Cosmopolitan Trout: The 1883 Fisheries Exhibition and the Global Expansion of Fish Culture

Michael Del Vecchio

Summary

London's Great International Fisheries Exhibition in 1883 was the largest fisheries conference of its time. It was also a catalyst that ignited a transnational fish-culture revolution and turned trout into a cosmopolitan species. Triggered by the exhibition, the knowledge and networks of aquaculture aided trout in becoming a remarkably mobile species in the late nineteenth and early twentieth centuries. It was therefore in the years 1875–1925 that trout expanded beyond their native haunts to inhabit every corner of the globe.

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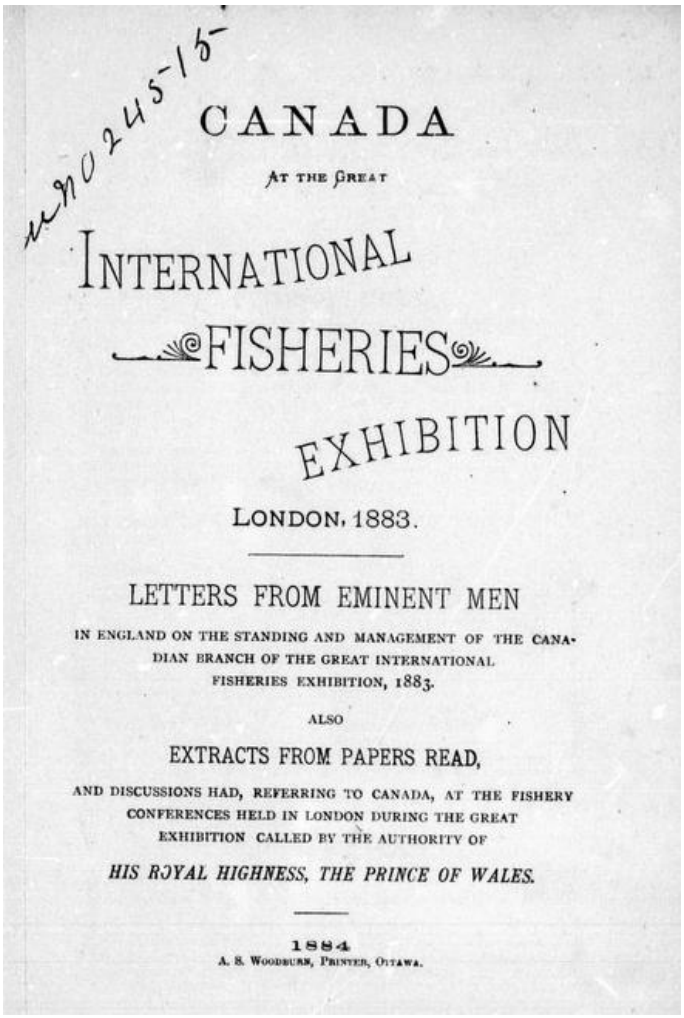

Canada at the Great International Fisheries Exhibition (1883)

Publications such as this helped distribute the proceedings of the exhibition and both the ideological and technological aspects of fish culture to a broad audience.

1883 International Fisheries Exhibition (London, England)

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London, England's Great International Fisheries Exhibition in 1883 was the largest fisheries conference of its time and helped establish fish culture as a global fisheries management tool. Governments from across the globe sent agents to display elaborate exhibits about their nation's aquatic natural history and to network with other fisheries experts. Exhibits on the artificial breeding and rearing of fish, such as the one created by Canada's Samuel Wilmot, were the highlight of the event.

The knowledge and networks established at the exhibition acted as a catalyst for the acclimatization of trout throughout the world. The science and technology of aquaculture aided trout in becoming a remarkably mobile species in the late nineteenth and early twentieth centuries. Three species of trout in particular, brown, brook, and rainbow, have expanded far beyond their native ranges and now occupy nearly every corner of the planet.

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The scientific practice of artificially breeding fish began in mid-eighteenth-century France and quickly spread throughout the world. While governments were interested in fish breeding for its food-bearing potential, anglers and sportsmen also helped facilitate the spread of fish culture. Popular sporting publications such as Britain's The Field and the United States's Spirit of the Times provided a platform for the dissemination of both the technical and ideological foundations of artificial fish breeding to sportsmen and sporting organizations throughout the world.

Rainbow trout, the most dispersed of the three cosmopolitan fish, had a native range restricted to the west coast of North America and a few other places in the northern Pacific Rim. Brook trout were originally limited to the North American Great Lakes Basin, and brown trout were indigenous to western Europe and the British Isles. The three trout species share similar environmental regulators. This facilitated their introduction into each other's native range and just about any body of water that could support them. Indeed, many waters throughout the world now hold all three varieties of trout.



Non-native brown trout caught with a fly rod on a small stream in Southwestern Ontario, Canada.

