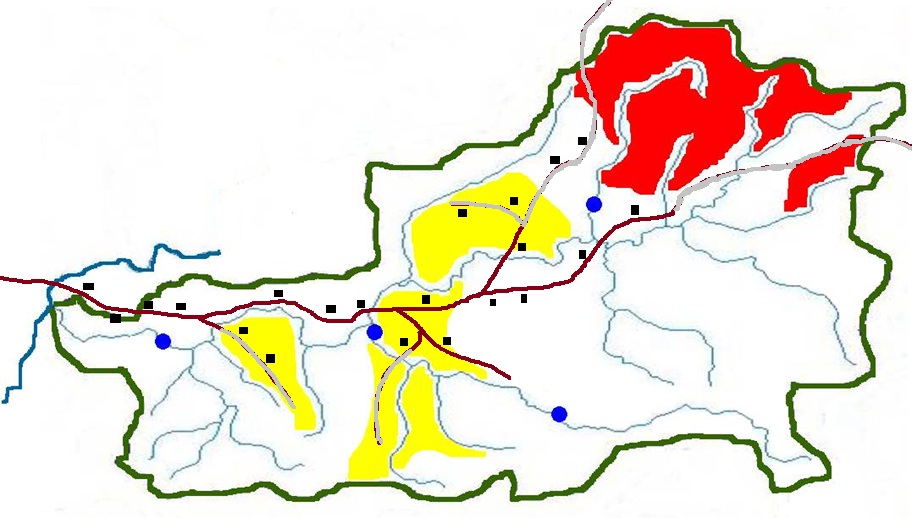
The purpose of this activity is to use the chemical data on page two to evaluate the conditions of the **Wolf Creek** watershed. Attempt to answer the questions on the next page and discuss them as a group.



**Wolfpen Run**

**Conner’s Run**

**Severna Run**

**UNT of Wolf Creek**

**Sandy Creek**

**Roaring Fork**

**Joe’s Run**

**Wolf Creek**

|  |  |  |
| --- | --- | --- |
| Land use in the  Wolf Creek watershed | | **Assumptions**: Agriculture consists of cropland and pasturelands; cropland is more prevalent; mining consists of active and abandoned mines; most of the mining in the watershed has been abandoned. You can assume that the areas of the map not having a land-use designation are mostly forested and un-disturbed except for some single-family homes (black) scattered throughout the watershed. There are also roads in the watershed indicated by either brown (paved) or gray (un-paved) lines. |
|  | Agriculture |
|  | Mining |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | Analysis | Sample #  **117** | Result | | pH | 4.2 | | Nitrate | ND | | Alkalinity | 0 | | Dissolved oxygen | 5.2 | | Conductivity | 800 |  |  |  |  | | --- | --- | --- | | Analysis | Sample #  **1423** | Result | | pH | 7.6 | | Nitrate | 2.0 | | Alkalinity | 20 | | Dissolved oxygen | 5.5 | | Conductivity | 300 | | |  |  |  | | --- | --- | --- | | Analysis | Sample #  **705** | Result | | pH | 6.4 | | Nitrate | 1.2 | | Alkalinity | 20 | | Dissolved oxygen | 6.0 | | Conductivity | 450 |  |  |  |  | | --- | --- | --- | | Analysis | Sample #  **329** | Result | | pH | 8.1 | | Nitrate | ND | | Alkalinity | 40 | | Dissolved oxygen | 8.6 | | Conductivity | 200 | | **Sample stations**: Below are the site **numbers** and descriptions for those shown on the map. | |
| **1** | Wolf Creek mainstem downstream from Joe’s Run |
| **2** | Roaring Fork (station 1) just upstream of the confluence with Wolf Creek and below most of the agricultural practices |
| **3** | Roaring Fork (station 2) farther upstream on Roaring Fork above the agricultural practices |
| **4** | Severna Run downstream from mining activities |

Based upon your analysis of the samples provided, match your sample # with its location. Enter the results in the table below. Note: The sample number refers to the entire suite of samples for a given location.

|  |  |  |
| --- | --- | --- |
| Sample # | Site # | Site description |
|  | 1 | Wolf Creek mainstem downstream from Joe’s Run |
|  | 2 | Roaring Fork (station 1) just upstream of the confluence with Wolf Creek and below most of the agricultural practices |
|  | 3 | Roaring Fork (station 2) farther upstream on Roaring Fork above the agricultural practices |
|  | 4 | Severna Run downstream from mining activities |

**Other questions to consider**:

|  |  |
| --- | --- |
| Would you choose different sites? |  |
| Would additional sites be necessary? |  |
|  | | |
| If you choose additional sites, explain your reasons why. | | |
|  | | |
| How many would you add and where would you place them? | | |
|  | | |

Save this document, then email it to: [timothy.d.craddock@wv.gov](mailto:timothy.d.craddock@wv.gov) for an evaluation.