Aquaculture producers involved in live aquatic animal trade often conduct surveillance routinely to demonstrate freedom from disease, amassing large amounts of data through the years. Despite their volume, historic datasets may be given limited regard. As a rapidly growing industry exploring new markets, products and technologies, amidst a changing environment, aquaculture will likely need to expand and adapt its surveillance scope. Emerging diseases or new diagnostics associated with VHSV IVb, SAV, OsHV-1 µvar, and the non-cultivable ISAV HPRO are recent examples; each creating new demands for surveillance at local or global scales.

However, the reluctance to retire pathogens from routine surveillance limits our flexibility to adapt. While ongoing surveillance is logical for pathogens of uncertain or endemic status, it makes economic and biologic sense to reduce surveillance for pathogens of long demonstrated absence. Ongoing surveillance may be necessary in open environments subject to pathways for new disease introduction. However, in systems where the risk of new disease introduction is effectively mediated through mitigation measures or natural causes, prospective surveillance plans can adjust surveillance sampling accordingly. How extensive the period of demonstration of disease freedom and how much reduction of surveillance intensity or periodicity is afforded by historic data are questions without easy answers.

Methods to scale surveillance according to risk exist. However, guidance and examples are sparse; and in some cases, still being evaluated. Current OIE recommendations and other methods are discussed in the context of two example systems. One system, a trout farm, is closed akin to a compartment; the second system, an oyster operation, is open with close ties to its surrounding environment. In each case historic data and the risk of disease introduction to scale surveillance are considered; each with varying reliance on the health status of the region, and varying gains in surveillance efficiency. Methods for retiring resolved concerns afford surveillance better capacity to adapt. However, example applications raise additional questions for discussion.