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Assessment on the Vulnerability of Ecosystem Services to Land Use Change — — A Case Study of Carbon Stock of Taihu Lake District in Jiangsu Province

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The vulnerability of ecosystem services to global change is generally commented, reducing the vulnerability of ecosystem services to land use change by changing land use has been seemed vital importance to the condition of desertification and unsustainability of ecosystem services. Methods of assessing the vulnerability of ecosystem services to land use change are introduced, the responding mechanism of ecosystem services to gradual and sudden land use change, land management change is analyzed, the vulnerability of ecosystem services to land use intensity change is studied. The results show that: 1) The carbon storage of ecosystem to land use intensity change becomes more and more vulnerable due to decrease in agricultural land and forest land and dramatic increase of built-up land, the carbon storage will reduce respectively 0.90 Tg, 1.68 Tg and 1.69 Tg accompanying per unit land use change intensity in the three time intervals of 1980-1990, 1990-2000 and 2000-2005. 2) The vulnerability of ecosystem services to land use change can be dropped by planning control on agricultural land, forest land and built-up land, the carbon storage will reduce 0.50 Tg before planning and will increase 0.62 Tg afterwards following per unit land use change intensity between 2005 to 2015. It is thus concluded that the vulnerability of carbon storage can be reduced by regulating land use structure with the help of planning. Finally, some suggestions on further studies of the deficiency of this paper were put forward.

【Key Words】 : **land use change ecosystem services carbon stock**

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