

ECASA indicator

Name	Validated Distance (VD) from sensitive aquatic areas												
DPSIR class	State												
ECASA sub-group	Coastal zone management												
ECASA code	VALIDDIST												
Proposed by participant	n° 5 – Leibnitz Institute of Marine Science												
Definition, computation,	<p>Validated Distance (VD) from sensitive aquatic areas (e.g. from an MPA or other protected area, habitat of an endangered or protected species, important spawning ground)</p> $VD = 100 \cdot B - \text{Min}(A, B) / B$ <p>A = Distance between (planned) aquaculture site and sensitive aquatic area B = <i>Safe Distance</i> from sensitive aquatic areas for this type/size of aquaculture operation</p>												
Data required	<p>1- Map of sensitive areas (to be published by an authority responsible for environmental affairs)</p> <p>2- Distance between (planned) aquaculture site and sensitive aquatic area: shortest waterway (in contrast to beeline) between the outer border of each area.</p> <p>3- Following the precautionary approach, a distance of 5 km may be regarded as safe (<i>Standard Safe Distance</i>). If any stakeholder (aquaculturist, authorities, NGOs) does not agree with the standard value, he must prove that a shorter or longer distance is adequate. The <i>Safe Distance</i> should be at least twice the maximum distance of any measurable impact. Experts of the responsible authority have to decide whether presented proofs are cogent according to the precautionary principle.</p>												
Summary, scientific meaning, implementation	<p>For certain types of sensitive aquatic areas it is desirable to exclude human impact (typically this is chemical pollution, organic enrichment, and eutrophication). To avoid costly field campaigns a standard value for a <i>Safe Distance</i> should be defined. In Canada a distance of 5 km was suggested for salmon farming (Hargrave 2004). To prove that the <i>Standard Safe Distance</i> is too short, it is sufficient to show that there is evidence for a negative impact at half the <i>Standard Safe Distance</i>. To reduce the <i>Safe Distance</i> it must be demonstrated that there is no impact at half the <i>Safe Distance</i> suggested, in respect to organic enrichment, chemical pollution and eutrophication. Responsible authorities may demand further criteria if their experts suppose that the aquaculture operation may conflict in any other way with the protection of the sensitive aquatic area.</p>												
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Species concerned (fishes/molluscs)	All
Relevant environments for this indicator	all types of environments with declared sensitive or protected areas to a sensitive area
Geographic scale	Local
Direct relevance to objectives	A
Clarity in design.	A
Realistic collection or development costs	A
High quality and reliability	B
Appropriate spatial and temporal scale	A
Obvious significance	A
advantages	If all stakeholders accept the standard value for the <i>Safe Distance</i> only nautical charts and position data of the sensitive area and the aquaculture site are needed.
disadvantages	If, however, any stakeholder does not accept the standard value for a safe distance then all types of model- and field data and indicators may be used to give proof for enlarging or reducing the <i>Safe</i>

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references

Distance.

Hargrave, B.T. (2004) A decision-support system for evaluating new salmon farm site applications. In: Hargrave, B.T. (ed.) Environmental Studies for Sustainable Aquaculture (ESSA): 2004 Symposium Report. Canadian Technical Report of Fisheries and Aquatic Science No. 2542, p. 38-40.

State of validation recommendations