A new rapid assessment to promote climate-informed conservation and nature-based solutions

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The National Wildlife Federation and partners are installing climate-adapted pollinator gardens in Philadelphia; their work differs from business-as-usual conservation by altering their planting mix to include a greater diversity of native species that are well-suited to future climate conditions, for example by being drought- and heat-tolerant. Credit: Jeanine Pohlhaus

A new article, published as a Perspective in the journal *Conservation Science and Practice*, introduces a rapid assessment framework that can be used as a guide to make conservation and nature-based solutions more robust to future climate.

Climate change poses risks to conservation efforts, if practitioners assume a future climate similar to the past or present. For example, more frequent and intense disturbances, such as wildfire or drought-induced tree mortality, can threaten projects that are designed to enhance habitat for forest-dependent species and sequester carbon. Overlooking such climate-related risks can result in failed conservation investments and negative outcomes for people, biodiversity, and ecosystem integrity as well as lead to carbon-sink reversal. Drawing from lessons learned from a decade of funding over 100 adaptation initiatives through the WCS Climate Adaptation Fund, the authors offer a simple framework that enables users to rapidly assess how—and by what means—climate change will require innovation beyond business-as-usual conservation practice.

This tractable assessment encourages practitioners and funders to use the "what, when, where, why, and who"—or the "5Ws"—of climate-informed action as a tool in project design and implementation. The "what," for example, means considering whether climate variability and projected changes will require taking new actions or modifying existing actions. The "who" asks users to consider: by whom, with whom, who benefits and who might bear potential harm or tradeoffs from project implementation and anticipated outcomes.

Using the 5Ws in practice can result in doing conservation differently in the warming world and help practitioners achieve their desired objectives. They use available science and local knowledge to address climate risks to traditional investments in reforestation, fire management, watershed restoration, and habitat protection. Take

reforestation as an example: a traditional approach might aim to enhance habitat and carbon sequestration using seed or seedlings from historically-dominant tree species. Tree mortality due to unsuitable climate conditions could then lead to unexpected habitat degradation and reductions in carbon sequestration. A climate-informed approach favors native species that are expected to thrive under future climate. Seed or seedlings can be sourced from warmer and/or drier locations to assist migration to climatically-suitable areas. The 5Ws facilitates this process of figuring out what, if anything, should be done differently from the status quo.

"There's such a pressing need for adaptation," notes Lauren E. Oakes, the article's lead author. "So, we need to mainstream strategic actions that are robust to future climate change into conservation efforts and nature-based solutions across the world." There is a breadth of rigorous tools available for adaptation practitioners, but the complexity cost and time required to use them can stall their broad uptake. Oakes says the "5Ws" offers an initial, less daunting entry into the climate-informed planning process for practitioners endeavoring to make their projects more robust to future conditions. The authors offer this rapid assessment as a pathway to broader adoption of adaptation planning, an urgent need as investments in nature-based solutions continue to ramp up.

More information: Lauren E. Oakes et al, Rapid assessment to facilitate climate-informed conservation and nature-based solutions, *Conservation Science and Practice* (2021). DOI: 10.1111/csp2.472

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