

Menu of Adaptation Strategies and Approaches

Developed for Inland Glacial Lake Fisheries Management

Strategy 1: Protect or restore water quality.

- 1.1. Prevent new sources of sediment, pollutants, and nutrient runoff.
- 1.2. Reduce sources of sediment, pollutant and nutrient runoff.
- 1.3. Implement engineering solutions to retain habitat during periods of stress.

Strategy 2: Protect or restore access to physical habitat.

- 2.1. Restore or prevent the degradation of littoral habitat.
- 2.2. Ensure access to physical habitat remains under more variable and extreme precipitation regimes.
- 2.3. Restore hydrologic connectivity among habitats.

Strategy 3: Mitigate the threat of invasive species.

- 3.1. Reduce the chance of spread to un-impacted lakes.
- 3.2. Control invasive species effects once introduced.

Strategy 4: Adjust management of current fisheries or populations to ecological change.

- 4.1. Adjust regulations to anticipated population-level changes.
- 4.2. Retain or promote genetic diversity.

Strategy 5: Adjust management to emerging or anticipated ecological constraints.

- 5.1. Facilitate transitions in response to changing conditions.
- 5.2. Eliminate ineffective or unsustainable management actions.
- 5.3. Facilitate shifts in stakeholder or user preference to emerging or dominant fisheries.

MORE INFORMATION: *This menu of adaptation strategies and approaches can be used within the Adaptation Workbook decision-support framework found in Swanston, C.W.; Janowiak, M.K.; Brandt, L. A.; Butler, P.R.; Handler, S. D.; Shannon, P.D.; Derby Lewis, A.; Hall, K.; Fahey, R.T.; Scott, L.; Kerber, A.; Miesbauer, J.W.; Darling, L.; Parker, L.; St. Pierre, M. 2016. **Forest adaptation resources: climate change tools and approaches for land managers, 2nd ed.** Gen. Tech. Rep. NRS-GTR-87-2. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 161 p. doi.org/10.2737/NRS-GTR-87-2.*

SOURCE: Tingley III, R.W.; Paukert, C.; Sass, G.G.; Jacobson, P.C.; Hansen, G.J.; Lynch, A.J.; Shannon, P.D. 2019. **Adapting to climate change: guidance for the management of inland glacial lake fisheries.** *Lake and Reservoir Management* 35(4): 35–452. doi.org/10.1080/10402381.2019.1678535.

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