Recovery Potential Metrics
Summary Form

Indicator Name: JURISDICTIONAL COMPLEXITY

Type: Social Context

Rationale/Relevance to Recovery Potential: The number of political jurisdictions within a watershed can negatively influence the speed and effectiveness of restoration activities. Watersheds with multiple political jurisdictions often require the establishment of a separate group to facilitate planning and consensus-building for environmental initiatives. Interstate and international watersheds are not uncommon and represent greater complexity in addressing normally state-led restoration efforts. Single-jurisdiction watersheds are usually less complicated in watershed planning interactions.

How Measured: Metric is total number of cities, counties, and towns wholly or partially within an impaired watershed. The measurement can involve counting a number of jurisdictions per reporting unit, or if desired, weighting jurisdictional units that may contribute differentially to complexity.

Data Sources: Measurement can involve counting a number of jurisdictions per reporting unit, and requires the City/County polygon shapefile (cnty.shp available from EPA-BASINS, See: http://www.epa.gov/waterscience/BASINS/b3webdwn.htm). ArcGIS online contains data on national administrative boundaries (See: http://www.arcgis.com/home/item.html?id=3b93337983e9436f8db950e38a8629af). If available, other jurisdictions may be added to the city/county dataset if these populated places typically become involved in land use decisions and restoration actions.

Indicator Status (check one or more)

_____ Developmental concept.
___x__ Plausible relationship to recovery.
_____ Single documentation in literature or practice.
___x__ Multiple documentation in literature or practice.
_____ Quantification.

Examples from Supporting Literature (abbrev. citations and points made):

- (Pringle 2001) The situation is also complicated by fragmented management of small portions of aquifers by jurisdictions with different management objectives (e.g., Reetz 1998) (990).
- (Pringle 2001) Although the recent 1996 agreement limiting water development upstream of Zion is a ‘‘success’’ story, many biological reserves have not fared as well because legal and administrative tools (established to protect reserves) apply mainly within reserve boundaries (987).
- (Tetra Tech, Inc. Illinois project notes, unpublished 2005) Developed a numeric indicator to represent the total number of jurisdictions located within each 303d watershed. Counted the number of jurisdictions (counties, cities, and towns) that intersect each 303d watershed (LC4). Several watersheds cross state boundaries, therefore, a common jurisdiction coverage was created by merging the city/county and populated places (towns) coverages for Illinois, Wisconsin, and Indiana. The populated places shapefile (point coverage) was converted to a polygon coverage by creating a buffer around each point (town), then this buffer coverage was merged with the city/county polygon coverage. The number of jurisdictions located within each 303d watershed was then

summed. Watershed results were then linked to the corresponding 303(d) segments using the merged shapefile.