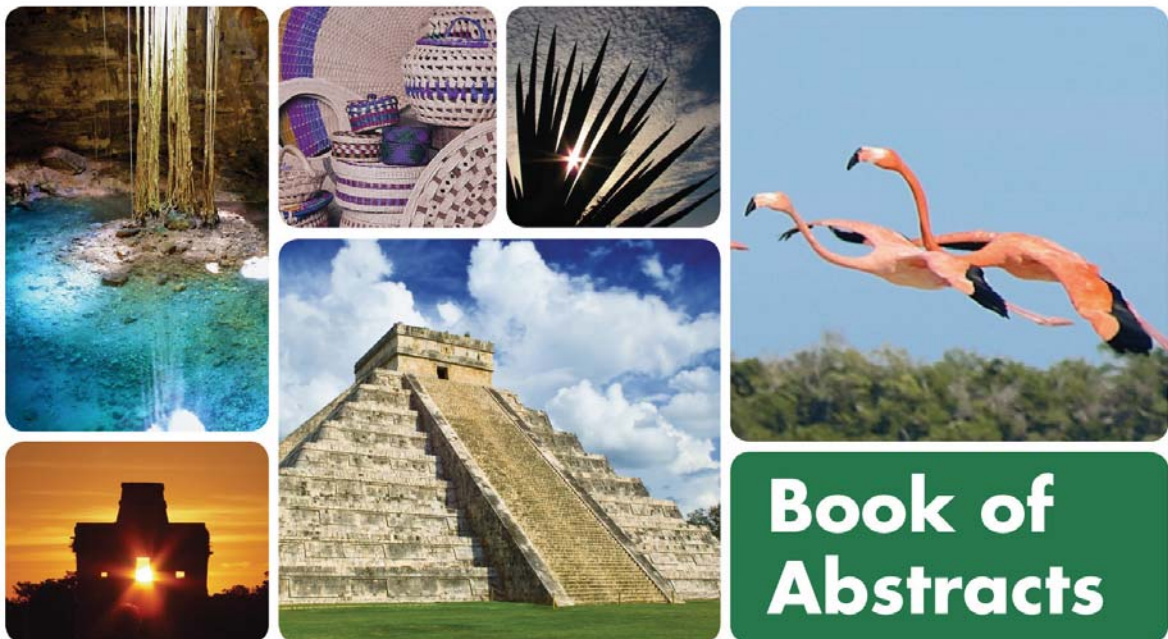




SER2011

WORLD CONFERENCE ON
ECOLOGICAL RESTORATION

Re-establishing the Link between Nature and Culture



**Book of
Abstracts**

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20th Annual Meeting of the Society for Ecological Restoration

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Reconstrucción geomorfológica y restauración ecológica de la cantera de Somolinos (Guadalajara, España)

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Las restauraciones mineras basadas en los modelos “convencionales” (berma-talud), se demuestran con frecuencia ineficaces en ambientes mediterráneos. Esto se debe a que son muy inestables frente a la erosión hídrica y ocasionan graves efectos tanto en el interior de las minas (on-site effects) como aguas debajo de éstas (off-site effects). Incorporar principios geomorfológicos en la restauración ecológica de estos espacios, se presenta como una herramienta eficaz para solucionar muchos de los efectos ambientales que genera la minería de superficie, así como para restaurar el capital natural de los terrenos afectados por esta actividad. Los diseños geomorfológicos más avanzados a nivel mundial en este tipo de terrenos se basan en laderas convexo-cóncavas, con redes de drenaje. Toda la superficie se dimensiona teniendo en cuenta un referente próximo a la zona, las condiciones climáticas del entorno y la cantidad de estériles disponibles en la cantera a restaurar. El objetivo final es restaurar procesos hidrológicos y geomorfológicos modificados por la actividad extractiva, y recuperar los bienes y servicios ambientales. En el primer semestre del 2011 se ha ejecutado en España el primer diseño de restauración ecológica con criterios geomorfológicos que ha seguido el método (GeoFluvTM) y su software (Natural Regrade). Se trata de una cantera de arenas en Somolinos (Guadalajara, España) que fue restaurada en 2005, pero que no solucionó los problemas de erosión que limitaban el desarrollo del suelo y la vegetación. También producía altas emisiones de agua y sedimentos en los cauces naturales circundantes. Esta comunicación describe los detalles de este proceso.

Study on the status and countermeasures of mine ecological restoration in China

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In recent years, mineral resources have been mined intensively in China, which causes ecological damage and environmental pollution. Surface mining results in an excavation pit, land occupation, land damage, the landscape changes with the surface, destruction of vegetation, heavy soil erosion, damage and changes in wildlife habitats, and threats to biodiversity. Underground mining results in damage to groundwater systems, ground collapse or landslides, mudslides and other secondary geological disasters. The atmosphere, water environment, soil, noise, and solid waste pollution are serious. Mineral mining is one of the sources of environmental pollution, and has become a major source of problems arising in promoting economic growth, and to a certain extent restricts sustainable economic and social development. Ecological rehabilitation and management of mining sites are very difficult tasks. In this presentation the techniques and achievements for ecological restoration in mined areas will be discussed. Subsidence, topsoil dump, waste dump, tailings and other mining sites are summarized on the basis of investigation in large number of typical cases of ecological restoration of mines in China. The major ecological restoration projects and technical means are the stripping and stockpiling of topsoil, erosion control, plant species selection and restoration of vegetation, rehabilitation of subsidence, safety protection, and restoration of contaminated sites. The problems and the countermeasures of environmental management, policy systems, technical and economic conditions and others were studied and analyzed.

Land planning as a means to rehabilitate and preserve natural remnants in Luján County, Buenos Aires, Argentina

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In most of the administrative areas that make up the third metropolitan belt of Buenos Aires megacity, the increasing human intervention through urban sprawl represents a major threat to the integrity of natural remnants due to connectivity reduction and habitat degradation. Most habitats are becoming at risk and conservation/restoration measures are urgently needed. The aim of this study was to contribute to balance human development with environmental protection by generating alternative land use scenarios for decision makers and related stakeholders. By visual interpretation of Landsat satellite imagery, field validation, interdisciplinary data gathering, and GIS analyses, three type of maps were generated: environmental sensitivity, sustainable use expected, and land use zoning (proposals). Sensitivity was calculated as a function of intrinsic (natural) attributes of current conditions as well as the impacts of current land uses. Expected sustainability maps were estimated by reclassification of