



Savannah River Clean Water Fund
Conservation Priority Map 2.0
Parcel Data
DATA USE AGREEMENT

This data use agreement applies to the Savannah River Clean Water Fund (SRCWF) Conservation Priority Map 2.0 data produced by the University of Georgia Warnell School of Forestry and Natural Resources in cooperation with The Longleaf Alliance (TLA) and Savannah River Clean Water Fund.

SRCWF Conservation Priority Map 2.0 version/date: SRCWF CPM 2.0, March 2022.

TLA and the SRCWF ARE WILLING TO SHARE THE ABOVE DATA TO YOU ONLY UPON CONDITION THAT YOU ACCEPT ALL OF THE TERMS AND CONDITIONS CONTAINED IN THIS DATA USE AGREEMENT.

This data use agreement (Agreement) is between the authorized end user and The Longleaf Alliance and gives authorized end user certain limited rights to use the SRCWF Conservation Priority Map 2.0 electronic data and associated documentation ("Data"). All rights not specifically granted in this Agreement are reserved to TLA.

Reservation of Ownership and Grant of License: The Data provided by TLA represents intellectual property. TLA retains exclusive rights, title, and ownership of the copy of the Data shared under this Agreement and, hereby, grant to authorized end user a personal, nonexclusive, nontransferable permission to use the Data on the terms and conditions of this agreement. From the date of receipt, authorized end user agrees to use reasonable effort to protect the Data from unauthorized use, reproduction, distribution, publication, or sale.

Permitted Uses:

1. The authorized end user may use this copy of the Data on a computer network serving an unlimited number of computer terminals associated with the authorized Site. A Site is defined as a single building or complex of buildings with a unique street address. The computer network includes computers, laptops, or other devices that may be used remotely but are associated with the authorized Site. Authorized end users may not share, transfer, loan, rent, lease, or sell this copy of the Data to another user outside the authorized Site.
2. The Data are produced for the purposes of promoting conservation and improved land management practices within the Savannah River watershed; identifying priority sites of greatest conservation importance for future management projects to promote healthy forests and clean drinking water. The authorized end user agrees to not use the Data for any other purpose.
3. The authorized end user may produce maps, tables, and/or reports, using all or portions of the Data provided. All or portions of the Data may be merged directly into reports

**SAVANNAH RIVER CLEAN WATER FUND CONSERVATION PRIORITY MAP 2.0
DATA LICENSE AGREEMENT**

produced by the authorized end user. The "SRCWF Conservation Priority Map" version number (2.0) and date must be cited as the source of the Data in all products, publications, or presentations containing all or portions of the Data.

4. The authorized end user may use all or portions of this Data, alone or together with other data, to perform original analysis. Any products, publications, or presentations based on such analysis must cite TLA and SRCWF as a source for original data used in the analysis and UGA Warnell for developing methods.

Uses Not Permitted:

1. The authorized end user shall not sublicense, sell, rent, lease, loan, transfer, assign, or provide access to electronic versions of the Data, in whole or in part, to unlicensed third parties, including partner agencies, clients or contractors. Printed maps of all or portions of these Data may only be provided to partner agencies, clients or contractors as part of a larger analysis or project related to the purposes listed under item 2 of Permitted Uses above.
2. The authorized end user shall not use all or portions of the Data in electronic, print, or other medium, to create products for distribution and sale that rely principally upon these Data. Additionally, Data shall not be used or provided in a web application or map service unless special written permission is granted in writing by TLA.
3. The authorized end user shall not alter any substantive feature or characteristic of these Data. Alterations for aesthetic purposes, such as changes to the style and/or color of markers, polygon shadings, or fonts, are permitted.

Other conditions:

1. The Data require some understanding of data development methods and definitions for proper use and analysis. The authorized end user agrees to read the Data-associated reports, documentation of methods, attribute definitions, and metadata.
2. The authorized end user shall take reasonable precautions to ensure the security of the SRCWF Conservation Priority Map 2.0 data.
3. The authorized end user will indemnify and hold TLA and its officers and employees harmless against any claims by third parties arising out of the use by Licensee of the Data provided hereunder.

Term: TLA shall consider the date of commencement of the agreement to be the date the Data was sent to the authorized end user by TLA. TLA reserves the right to terminate this Agreement at any time for the authorized end user's material breach of this Agreement.

Limited Warranty: The accuracy and completeness of the Data, and the opinions based thereon, are not guaranteed. Every effort has been made to provide accurate data in this package. The authorized end user acknowledges that the Data may contain some nonconformities, defects, errors, and/or omissions. TLA does not warrant that the Data will meet authorized end user's needs or expectations, or that all nonconformities can or will be corrected.

