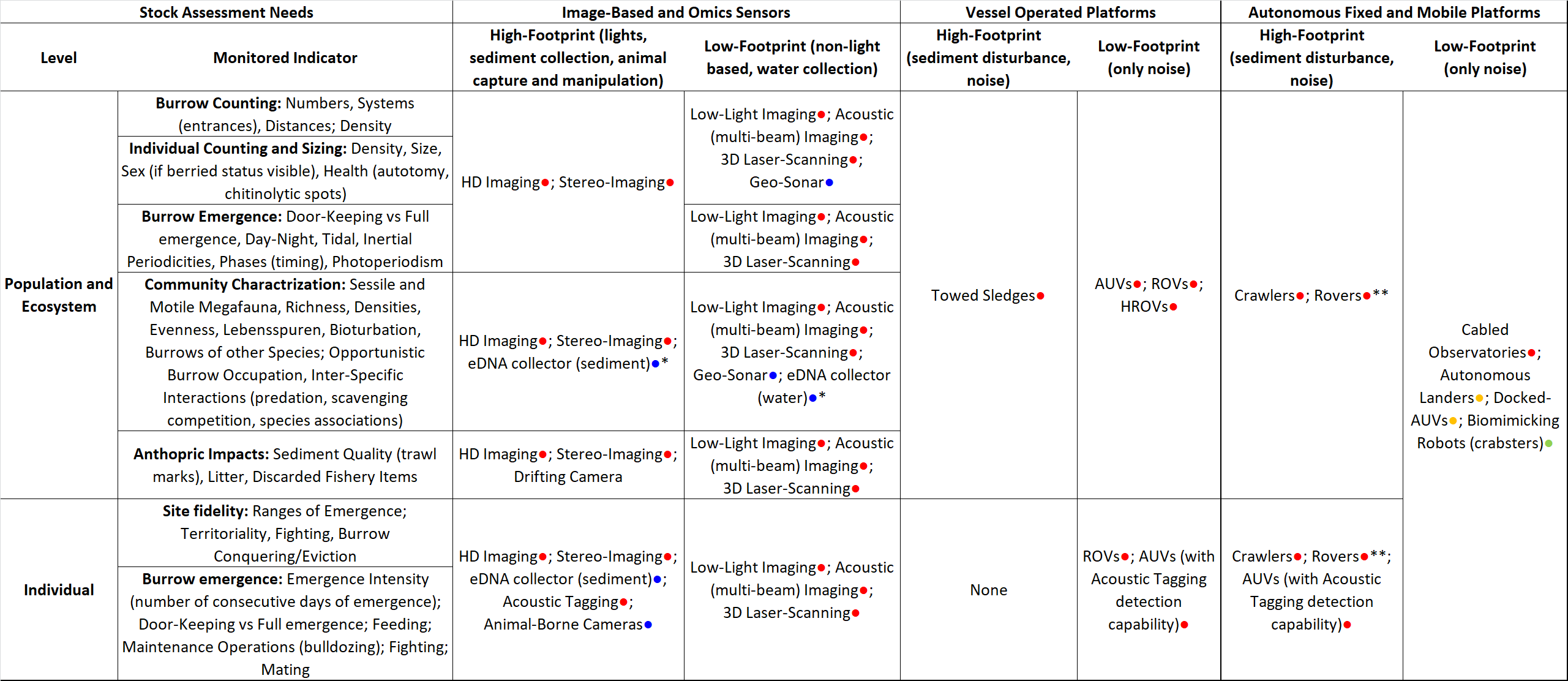
Supplementary material

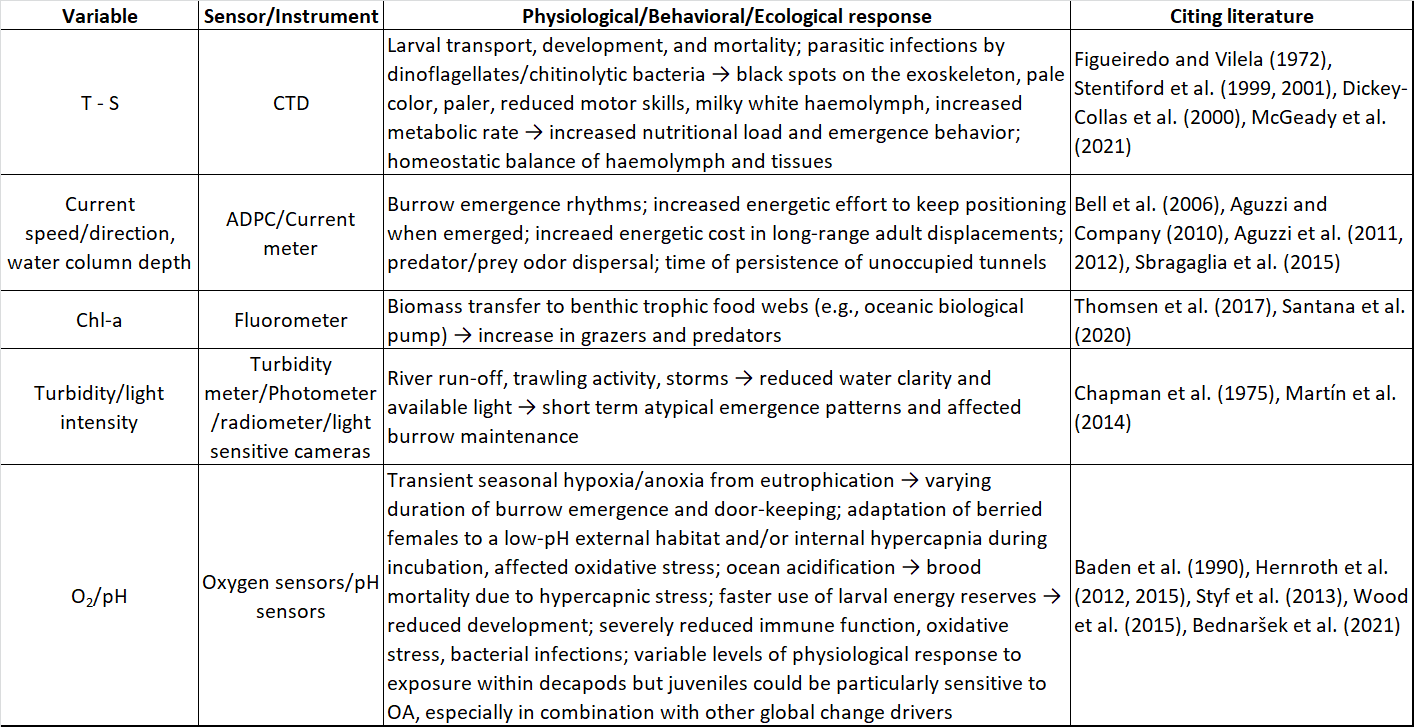
**Supplementary Table S1.** Available/in development monitoring technologies to cover the needs of *N. norvegicus* stock-assessment. Sensors and vessel-assisted or autonomous platforms with different levels of monitoring footprint are presented, according to the population and individual level of analysis. Their Technology Readiness Level (TRL; assigned by the authors for levels below marketization; i.e., TRL 9) is provided as a metric of how advanced a specific technology is (Héder, 2017). Blue, green, yellow and red dots correspond to TRL3 (i.e., “experimental proof of concept”), TRL7 (i.e., “system prototype demonstration in operational environment”), TRL8 (i.e., “system complete and qualified”) and TRL9 (i.e., “actual system proven in operational environment”), respectively.



\*not yet a sensor, but on the pathway to becoming a central element for augmented monitoring.

\*\*Deployed by boats through garages, but only with a few days of full autonomy.

**Supplementary Table S2.** Environmental variables affecting *N. norvegicus* physiology, behavior, and overall ecology. Examples of sensors able to measure these variables are provided, alongside the rationale for their measurement in the context of monitoring of stocks (i.e., experimentally observed or simulated effects of different climate or stressor scenarios).



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