

Managing for RADical Ecosystem Change

Applying the Resist-Accept-Direct (RAD) Framework

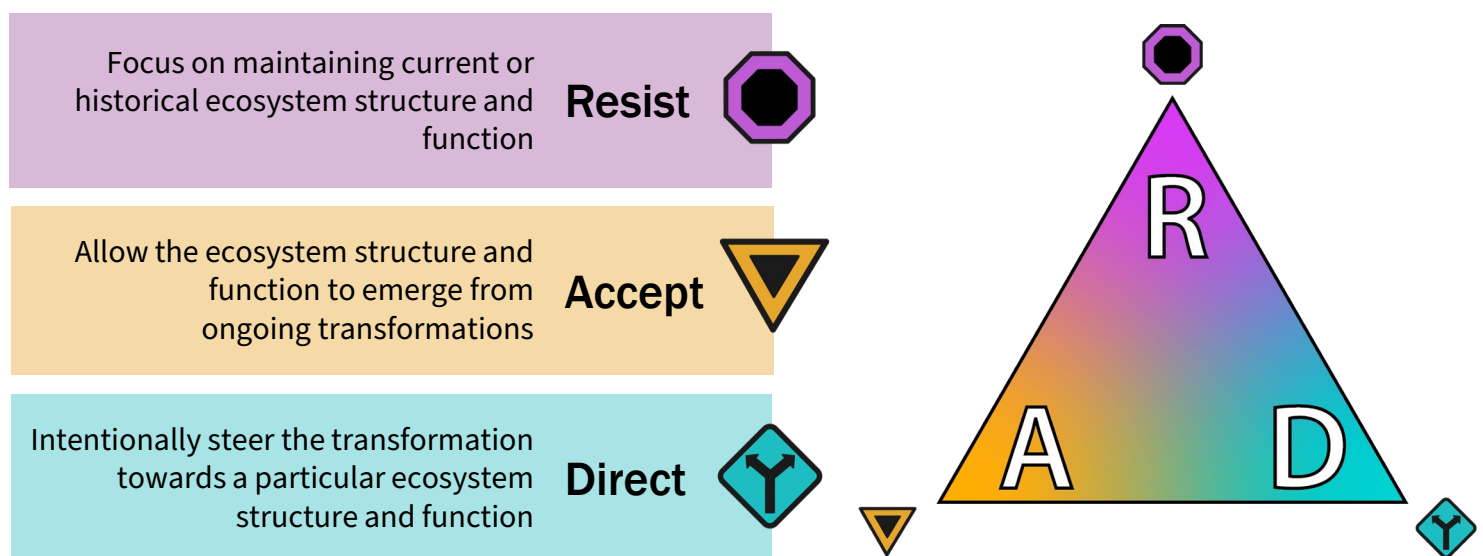


What happens when the future does not reflect the past?

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.

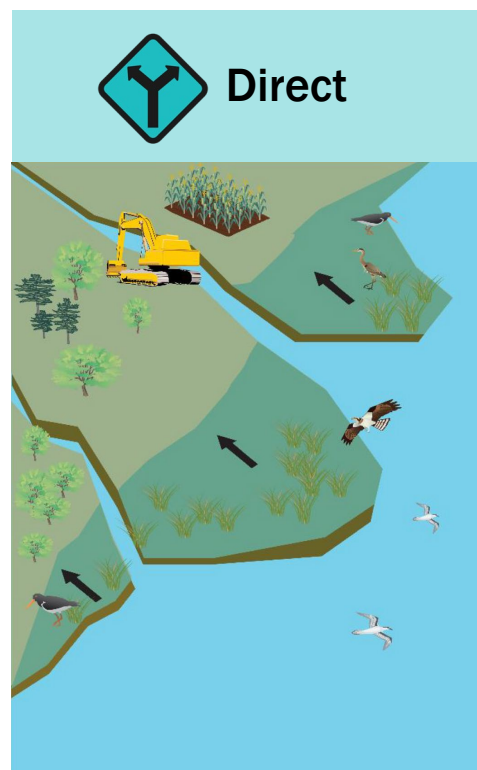
The Framework



RAD Case Study

Blackwater National Wildlife Refuge, Maryland

Blackwater National Wildlife Refuge, a protected area in tidal Maryland for waterfowl and other wildlife, has very low and flat topography, with elevations ranging from below mean sea level to 2.5 m above it. Sea-level rise in this region (3.44 mm/year) is almost twice the global average (1.8 mm/year) and has had catastrophic effects on the tidal saltmarsh. To **resist** change, managers and partners completed a 16-ha project to build elevation and enhance plant vigor and productivity. They have also nearly eradicated introduced nutria from the area, which has allowed for increases in native vegetation. Outside the refuge, a US\$475,000 demonstration project **directs** change, accelerating tidal marsh migration into low-lying farmlands using a low ground-pressure excavator to extend the head of a nearby tidal creek, which reduces inundation, introduces tidal exchange, and reinvigorates marsh vegetation.



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