Managing Mussels in the St. Croix River

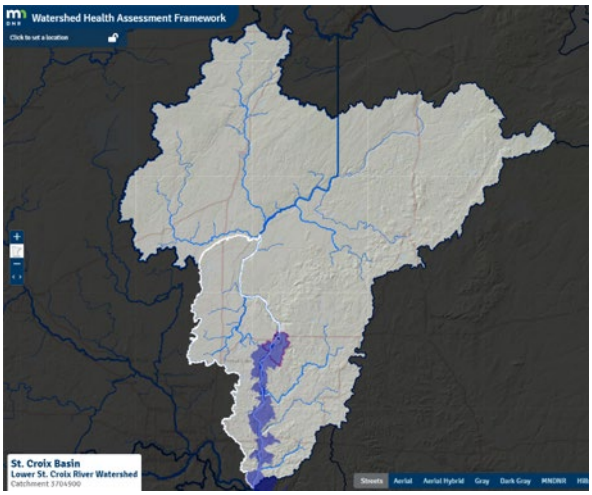
A resource manager is exploring conditions that influence the mussel community near Folsum Island, in the St. Croix River at Interstate State Park. Investigating the health of an aquatic community in a river system should include looking upstream and downstream of the site.

This is particularly important when managing mussels. Mussel community health is directly tied to the presence of barriers to fish passage. The life cycle of mussels requires the presence of a specific host fish. If the host fish species is blocked, the mussel cannot reproduce.

In this example, the hydropower dam upstream of Folsum Island will prevent the passage of fish species from the upstream part of river system to the lower river. That barrier will influence the distribution of the mussel populations.

Another influence on mussel community health is the presence of excessive sediment covering the streambed. This makes it difficult for sensitive mussel species to survive and thrive. Land cover conditions throughout the basin may have an impact on the amount of sediment in the river and the subsequent health of the aquatic community.

The WHAF map below shows the outline of the St. Croix Basin. Click the link to open this map in your own browser.

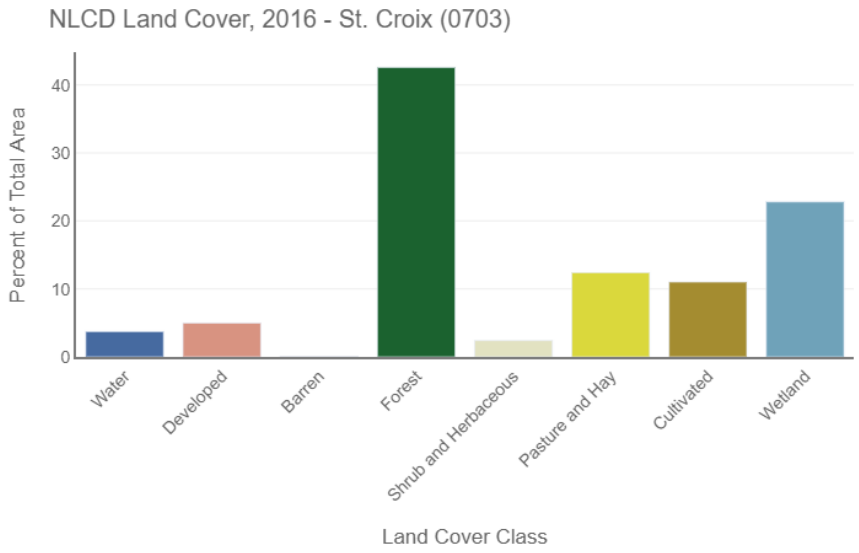


Open the Charts and Reports map tool and select these options:

- Scale: Basin
- Chart Type: Land Cover NLCD.
- Click the 'Launch Land Cover' button

This opens the Land Cover Application window to view land cover and crop cover charts. These charts summarize national data so they give an accurate snapshot of the St. Croix Basin land cover even though a large portion of the basin extends into Wisconsin.

The charts show a large percent Forest (43%) and Wetland (23%) cover types, and only 11% cultivated land. Not surprisingly, the intact and connected natural resource communities in this river basin support many of Minnesota's most sensitive aquatic and terrestrial species, including mussel species of concern.



Land Cover: https://arcgis.dnr.state.mn.us/ewr/whaflanduse/scale/basin/id/0703/tab/nlcd
Crop Cover: https://arcgis.dnr.state.mn.us/ewr/whaflanduse/scale/basin/id/0703/tab/cdl
Crop History: https://arcgis.dnr.state.mn.us/ewr/whaflanduse/scale/basin/id/0703/tab/crophistory