**Natural Background Review Form for Rivers and Streams**

One evaluation form is required for each sample location within an AUID. The evaluation of stressor potential is based primarily on the proximity of the stressor within the watershed and the degree of disturbance relative to the size of the waterbody. All stressors identified have the potential to contribute to a biological or dissolved oxygen impairment through one or more pathways.

The natural background evaluation process is most efficient when following a predefined series of steps. The following steps have been used successfully in previous natural background reviews:

1. Determine and view watershed boundaries
2. Display land use layer
3. Turn on aerial photos and view watershed and sampling sites for any existing wetlands
4. Identify any existing biological sites
5. review assessment information and data
6. identify and rate natural and anthropogenic stressors

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| Review date | 12/12/2013 | Reach Description |
| Assessment Unit ID | 07010102-612 | Unnamed Creek (Trib to Northby Creek) |
| Station ID#s | 12UM107 | |
| Review team members |  | |

**For potential biological natural background conditions related to wetland characteristics complete tables 1, 3 and 4. For other natural background considerations complete tables 2, 3 and 4.**

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| **Table 1: Natural wetland characteristics (DO and/or biological stressor)** | | | |
| **DO and biological Stressor** | **Present in watershed (yes/no)** | **Stressor contribution potential (high, moderate, low, none\*)** | **Comments (see below for possible factors to consider in evaluating each stressor)** |
| Upstream wetlands or beaver impoundments  (within 3 miles) | Yes | High | The entire AUID is through a wetland. Several large beaver dams exist upstream and downstream of the monitoring site. |
| Riparian wetlands at site | Yes | High | Extensive wetland riparian adjacent to and upstream of monitoring site. |
| Sinuosity and presence of cutoff channels and oxbows | Yes | Low | Some sinuosity downstream of site. |
| Muck or fine organic substrate (if available through habitat evaluation) | Yes | High | Fine sediment and organic matter is present throughout much of the AUID due to the presence of beaver ponds. |
| Absence of riffles (if available through habitat assessment) | Yes | High | No riffles are present within site or close to site. Very low gradient. |

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| **Table 2: Other Natural biological stressors** | | | |
| **Biological Stressors** | **Present in watershed (yes/no)** | **Stressor contribution potential (high, moderate, low, none\*)** | **Comments (see below for possible factors to consider in evaluating each stressor)** |
| **Fish stressor -Downstream impediment to immigration (high gradient, waterfalls)** | Yes | High | Several large beaver dams exist downstream of the biomonitoring site (between the lake and the road) that are impeding fish passage. |
| **Sand dominated substrate with little or no coarse substrate present** | Yes | High | If the substrate is not detritus, it is sand. Very little coarse substrate present. |
| **Stream is ephemeral** |  |  |  |
| **Other natural stressor** |  |  |  |

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| **Do not proceed to table 3 if the sampling location is not influenced by any of the natural factors identified in Tables 1 and 2. The location is not a candidate for delisting due to natural background** | | | |
| **Table 3: Anthropogenic sources of stress** | | | |
| **Anthropogenic Stressors** | **Present in watershed (yes/no)** | **Stressor contribution potential (high, moderate, low, none\*)** | **Comments (see below for possible factors to consider in evaluating each stressor)** |
| Overall land use disturbance | Yes | None | Light development present: some homes and roads within watershed. |
| Industrial or Municipal Wastewater facilities | No | None |  |
| Feedlots (permitted) | No | None |  |
| Feedlots (unpermitted) | No | None |  |
| Reservoirs and Dams (manmade) | No | None |  |
| Water withdrawal permits | No | None |  |
| Stormwater | No | None |  |
| Stormwater unpermitted | No | None |  |
| Forest harvest sites | No | None |  |
| Row crop agriculture | No | None |  |
| Pasture and hay land | Yes | Low | Several hay fields in watershed. |
| Channelization | No | None |  |
| Stressor contribution potential should be ranked “none” if the stressor does not meet one or more of the 4 evaluation criteria listed above, “low” if all evaluation criteria are met but stressors are deemed to be insignificant, “moderate” if all evaluation criteria are met and stressors are more than likely to cause an impact, “high” if all evaluation criteria are met and there is a strong potential for a measurable effect on the site. | | | |

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| **Table 4. Final Recommendation** |
| Include CALM designation and AUID delineation or follow-up monitoring recommendation. **A monitoring recommendation must be included if the recommended CALM category is 4E.** Combine and attach all natural background evaluation forms used to evaluate an AUID. |
| Recommend a CALM 4D designation. The ditch that circumvented the natural channel has been plugged by a set of beaver dams. No water passes through these dams. A large portion of the AUID 07010102-555 has flow diverted (or restricted) by a series of beaver dams. The diverted water flows toward the southwest and into the original Northby Creek channel AUID 07010102-612 (Unnamed Creek). Several beaver dams are also present on Northby Creek downstream of the biological monitoring site. An extensive area of wetland drains into Northby Creek. The combination of multiple beaver dams and extensive wetlands within the watershed limits the development of fish and invertebrate communities.  Natural background committee agrees with 4D proposal. |