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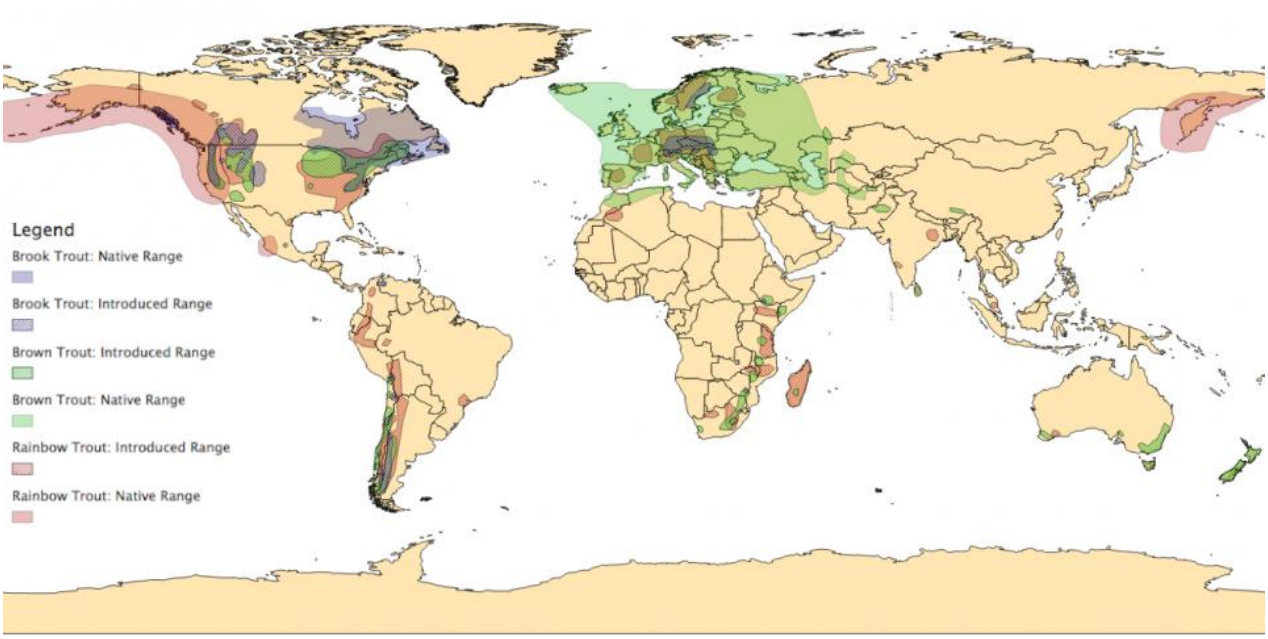
New Zealand and Australia, which did not originally have any trout species but did have the necessary environmental conditions, had brown, brook, and rainbow trout acclimatized into their waters around the turn of the twentieth century. The global introduction of trout was made possible by the invention of a relatively simple technology allowing the long-distance transportation of fertilized fish eggs. Wood boxes, insulated with moss and cooled by large blocks of ice, permitted eggs to be shipped across the world, even across tropical climates, without harm.



The global (re)distribution of trout

2013 Michael Del Vecchio

This map was created using QGIS, an open-access mapping software. This map is based of a series of maps by H. R. MacCrimmon originally published in the *Journal of the Fisheries Research Board of Canada*.

Map sources:
MacCrimmon, H.R., and T.L. Marshall. "World Distribution of Brown Trout, Salvelinus fontinalis." *Journal of the Fisheries Research Board Canada* 25, no. 12 (1968): 2527–48.
MacCrimmon, H. R., and J. S. Campbell. "World Distribution of Brook Trout, Salvelinus fontinalis." *Journal of the Fisheries Research Board Canada* 26, no. 7 (1969): 1699–725.
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The science, technology, and ideology of artificial fish breeding left a lasting impression on aquatic communities the world over. Trout is but one example. Understanding the international history of trout demonstrates the ways in which scientific development, technological innovation, cultural initiatives, and living organisms combined to construct the current global environment.

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Further readings:

- Halverson, Anders. *An Entirely Synthetic Fish: How Rainbow Trout Beguiled American and Overran the World.* New Haven: Yale University Press, 2010.
- Kinsey, Darin. "Seeding the Water as the Earth: The Epicenter and Peripheries of a Western Aquacultural Revolution." *Environmental History* 11 (2007): 527–66.
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- Szylvian, Kristin M. "Transforming Lake Michigan into the 'World's Greatest Fishing Hole': The Environmental Politics of Michigan's Great Lakes Sport Fishing, 1965–1985." *Environmental History* 9, no. 1 (2004): 102–27.
- Taylor, Joseph. *Making Salmon: An Environmental History of the Northwest Fisheries Crisis.* Seattle: University of Washington Press, 1999.

Related links:

- US Fish Commission Annual Reports
  http://docs.lib.noaa.gov/rescue/cof/data_rescue_fish_commission_annual_reports.html
- Bulletin of the US Fish Commission
  http://docs.lib.noaa.gov/rescue/Fish_Commission_Bulletins/data_rescue_fish_commission_bulletins.html
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Michael is a PhD candidate in History and Environment and Sustainability at Western University in London, Ontario, Canada. His doctoral research examines the intersection of ecological, technical, and epistemic networks in the development of freshwater fisheries management in Canada. Six years of working in the fishing tourism industry as a guide has inspired and informed his research into the environmental history of fishing in Canada.

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