SAVANNAH RIVER CLEAN WATER FUND CONSERVATION PRIORITY MAP 2.0
DATA LICENSE AGREEMENT

Remedies: Failure of TLA to discover or object to any inappropriate use shall not constitute its consent thereto or waiver its rights. In the event Licensee's use of the Data and Web Map violates the terms of this License Agreement, TLA may forbid and enjoin Licensee's further use of the Data.

Data Product Description:

The SRCCF Conservation Priority Map 2.0 was developed by UGA Warnell and is derived from the SRCWF Conservation Priority Map 1.0 and the Watershed Management Priority Index (Krueger, E. and N. Jordan, 2014; Zhang, Yanli., 2006). The products contain the results of analyses of the conservation priorities of the Savannah River watershed for the siting of future management projects to promote healthy forests and clean drinking water. The prioritization is summarized to the parcel tract scale (Real Estate Portal USA, 2020) and demonstrates the priority ranking of parcels based on the overlap of environmental factors of forest management interest through the Conservation Priority Index (CPI). The factors were summarized into priority index categories and then a composite weighted sum, resulting in an index of values of 0 to 21 that indicate the level of vulnerability to future change that is expected to impact water quality in the Savannah. This prioritization was then summarized to four Priority Groups (Low to Highest Priority), based on natural breaks in the data. Additional analysis objectives were also conducted, including incorporating projected future land use change (2000 to 2050) (U.S. EPA), estimated conservation cost (Nolte, Christoph, 2020), and fragmentation reduction (Hanson JO, et al., 2022). The resulting set of indices demonstrates the areas of greatest conservation importance for maintaining healthy forests and clean drinking water, accounting for a range of analysis objectives and both weighted sum and algorithmic optimization approaches.

Conservation Priority Index (CPI) is a sub-module of the Watershed Management Priority Index (WMPI) (Zhang, 2006, Krueger & Jordan, 2014). The CPI targets existing forest land cover and the vulnerability to conversion to urban land cover. The index is calculated by reclassifying each of the input factor datasets based on the categories presented in Table 1, then using a Weighted Sum tool to produce an index between 0 and 21 (lowest to highest priority value). See **Conservation Mapping Factors and Data Sources** for the included factors and associated datasets.

Analysis Objectives include the four scenario approaches to calculating the CPI. The priority planning methods selected for this project were based on two spatial modeling approaches, the Watershed Management Priority Index (WMPI) (Zhang, 2006, Krueger & Jordan, 2014) and the Marxan planning framework (implemented using the 'prioritizr' package within the R Statistical program) (Hanson JO, et al., 2021). These approaches were chosen to address the following project objectives:

- 1) Conservation Priority Index (CPI) Baseline:**
 - a. Which areas of forested land are the highest priority for protection or mitigation from urbanization based on potential impacts to water quality and availability?
- 2) Conservation Priority Index + Future Land Use:**
 - a. Which areas of forested land are both highest-priority and at greatest risk of future conversion from 'natural' land cover to 'non-natural' land cover in the next 30 years?
- 3) Conservation Planning Index + Planning Budget:**
 - a. Which areas of forested lands are both highest-priority and within a realistic planning budget for projects focused on land conservation and protection?
- 4) Conservation Planning Index + Planning Budget + Fragmentation Reduction:**
 - a. Which areas of forest lands are the highest priority, within a realistic planning budget, and collectively decrease fragmentation potential among potential project sites?

SAVANNAH RIVER CLEAN WATER FUND CONSERVATION PRIORITY MAP 2.0 DATA LICENSE AGREEMENT

Conservation Priority Groups refer to a mean CPI value categorized into one of four Priority Group categories (Low, Moderate, High, and Highest Priority). The range of values associated with each Priority Group category was determined by delineating the natural breaks in the CPI dataset and reclassifying the values within those ranges to one of the four groups. Each of the analysis objectives uses the same scale of values 0 to 21 for the CPI, with the results of the supplemental analysis objectives rescaled to match the CPI range and reclassified according to the same ranges. Parcels within an area of Protected or Locked-Out status were not included in the prioritization and therefore were not assigned a Priority Group.

Protected is a designation of protected status from one of several sources. These include PAD-US 2.1 (USGS, 2020), the South Carolina Nature Conservancy (TNC, 2021), the National Conservation Easement Database (NCED) (U.S. Endowment for Forestry and Communities, 2022), Georgia Department of Natural Resources (GA DNR), WRD Wildlife Conservation Lands (GA DNR, 2019), Managed Lands (GA DNR, 2019), Georgia Conservation Tax Credit Program Certified Projects, 2006-December 2019 (GA DNR, 2019) and Department of Defense/Corps of Engineers Lands (GA DNR, 2021). The designation does not specify the manager or owner name.

