

Evaluating the effectiveness of buffer strips using riparian plants and beetles as indicators

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Despite the widespread use of riparian buffers as a management tool to maintain a variety of ecological functions there has been little experimental evaluation of how effective these buffers are (Kiffney et al 2003, Goodwin et al 1997), and no consideration of riparian organisms (Jahnig et al 2009). Where monitoring has occurred the results are inconsistent and their scope beyond the immediate area limited. There is therefore a need to develop monitoring techniques which are informative, repeatable and with wide applicability. Two catchments in north-east Scotland were studied over a two year period. We investigated plant and beetle (Coleoptera; Carabidae and Staphylindae) responses to buffer strips and the potential for these taxa to act as indicators of habitat quality and consequently successful improvement. The assemblage structure of both the plants and beetles was shown to change in relation to buffering and also showed a response in relation to the length of time a buffer strip has been established. This demonstrates the potential for biodiversity monitoring of buffer strips to indicate wider ecological influences of this type of riparian management.

References

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