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Williams et al.: Using GIS as a watershed management education tool

2002 *University Education in Natural Resources—Fourth* 11

USING GIS AS A WATERSHED MANAGEMENT EDUCATION TOOL

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ABSTRACT: Global Information Systems, including the capacity of these systems to store and manipulate data, have found great utility in analyzing spatial information. The spatial information that is most useful to watershed managers includes accounting of land-use practices that both damage and enhance water quality in watersheds. The capacity of GIS to present data visually is very helpful when trying to educate those concerned with watershed management issues. Using GIS techniques, data may be presented as a series of overlays that include watershed area, stream channel network, topographic relief, aerial photos, vegetative maps, soil types and stream-side management zones (riparian buffers). GIS, and associated software, have the capacity to zoom in or out so that the viewer may have a watershed-scale view as well as site-scale observation. Spatial data from 20 years ago may be compared with that of this year so that changes through time may be observed on such important watershed characteristics as riparian zones width and growth of impervious surfaces. Queries (questions) may be asked of the data to determine information such as the number of Confined Animal Feeding Operations in the watershed. Land ownership may also be determined. As data sets are developed for watersheds, land managers of watersheds will be able to use models to predict how land-use changes will impact water resources within watersheds. Examples of these GIS applications will be provided in this paper.