Locked-Out is a status assigned to areas not considered in the model calculations due to the analysis focusing on only “semi-natural” areas. The designation of locked-out areas includes the Open Water, Developed/Urban, and Barren classifications from the National Land Cover Database (NLCD, 2019).

Known Issues and Limitations: The boundaries and protected designations of parcels included in the dataset are based on the most recent available data, therefore the accuracy of these designations is not guaranteed. The products can be used to help identify priority parcels for siting conservation projects. These data therefore are a summary of on-the-ground conditions and represent model approximations of these environmental factors. These products are meant to supplement local and regional expert knowledge by providing a watershed-scale evaluation of conservation priority based on the location and overlap of relevant datasets.

Considerations:

- The CPI and suite of analysis objectives are derived from multiple data sources, each of which has been summarized to a common raster pixel size resolution. The CPI Baseline and CPI + Future Land Use analysis objectives were calculated at a 30m raster resolution, while the CPI + Planning Budget and CPI + Planning Budget + Fragmentation Reduction analysis objectives were calculated at a 100m resolution.
- Conservation priority indices produced by this product are not meant to replace local products but rather supplement these products where watershed-scale analyses are not available.

SAVANNAH RIVER CLEAN WATER FUND CONSERVATION PRIORITY MAP 2.0
 DATA LICENSE AGREEMENT

References:

Hanson JO, Schuster R, Morrell N, Strimas-Mackey M, Edwards BPM, Watts ME, Arcese P, Bennett J, Possingham HP (2022). prioritizr: Systematic Conservation Prioritization in R. <https://prioritizr.net>, <https://github.com/prioritizr/prioritizr>.

Krueger, E. and N. Jordan, 2014. *Preserving Water Quality in the Savannah River: Protecting the Future of Drinking Water Supply*.

MRLCC (U.S.). *National Land Cover Dataset (NLCD)*.

Nolte, Christoph. "High-resolution land value maps reveal underestimation of conservation costs in the United States." 2020

Smith, M.P. et al. *THE ACTIVE RIVER AREA: A Conservation Framework for Protecting Rivers and Streams*. 2008.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Web Soil Survey*.

U.S. EPA. *Land-Use Scenarios: National-Scale Housing-Density Scenarios Consistent with Climate Change Storylines*

U.S. Geological Survey, 2019, *National Hydrography Dataset*

U.S. Geological Survey, 2019, *3D Elevation Program 1-Meter Resolution Digital Elevation Model*

Zhang, Yanli., 2006. *Development and Testing of a Watershed Forest Management Information System*.

Conservation Mapping Factors and Data Sources:

Factor	Dataset	Source Citation
Land Use/Land Cover	National Land Cover Database (NLCD) 2019	Multi-Resolution Land Characteristics Consortium (MRLC). (2021). National Land Cover Database (NLCD) 2019
Proximity to Water Features	National Hydrography Dataset (NHD) Plus	U.S. Geological Survey, 2019, National Hydrography Dataset
Soil Hydrologic Group	Soil Survey Geographic Database (SSURGO)	Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. <i>Web Soil Survey</i> .
Soil Erodibility (Kfact)	Soil Survey Geographic Database (SSURGO)	Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. <i>Web Soil Survey</i> .
Slope	National Elevation Database (NED)	U.S. Geological Survey, 2019, 3D Elevation Program 1-Meter Resolution Digital Elevation Model
100yr Floodplain	TNC Active River Area (ARA) Dataset	Smith, M.P. et al. <i>THE ACTIVE RIVER AREA A Conservation Framework for Protecting Rivers and Streams</i> . 2008.
Future Land Use Projection	US Environmental Protection Agency Integrated Climate and Land-Use Scenarios (ICLUS) product	U.S. EPA. <i>Land-Use Scenarios: National-Scale Housing-Density Scenarios Consistent With Climate Change Storylines</i>
Estimated Fair Market Value	Estimated private property value estimates at a 480m resolution (units: log \$/ha)	Nolte C., 2020, High-resolution land value maps reveal underestimation of conservation costs in the United States

SAVANNAH RIVER CLEAN WATER FUND CONSERVATION PRIORITY MAP 2.0
DATA LICENSE AGREEMENT

LICENSEE:

Company/Organization: _____

Address: _____

City, State, Zip Code: _____

Licensee Signature: _____

Name: _____

Title: _____

Date: _____

Email: _____

What will the data be used for (be specific): _____

Where (geographic extent of use): _____

Who will benefit from this use (Individual, Organization, Group, Initiative, etc.): _____

Submit completed form to Lisa Lord, The Longleaf Alliance, (lisa@longleafalliance.org)

AUTHORIZATION:

Approved by: _____

Signature

Name, Title

Date: _____