

LOST CREEK AQUIFER RECHARGE AND STORAGE STUDY

COLORADO GEOLOGICAL SURVEY

The Colorado Geological Survey report *Lost Creek Basin Aquifer Recharge and Storage Study* presents the results of an assessment of the potential for groundwater recharge and storage in the alluvial aquifer within the Lost Creek Designated Ground Water Basin. The primary goal of the study was to quantify the existing groundwater reservoir and additional available storage capacity in the Lost Creek alluvial aquifer and identify potential sites for aquifer recharge and storage implementation. The project involved collecting and analyzing data to evaluate the recharge potential, storage capacity, and ambient water quality in the study area. The study area encompasses the Lost Creek drainage basin and coincides with the Lost Creek Designated Ground Water Basin boundary. The project report, including map figures and data, conveys the results and findings of the study.

The digital data contained herein includes the report document (as a PDF with all figures) and Geographic Information System (GIS) geospatial data files generated as part of the study and with which analyses and figures were generated.

The project was made possible by the support of the Metro and South Platte Roundtables and the Lost Creek Ground Water Management District and funding provided through a Water Supply Reserve Account (SB06-179) grant from the Colorado Water Conservation Board. Additional project funding was provided by the Colorado Geological Survey whose funding came from the Colorado Department of Natural Resources Severance Tax Operational Fund. Severance taxes are derived from the production of gas, oil, coal, and minerals.

CONTENTS

The contents include the following folders (**bold**) and files (*italics*).

REPORT DOCUMENT

Lost Creek Basin Aquifer Recharge and Storage Study Report.pdf

Adobe PDF file of the project report containing all tables, figures, and appendices

GIS DATA – for use with ESRI ArcGIS and other GIS software products

Geodatabase

LostCreek_AquiferRechargeAndStorage_GISdata.gdb

ESRI ArcGIS 10.0 file geodatabase containing the following geospatial data:

Feature classes

LostCreek_AlluvialAquiferExtent

LostCreek_AlluvialAquiferThicknessGeneralizedContours

LostCreek_AlluvialAquiferThicknessGeneralizedPolygons

LostCreek_BedrockAquiferExtents

LostCreek_BedrockSurfaceControlPts

LostCreek_BedrockSurfaceElevationContours

LostCreek_CrossSectionLineA

LostCreek_DesignatedBasinBoundary
LostCreek_Geology
LostCreek_GroundwaterElevationContours_2010
LostCreek_PrimaryAlluvialAquiferExtent
LostCreek_RegisteredWaterWellsByAquifer
LostCreek_SaturatedThicknessPrimaryAlluvialAquiferContours_2010
LostCreek_SaturatedThicknessPrimaryAlluvialAquiferPolygons_2010
LostCreek_WaterLevelControlPts_2010
LostCreek_WaterLevelMonitoringNetwork_CGS_DWR_Wells
LostCreek_WaterLevelMonitoringNetwork_USGS_Wells

Rasters

LostCreek_AlluvialAquiferThickness
LostCreek_BedrockSurfaceElevation
LostCreek_DepthToWater_2010
LostCreek_GroundwaterElevation_2010
LostCreek_SaturatedThicknessPrimaryAlluvialAquifer_2010
LostCreek_UnsaturatedThicknessPrimaryAlluvialAquifer_2010

Shapefiles – includes accompanying accessory files of same name for each “shapefile”

LostCreek_AlluvialAquiferExtent.shp
LostCreek_AlluvialAquiferThicknessGeneralizedContours.shp
LostCreek_AlluvialAquiferThicknessGeneralizedPolygons.shp
LostCreek_BedrockAquiferExtents.shp
LostCreek_BedrockSurfaceControlPts.shp
LostCreek_BedrockSurfaceElevationContours.shp
LostCreek_CrossSectionLineA.shp
LostCreek_DesignatedBasinBoundary.shp
LostCreek_Geology.shp
LostCreek_GroundwaterElevationContours_2010.shp
LostCreek_PrimaryAlluvialAquiferExtent.shp
LostCreek_RegisteredWaterWellsByAquifer.shp
LostCreek_SaturatedThicknessPrimaryAlluvialAquiferContours_2010.shp
LostCreek_SaturatedThicknessPrimaryAlluvialAquiferPolygons_2010.shp
LostCreek_WaterLevelControlPts_2010.shp
LostCreek_WaterLevelMonitoringNetwork_CGS_DWR_Wells.shp
LostCreek_WaterLevelMonitoringNetwork_USGS_Wells.shp

Raster Files – includes accompanying accessory files of same name

LostCreek_AlluvialAquiferThickness
LostCreek_BedrockSurfaceElevation
LostCreek_DepthToWater_2010
LostCreek_GroundwaterElevation_2010
LostCreek_SaturatedThicknessPrimaryAlluvialAquifer_2010
LostCreek_UnsaturatedThicknessPrimaryAlluvialAquifer_2010

VIEWING THE FILES

Report PDF files can be viewed and printed with Adobe Acrobat and Reader software. GIS files represent geospatially-referenced data that can be viewed and displayed using GIS software packages such as ESRI's ArcGIS. GIS vector and raster data (contained in the geodatabase and as shapefiles and rasters) can be loaded into an ArcMap (or other GIS software) project and viewed and symbolized by the user. Metadata is provided and associated with all GIS files and will help the user understand the content of the files provided; the best way to view this information is using the Metadata tab in ArcCatalog. Alternatively, metadata can also be viewed from within an ArcMap (version 9.2 or later only) project once the data has been added. To view metadata from within an ArcMap project, right click on the layer of interest in the project Table of Contents and select Data→View Metadata.

Please look under Help in the program window or visit the ESRI website (<http://support.esri.com/>) for additional information on using the ArcGIS software.

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