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Diadromous Fishes: New Tools, New Findings, New Hope

Diadromous fishes have long been among the most important natural resources in Northeastern North America, from Native American to Colonial to present times. Diadromous fishes are also integral to the freshwater and marine ecosystems they migrate through as key constituents of riverine and coastal food webs and exchangers of nutrients. Though they number only a dozen or so species, these fishes are phylogenetically diverse and exhibit important differences in their respective life histories.

Many original populations of diadromous fishes appear to have existed in almost unimaginable abundances by today's standards. But a litany of "drivers" of decline have whittled those numbers down by as much as five orders of magnitude. These drivers include the effects of reduced river connectivity through damming and culverting, hydro-turbines, habitat alteration, overfishing, pollution, invasive species, power plant entrainment and impingement, and hatchery and aquaculture operations. Additionally, climate change is forcing changes in diadromous fish distributions and phenologies.

Fish scientists continue to employ classical research tools to these fishes for their stock assessments. However, against these challenges new and exciting tools are revealing critical knowledge of life histories at a range of levels, from communities, to species, to populations, to contingents, and to individuals. These tools include remote tracking with a variety of sophisticated transmitters and receivers, otolith microchemistry, and sensitive genetic approaches. They serve to reveal not only life histories but also interactions within ecosystems and impacts of environmental change.

The annual meeting of the Northeastern Division of the American Fisheries Society, to be held in Boston from January 8th to 10th, 2023, will include a special two-day session on these topics, titled *Diadromous Fishes in the Northeast: New Tools, New Findings, New Hope*.

Please consider participating.

Meeting Chair – Sara Turner (sara.turner@noaa.gov)

Session Chair – Trevor Avery (trevor.avery@acadiau.ca)