Behavioural biases of experts and their influence on natural resource management

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Abstract

Natural resource management relies upon expert judgements due to the inherent uncertainty. While experts are assumed to be rational actors, research has shown that their judgements are subject to behavioural biases. Most of the biases in expert judgement, e.g. anchoring, overconfidence bias, or reluctance to revise results, cause an overemphasis of previous results, leading to a status quo bias. Since the assessments conducted by experts are used to inform policy makers, an overemphasis of prior results can endanger the sustainability of the resource. While the prevalence of biases in expert judgements is known, the extend to which they actually influence scientific assessments for policy recommendations is not. Here we show that in the case of fish stock assessments there is a clear status quo bias due to behavioural biases. We find that whenever the setting of the assessment process allows for judgement calls we see a status quo bias. Further, the experts awareness of the use of their work has an impact upon their judgements. In a stressful situation (e.g. assessing a fish stock that is already in a critical stock status) the behavioural biases are stronger. Our results show that behavioural biases are impacting fish stock assessments. This impacts fisheries policy twofold. The direct effect is by providing biased estimates to the policy makers which they translate into annual quotas. There is also an indirect effect, since by confirming the status quo, a sense of security generated which can lead to riskier quota setting.

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