

USGS Underwood Creek Readme File

Described below are the electronic files of data from the habitat and geomorphic assessment and river walk-through collected in the summer and fall 2012 associated with the baseline study of Underwood Creek prior to the proposed Waukesha return flow.

Completed Field Forms-All completed geomorphology and habitat field forms, Underwood Creek sites 1–8. Field forms describe site, floodplain and valley attributes, channel and near-channel attributes, bank erosion location and size, depositional bar size, animal and plant presence, large woody debris and pool measurements, an overall reach characterization, diagrammatic map, pebble count and substrate data, transect (11 per site) characterization (habitat), and site picture descriptions.

Data Tables

- A) **USGS_UnderwoodCreek_ChannelCrossings.xlsx**—location and type of channel crossings and whether acting as confining or not and functioning as a bed control identified during the river walk-through.
- B) **USGS_UnderwoodCreek_ChannelDimensions.xlsx**—channel dimensions (wetted width, bankfull width, bankfull depth) where applicable. Most channel dimensions were measured at Underwood Creek geomorphology and habitat sites along 11 transects throughout reach. Some channel dimensions are from the river walk-through. ND (no data) for site and transect number were measured during the river walk-through portion.
- C) **USGS_UnderwoodCreekChannelInputs.xlsx**—location, type, size, material, height above channel, and flow conditions of all inputs to channel located during the river walk-through. Typical channel inputs were outfalls (elevated point of discharge above channel), drainage channel (drains directly into channel), drain (drains directly into channel), downspout (vertical pipe draining from roadway or crossing), pipe (drains directly into channel), and culvert (channel flows below a restricted crossing).
- D) **USGS_UnderwoodCreek_ConcreteFailures.xlsx**—location of concrete failures found throughout the river walk-through.
- E) **USGS_UnderwoodCreek_DischargeAndTemperature.xlsx**—date discharge (cubic meters per second, cms) measurements at each Underwood Creek site along with associated time and stream water temperature.
- F) **USGS_UnderwoodCreek_ErosionDeposition.xlsx**—type, location, and size of all deposition and erosion along entire river walk-through boundary, including data from the eight geomorphology and habitat assessment sites. Deposition consists of bar or island (form) and erosion consists of scour pool or bank erosion. Dimensions (width, length, depth) and associated substrate were measured and recorded for each deposition or erosion.
- G) **USGS_UnderwoodCreek_GPSlog.xlsx**—contains a tally of river walk-through global positioning system (GPS) notes.

- H) **USGS_UnderwoodCreek_GradeControls.xlsx**—type, height, material and condition of grade control structures throughout the river walk-through boundaries.
- I) **USGS_UnderwoodCreek_ReachAndPebbleCounts.xlsx**—worksheet containing floodplain and valley features, near-channel features, and pebble counts for the eight geomorphic and habitat assessment sites
- J) **USGS_UnderwoodCreek_Riparian.xlsx**—dominant (riparian 1) and secondary (riparian 2) riparian land use from the river walk-through and each transect endpoint at the eight geomorphology and habitat assessment sites. Blank secondary field denotes there was only a primary riparian land use associated with that bank.
- K) **USGS_UnderwoodCreek_SiteList.xlsx**—description of eight geomorphology and habitat assessment site numbers, USGS identification numbers, and station names.
- L) **USGS_UnderwoodCreek_Substrate.xlsx**—dominant and secondary substrate, percent of embedded fines (three locations along transect), and silt depth (three locations along transect) for each transect at the eight geomorphology and habitat assessment sites. Includes dominant substrate from the river walk-through. ND denotes there were no secondary substrate noted, no embeddedness of fines, or no silt depth. (ND used for geographic information system [GIS] purposes to properly link up spatial and tabular data).

Figures: Contains the three figures that will be used in the data series.

Final GIS layers: Final GIS layers found in the map package.

Photos: Need to be viewed with Picasa software in order to see georectified locations (see below).

- A) **Geomorphic and Habitat Assessment Site Photos**—All photos from transects at the eight geomorphology and habitat assessment sites. Photos have descriptions and georeferenced locations when using Picasa.
- B) **River Walk-Through Photos**—Photos from river walk-through are organized into folders by date and name of photographer. USGS personnel are noted in the ARC GIS map package.

Picasa39-setup.exe—Executable file for Picasa, which is an image organizer and image viewer software used to see georeferenced photos from the river walk-through and eight geomorphology and habitat assessment sites.

USGS Underwood Creek Site Surveys-Cross Sections.xlsx—All cross-section data from topographic channel surveys at the eight geomorphology and habitat assessment sites. Method of survey is marked. No data were collected at Site 1.

USGS Underwood Creek Site Surveys-Longitudinal Profiles.xlsx—Reach longitudinal profile (slope) data for the thalweg and water surface from topographic channel surveys at the eight geomorphology and habitat assessment sites. Survey method marked for each site.

USGS UnderwoodCreek DataSeries FINAL.061615—Data series text.

USGS UnderwoodCreek Readme File.docx—This document

USGS UnderwoodCreekReturnFlowStudy.mpk—ArcMap version 10.0 map package created of all geospatial data from the geomorphology and habitat assessment sites and river walk-through. ArcMap 10.0 will be needed to view map package. Layers include a site list, channel crossings, channel dimensions, channel inputs, concrete failures, erosion and deposition, river walk-through GPS log, grade controls, riparian conditions, Real Time Network (RTN) topographic survey data, streambed-dominant substrate categories, river walk-through boundaries, bank erosion, bank protection, channel bed type, USGS personnel, and aerial photo base maps.