**Section 366.APPENDIX A Waterbody Specific Information**

The waterbody specific information used by the Agency for the priority system is contained in the Agency's biennial reports required under Section 305(b) of the Clean Water Act (33 U.S.C. 1315(b)). The calculations for river reaches range on a possible scale of 0-100, where 100 indicates the most highly valued water quality resources and results in the highest priority for protection or preservation. Calculations for lakes and reservoirs are based on the Degree of Use Support Assessment (DUS) and expressed as the DUS points as a percentage of the maximum DUS points. The component categories of IBI, PIBI, and DUS are determined based on the following:

a) IBI – Index of Biotic Integrity

The Index of Biotic Integrity (IBI) is the priority metric of the Biological Stream Characterization (BSC) stream classification system. IBI values ranging from 12 to 60 constitute the primary basis of the five stream classes as follows:

When quality stream fishery data are lacking for IBI determinations, BSC ratings may be derived by a subjective evaluation of narrative fishery criteria. In the absence of fishery data, aquatic macroinvertebrate data may be used for Limited or Restricted Use Aquatic Resource ratings (Class C and D respectively) for stream segments five miles in length or longer. The actual index is used in calculating A2. The maximum number of points when IBI is used is 60.

b) PIBI - Predicted Index of Biotic Integrity

The Predicted Index of Biotic Integrity (PIBI) was developed to predict biotic potential (as measured by IBI) from habitat metrics.

The index is determined from the following relationships of four (4) stream habitat variables:

1. Percent substrate as silt-mud

2. Percent substrate as claypan

3. Mean stream width

4. Percent pool

The following equation is utilized for prediction of biotic potential as defined by a predicted IBI (PIBI) value:

Predicted IBI = 40.1 - (0.126 silt-mud) - (0.123 claypan) + (0.0424 pool) + (0.0916 width)

For purposes of deriving A2 calculations, PIBI values are divided by one half. The maximum number for the PIBI value is 30.

c) DUS - Degree of Use Support – Streams

Section 305(b) of the Federal Clean Water Act (33 U.S.C. 1315(b)) requires each state to prepare a biennial report which addresses, among other items, the water quality of its surface water resources and the extent to which these waters meet objectives of the Act. Surface water resources are described in terms of the degree to which they are attaining designated uses. The Degree of Use Support (DUS) for Illinois streams is described in terms as follows:

|  |  |  |
| --- | --- | --- |
| Full | = | Fully supporting aquatic life uses |
| Partial/Minor | = | Partially supporting aquatic life uses with minor impairment |
| Partial/Moderate | = | Partially supporting aquatic life uses with moderate impairment |
| Nonsupport | = | Not supporting aquatic life uses |

The DUS is reported at 2 assessment levels: monitored and evaluated. The monitored assessment level is based on current water chemistry, sediment chemistry, biological, and habitat data collected from various Agency monitoring programs.

The evaluated assessment level is based primarily on historic data (5 years or older) or similarity of the area to monitored waters within the same basins or geographic region.

For purposes of A2 calculations, DUS assessments are incorporated as follows:

|  |  |  |
| --- | --- | --- |
| Full or Full/Threatened | = | 50 |
| Partial Minor, impact P greater than NP | = | 45 |
| Partial Moderate, impact P greater than NP | = | 40 |
| Nonsupport, impact P greater than NP | = | 35 |
| Partial Minor, impact P less than NP | = | 30 |
| Partial Moderate, impact P less than NP | = | 25 |
| Nonsupport, impact P less than NP | = | 20 |
| Partial Minor, impact NP only | = | 15 |
| Partial Moderate, impact NP only | = | 10 |
| Nonsupport, impact NP only | = | 5 |

|  |  |  |  |
| --- | --- | --- | --- |
| Note: | P | = | point source |
|  | NP | = | nonpoint source |

The maximum number of points is 50. Aquatic life use impairments resulting primarily from point sources are given a higher priority. Full or Full/Threatened and Partial Minor assessments which are based on an evaluated level of assessment will be assigned 40 points.

For purposes of B2 and C2 calculations, the Stream Class A, B, C, D or E is assigned from the Biological Stream Characterization Summary as follows:

Biological Stream Characterization (BSC) summary.

|  |  |  |
| --- | --- | --- |
| STREAMCLASS | BSC CATEGORY | BIOTIC RESOURCE QUALITY DESCRIPTION |
| A | Unique Aquatic Resource | EXCELLENT. Comparable to the best situations without human disturbance. |
| B | Highly Valued Aquatic Resource | GOOD. Good fishery for important gamefish species (sauger, walleye, northern pike, black bass, panfish and catfish); species richness may be somewhat below expectations for stream size or geographic region. |
| C | Moderate Aquatic Resource | FAIR. Fishery consists predominantly of bullheads (Ictalurus spp.), sunfish (Lepomis spp.), and carp (Cyprinus carpio). Species diversity and number of intolerant fish reduced. Trophic structure skewed with increased frequency of omnivores, green sunfish or tolerant species.  |
| D | Limited Aquatic Resource | POOR. Fishery predominantly for carp; fish community dominated by omnivores and tolerant forms. Intolerant macroinvertebrates rare or absent; moderate, facultative and tolerant organisms dominate benthic community. Species richness may notably lower than expected for georgraphic area, stream size or available habitat. |
| E | Restricted Aquatic Resource | VERY POOR. Few fish of any species present; no sport fishery exists. Intolerant macroinvertebrates absent; benthic community consists of essentially tolerant forms or no aquatic life may be present. Species richness may be restricted to a few oligochaete or chironomid taxa. |

d) US – Degrees of Use Support – Lakes & Reservoirs

Index of Biotic Integrity (IBI) and Predicted Index of Biotic Integrity (PIBI) information is not applicable to lakes and reservoirs. The A2 factor will be determined solely from the Degree of Use Support classification and point allocation contained in paragraph (c) above.