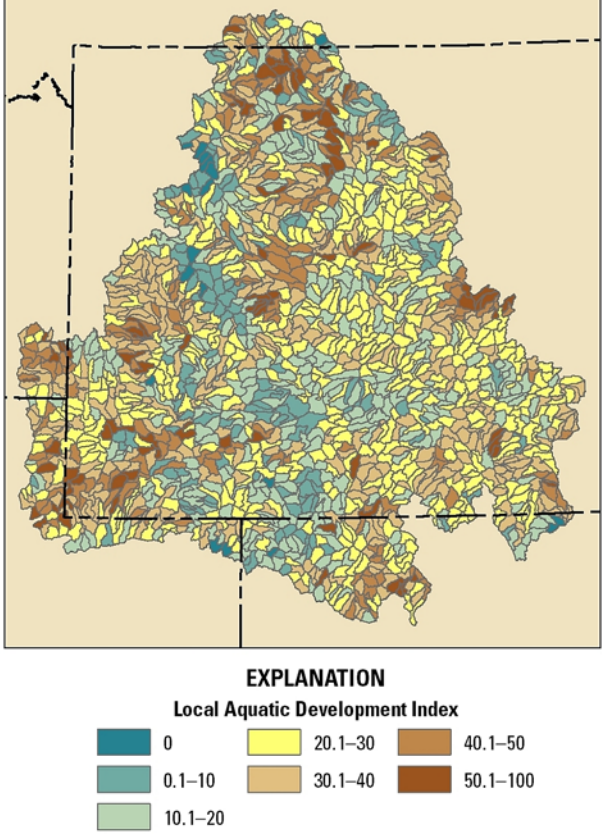
Wetlands

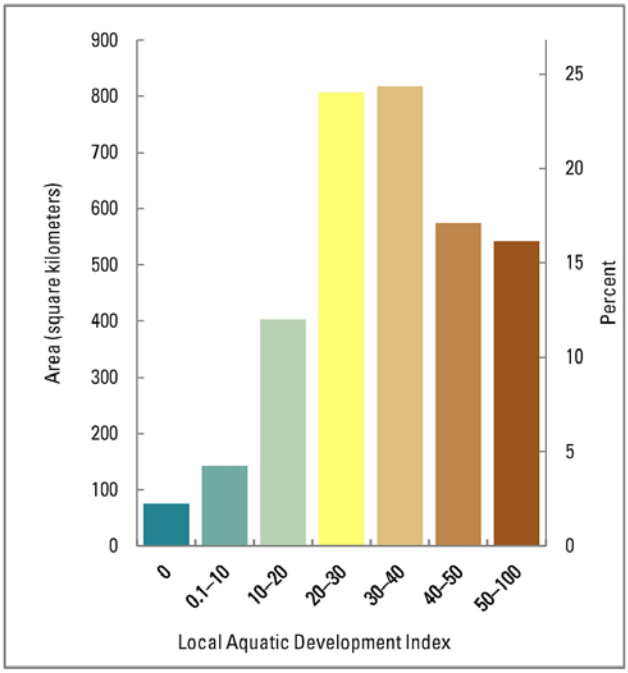
Photo credit: Cynthia P. Melcher, U.S. Geological Survey.

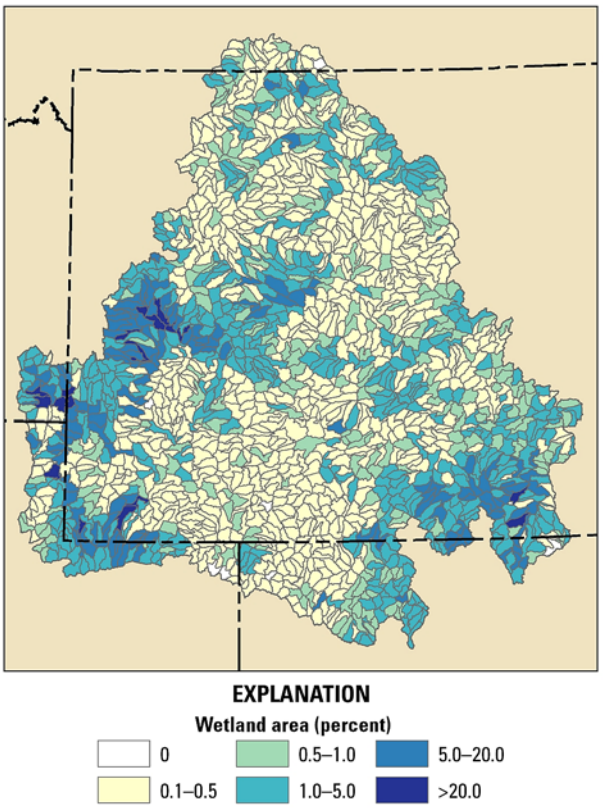
Management Questions

- Where are baseline wetlands, by functional type and hydroperiod, and what is the total area of each? (Top left map following page)
- Where are the sixth-level watersheds with the greatest wetland area?
- Where does development pose the greatest threat to wetlands, and where are the relatively undeveloped wetlands? (Left map below)
- How has development affected the structural connectivity of wetlands relative to baseline conditions?
- Which wetlands are potentially created or altered by agriculture?
- How does risk from development vary by land ownership or jurisdiction for wetlands?
- 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)



