How to harness Blockchain for marine conservation

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In this Perspective talk, I will explore how distributed ledger technology (DLT), often referred to as the Blockchain, can revolutionize the way we interact with data, can establish a network of trust amongst untrusting parties, and align incentives with sustainable practices. Recently, the UNFCCC has officially recognized the potential of DLT in fighting climate change. At the core of this technology is a distributed database that is continuously updated and verified by pre-defined algorithms run by the users. All data entering the distributed ledger (DL) is tamper-proof, chronological and distributed, and thus inherently durable, reliable, and secure. Additionally, the DL enables programmable (smart) contracts that self-execute and self-enforce based on captured data, preventing corruption and data manipulation. All machine-readable data can be stored and archived on a DL and used to validate claims. In a few years' time, apps will make DLT feasible to use in most communities. Interesting use cases for the conservation of marine biodiversity include the transparent tracking of supply chains for fisheries, crowd-sourced reputation rankings for companies, automatic monetary incentives for measurable conservation actions in coastal communities, or secure and trustable peer-to-peer financing in underinvested areas, for example to develop resilient coastal social-ecological systems.