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Nota di contenuto	Embryo Temperature Has Knock-On Effects on Later Traits in Salmonid Fishes -- Field Observations of Deformed Atlantic Salmon (<i>Salmo Salar</i>) Embryos Incubated in the Hyporheic Zones of Seven Cold Region Rivers -- Environmental Determinants of Spawning Location, and Density and Size of Age-0 Brown Trout <i>Salmo Trutta</i> in a Small Boreal Stream -- Density-Dependent Growth in Salmonids: a Metaanalysis -- The Ghost of Density-Dependence: Environmental (hydrological) Factors Drive the Numerical Changes of Young Migratory Trout <i>Salmo trutta</i> in a Lake District Stream (UK), 1966-1996 -- Long-term Recruitment Patterns of 0+ Brown Trout in the River Maine, Northern Ireland -- Spatial Patterns

of Synchrony in Recruitment of Trout among Streams -- The Use of Net Energy Intake Models to Predict Microhabitat Selection by Drift-Feeding Fishes: Are Common Assumptions Warranted? -- Understanding Stream-Resident Salmonid Movements in Groundwater-Fed Streams of the Driftless Area (USA) -- Trophic Flexibility of Stream-Dwelling Salmonids: Disentangling Common Ontogenetic and Seasonal Patterns -- Stream Salmonids on the Cormorant Menu -- Partial Migration in Salmonids: Focusing on Asian Endemic Masu Salmon (*Oncorhynchus masou*) and White-Spotted Charr (*Salvelinus leucomaenis*) -- The Role of the Soundscape in the Behavioral Ecology of Stream-Dwelling Salmonids -- The Freshwater Pearl Mussel; A Costly Stowaway or an Important Habitat Engineer? -- Habitat Selection and Segregation among Stream Salmonids: The Case of Juvenile Coho Salmon (*Oncorhynchus kisutch*) and Steelhead Trout (*Oncorhynchus mykiss irideus*) -- Trout under Drought: A Long-term Study of Annual Growth and Condition of Stream-living Coastal Cutthroat Trout (*Oncorhynchus clarkii clarkii*) -- Winter Ecology of Salmonids in Boreal Streams under Climate Change -- Components of Brown Trout Age-Class Density Dynamics -- Salmonids in New Zealand – Old Ways in New Lands -- Application of a Fine-Scale Modeling Approach to Assess Broad-Scale Changes in Stream Salmonid Habitat in a Changing Climate -- Determinants of Productive Capacity for Stream Salmonids -- Determinants and Dynamics of Production Rates of Stream-Dwelling Salmonids: The Importance of Intrinsic Factors -- Influence of Streamflow on Productivity of Stream Type Chinook Salmon Populations in the Salmon River Drainage, Idaho -- The Increasing Threat Posed by Nonnative and Hatchery-Reared Salmonids to Japanese Wild Native Salmonids -- Demographic and Genetic Attributes Of Small, Isolated Populations Of Gila Trout – Prospects For Persistence Under A Shifting Climate Regime -- Ecological Traits and Fishery of the Upper Limay River, a Key System for Salmonids in the Andean North Patagonia -- Dynamics of a Warmwater-Coldwater Fish Assemblage in a Wildfire Prone Landscape -- The Future of Salmonids in a Rapidly Changing World -- A Short Reflection on Protecting the Remaining Biodiversity of Salmonid Fishes.

Sommario/riassunto

Many salmonids inhabit streams during the whole, or a substantial part of their lifetime. Streams, as networks of cold waters running over riffles, pools and tables of gravel, pebble and stony substratum, are fed by rainfall and snowmelt and may be subject to spates and droughts. Hence, these lotic systems are heterogeneous by nature and vary substantially in temperature and discharge along their environmental gradients. In these habitats, salmonids encounter suitable reproductive and feeding habitats where they exhibit a dizzying array of life history traits and an overwhelming variability in size, growth and density. Essentially predators upon organisms drifting across the water column, they become apex piscivores at large sizes. They may also serve as prey for aquatic macroinvertebrates at the youngest stages, and as they grow, they may become prey for birds and mammals. In addition, many populations play a major role in the recycling of biogeochemical elements critical for the trophic dynamics of their home streams. Empirical assessment of the ecological functioning of stream salmonids has been a tireless endeavor since the pioneer studies by Allen (1951), Chapman (1966), McFadden (1964) and Northcote (1966) further enhanced by the IBP (1964-1974; Gerking 1967) and extended to experimental approaches during the last decades (Northcote Lobon-Cervia 2010, Lobon-Cervia & Sanz 2017, Kershner et al. 2019). It has become increasingly apparent that streams are severely threatened by human abuse and misuse, including over-extraction, diversion,

damming and pollution, in addition to the more recent threat of global warming. Furthermore, salmonids themselves are threatened by genetic introgressions, diseases, and parasites related to uncontrolled introductions of individuals from aquaculture, and over-exploitation by angling. These threats have triggered important social and political concerns, to the extent of becoming research priorities for major agencies and institutions. In this context, we attempt to add an overview to this endeavor by updating and summarizing the documented ecology of stream-living salmonids, with reference to the factors and mechanisms underlying the growth, density and life history that interact to determine the size, number, and distribution of individuals encountered in any wild population.