Local Aquatic Development Index scores for wetlands, summarized by sixth-level watershed, in the Wyoming Basin Rapid Ecoregional Assessment project area.





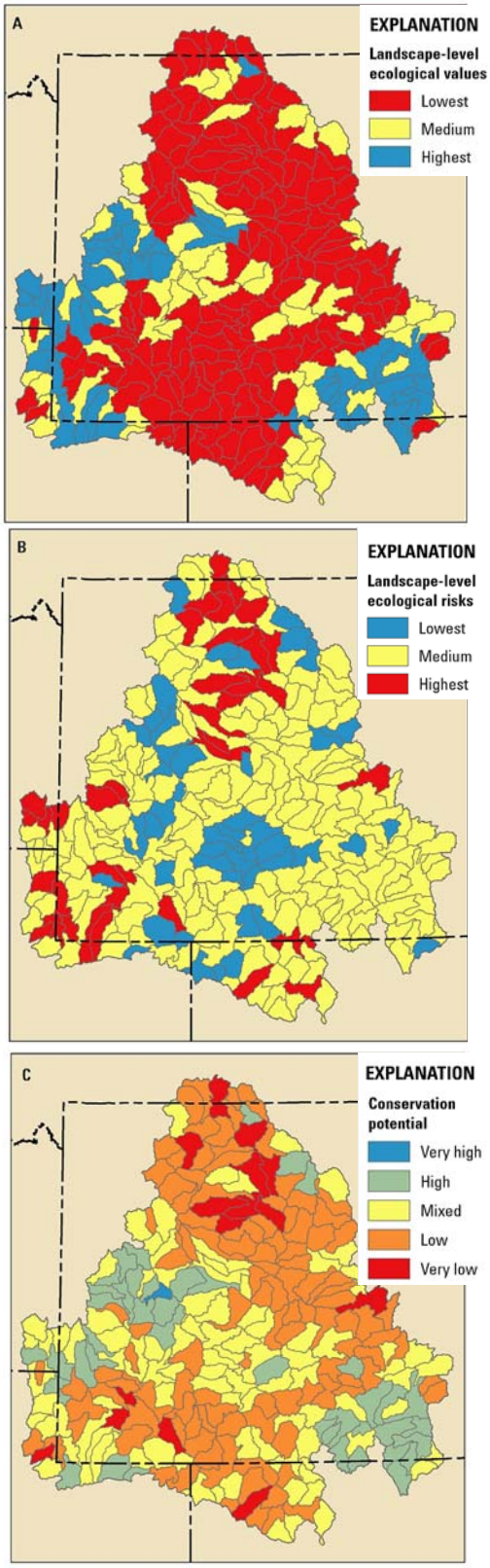
Percent of sixth-level watershed area that is classified as wetlands in the Wyoming Basin Rapid Ecoregional Assessment project area.

Summary

Wetlands are unevenly distributed in the Wyoming Basin. In most of the region, overall wetland area is low, with greater densities of wetlands present in the Wind River Basin; Laramie Plains; Uintah Mountains; Upper Green, Bear, Little Snake, Shoshone, and Bighorn Rivers. Areas with high percentages of wetland are also highly connected. Most highly connected, and less developed wetland complexes occur at higher elevations or along rivers.

Moderate to high development levels may exist in watersheds with high densities of wetlands, which reflects the fact that many wetlands in developed areas are artificially created or altered by irrigation. This likely reflects the fact that many developed wetlands are artificially altered by irrigation. More than half of the existing wetlands in the Wyoming Basin are used for agriculture. In the Laramie River Basin (in southeast Wyoming), 65 percent of surface and subsurface inflows to wetlands come directly from irrigation, changing natural wetland hydrology and increasing total wetland density.

Differences in structural connectivity between baseline and developed wetlands may be particularly detrimental to limited-dispersal amphibians. Structural connectivity of baseline wetlands is high for amphibians that can travel <0.5 kilometers (0.31 miles); however, structural connectivity of relatively undeveloped areas often exceeds 1 kilometer (0.62 miles), which may exceed the dispersal capabilities of many amphibian species.



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