Managing for RADical Ecosystem Change

Applying the Resist-Accept-Direct (RAD) Framework

What happens when the future does not reflect the past?

Intensifying global change is propelling ecosystems towards irreversible transformations.

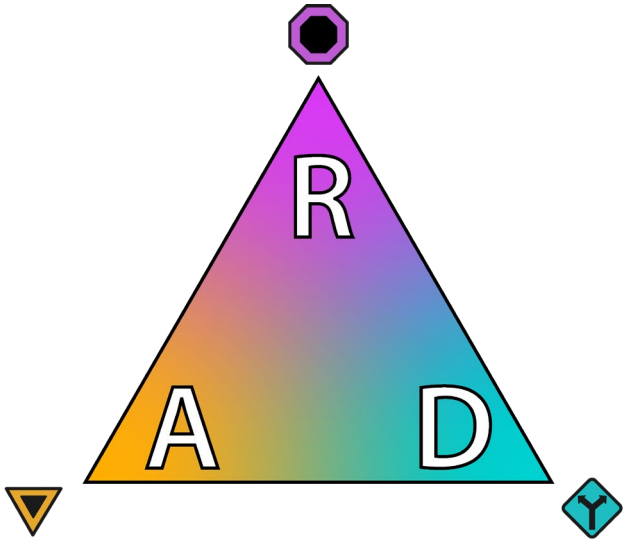
When ecosystem restoration, rehabilitation, or other ongoing practices are increasingly untenable, the **Resist-Accept-Direct (RAD)** framework can help start constructive conversations about what comes next.

The Framework

Focus on maintaining current or historical ecosystem structure and function — **Resist**

Allow the ecosystem structure and function to emerge from ongoing transformations — **Accept**

Intentionally steer the transformation towards a particular ecosystem structure and function — **Direct**



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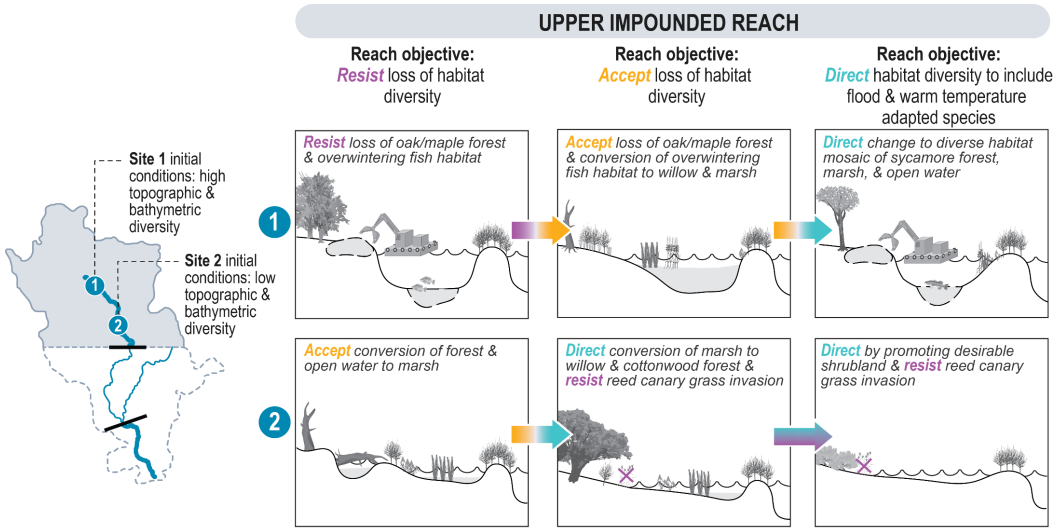
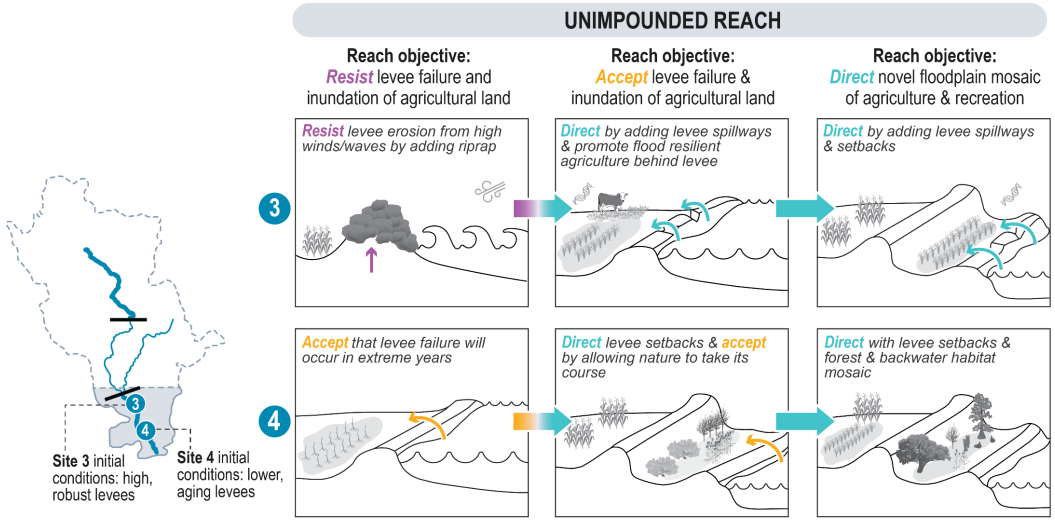
RAD Case Study

The Upper Mississippi River Basin

Managing expansive river systems like the Upper Mississippi is a challenge due to their size, connectivity, dynamic nature, multiple uses, and interacting threats. Here, the RAD framework can be implemented at three spatial scales: basin, reach, and site. Basin goals provide the foundation for unified river governance; reach objectives bridge basin goals and site actions by specifying desired outcomes for different aspects of the ecosystems; and site actions at the local scale are implemented to achieve reach goals and basin objectives. Explore examples of RAD approaches for achieving reach objectives below.



Reach-scale RAD-informed portfolio of site actions in the upper impounded reach, which is characterized by a relatively well-connected and narrow floodplain with diverse aquatic habitat types.



Reach-scale RAD-informed portfolio of site actions in the unimpounded reach, where there is low floodplain habitat diversity, limited recreational connection to the river, and extensive agricultural levee infrastructure.

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