Water has been described as an uncooperative commodity because of the difficulty of bounding and measuring property rights to water and infrastructure. Two schools of thought have sought to explain the evolution of water markets, which involve different types of goods and services. These accounts are broadly divided into explanations that emphasise private bargaining and spontaneous emergence versus those that focus on the role of central regulation to design systems of cap and trade. This paper examines a third option: polycentric governance with group-level rights and multiple decision-making centres involved in the reform of property rights, provisioning of shared infrastructure and knowledge, and resolution of conflicts arising from valuation disputes or spillovers. Drawing on an original dataset of water transactions and transaction costs, this paper compares the evolution, design and performance of sub-basins across the Columbia Basin, which has experimented with market transactions to restore environmental flows for nearly 30 years. The regions with the most trading activity have created institutional mechanisms to facilitate cooperation and resolve conflicts stemming from equity concerns and group-level impacts of reallocation.