OKLAHOMA USE ATTAINABILITY ANALYSIS CONCEPTS AND METHODS

Over the past 20 years, the UAA procedure in Oklahoma has evolved from a one dominated by "sensory" determinations (sights and smells) to one that is highly quantitative with distinct data objectives and measurements. Determining what questions need to be answered and what measurements are needed to answer those questions is a major step in determining which beneficial uses are appropriate for any given stream. The cooperative effort between Water Resources Board and Conservation Commission staffs has produced an assessment methodology that is reproducible and quantitative and thus elicit a high degree of public confidence and trust.

In Oklahoma, certain assumptions are made and accepted with regards to beneficial use assignments. First, not every stream will be capable of supporting the same type of biota. Oklahoma has 11 Omernick ecoregions. Morphologies vary from the wide, slow, flat, sandy-bottom streams of western Oklahoma to the high-slope, faster, rocky, eastern streams. Streams may be inhabited by smallmouth bass and sensitive darters or limited to green sunfish and mosquito fish simply by the types of habitat present. These are the variables that must be considered when assigning beneficial uses. Second, if the habitat is there, the climax biota will find a way to colonize it. Most stream invertebrates have an aerial phase of their life cycle and will find new waters to colonize with every emergence. Fish migrate throughout their range depending upon flow regimes and population densities. One must assume suitable habitat without a thriving biotic community suitable for that habitat must be impacted from outside sources. Third, and specifically for body contact recreation, it is very difficult to create a high probability of ingestion if you cannot get your head wet (lack of depth) or you can't get into the stream (lack of access). Oklahoma has successfully made over one hundred and forty designations of "secondary body contact recreation" based upon these premises. Certain exceptions will apply but these generalities have served us well.

During the UAA process, a series of transects, taken at regularly spaced intervals, allows an investigator to perform a series of assessments on specific habitat components. These individual parameter assessments, repeated at every transect for a minimum of 200 meters, allow for a cumulative habitat "scoring" and a determination of (1) appropriate beneficial use assignment and (2) what the biota of this stream should be composed of. Any deviation from that expectation can be interpreted as "impact" and potentially non-support of the beneficial use.

Our use of a flow chart decision tree has instilled a high degree of confidence in the process. The public has seen this process in action and has had opportunity to comment on every one of the use assignments. This "transparency", as well as reliance upon the requirements of the CWA and CFR, has contributed to the confidence and trust felt by the regulated community and the general public.

Our process is one of eliminating as much subjectivity as possible. Spreadsheets and formula relationships produce habitat scores while "standard operating procedures" limit the amount of professional judgement and variability formerly found in these types of assessments. Consistent application of defined types of aquatic life sub-categories as well as a well-established "public participation process" also contributes to making our use determinations a successful process.