competition, predation, and hybridization based on the co-occurrence of burbot and white sucker with the three-species assemblage in the Wyoming Basin Ecoregional Assessment project area. Burbot is a potential competitor and predator of all three-species, whereas the white sucker can hybridize with both native suckers.

Summary

The three species that make up the fish assemblage form the foundation of the native fish community of the Colorado River drainage. The distributions of all three species within the Wyoming Basin are limited, and most of the habitat has high levels of development. Relatively undeveloped habitat for the fish assemblage is restricted to short, highly disconnected segments in small creeks and a short portion of the main stem of the Green River. Fragmentation of habitat by dams poses significant threats to the viability of the three species' populations, and water diversions can further increase isolation of remaining populations.

Two introduced fish species, the burbot and white sucker, widely co-occur with the fish assemblage and pose significant risks. Burbot, which are both predators and competitors, are largely limited to the main stems of the Green, New Fork, and Big Sandy Rivers. White suckers broadly overlap the distribution of both bluehead and flannelmouth suckers and have hybridized with both of the native species across much of their range in the Basin.



(*A*) Landscape-level ecological values, (*B*) ecological risks, and (*C*) conservation potential of three-species assemblage habitat, summarized by fifth-level watershed.