BioSum 5.11.0 Release Notes  
May 15, 2024

**Current Release Notes (5.11.0)**

**BioSum 5.11.0 is a departure from earlier versions of BioSum and is the first version to replace MS Access databases with SQLite databases in significant parts of the application. An existing BioSum project must be at v5.10.1 before it can be upgraded to v5.11.0. BioSum should migrate the affected databases to SQLite when the project is opened, but details are provided below to offer assistance, if this is unsuccessful. Because of the scope of the database changes, once a project is migrated to v5.11.0, it should not be opened again in v5.10.1. Making a backup copy of a project before upgrading is always recommended.**

1. **biosum\_ref.accdb**: This database lives in the analyst’s AppData directory and contains system-maintained reference tables for BioSum. We are updating the fiadb\_fvs\_variant table with this release. BioSum will automatically start using the new table, but any pre-existing customizations to this table will be lost.
2. **FVS Output Data**: Sequence number definitions have been migrated to SQLite. There is a new database in the project db folder named fvsmaster.db that stores the sequence number definitions. As part of the upgrade process, any sequence number settings will be copied from the old tables in fvsmaster.accdb to this new database. These old tables will remain untouched in fvsmaster.accdb if needed for reconciliation.  
     
   The FVS Output audits and append process have been migrated to SQLite. There is no longer a need to create Access databases from the FVSOut.db and this button has been removed. Note that the PREPOST\_FVS\_XXX.ACCDB databases in the project data folder will NOT be migrated to SQLite as part of the upgrade process. Analysts will need to re-run the FVS audits and append process following the upgrade of legacy projects to v5.11.0. Audit output has been consolidated in the data/FVS\_AUDITS.db database. The PRE/POST FVS Out tables are now in a single PREPOST\_FVSOUT.db in the data folder next to the FVS\_AUDITS.db.
3. **OpCost 10.1.6**: OpCost inputs, configurations, and outputs have all been migrated to SQLite. Analysts will need to reset the ‘Directory Path of the OPCOST .R file name’ in the ‘Settings’ menu to "C:\Program Files\FIA PNW Portland Forestry Sciences Lab\FIA Biosum 5.11.0\opcost\Opcost\_10\_1\_6.R".  
     
   A prerequisite of OpCost 10.1.6 is the RSQLite package. This package needs to be installed if it is not present in the R installation. The RODBC package is no longer required.  
     
   OpCost relies on configuration tables stored in the opcost\_ref.db which should be located in the db folder of every project. This database should be copied into the correct location for legacy projects when the conversion script runs.
4. **Processor**: Processor configuration tables and system outputs will be stored in SQLite databases starting with this release. For older projects configurations will be migrated from scenario\_processor\_rule\_definitions.mdb to scenario\_processor\_rule\_definitions.db as part of the upgrade process, but the older .mdb file will be left in place for reconciliation purposes.  
     
   The scenario\_results.mdb files for existing scenarios will not be converted. To generate Processor output that can be consumed by Treatment Optimizer, processor scenarios will need to be re-run for all variant packages.
5. **GIS data**: The process that loads user-supplied travel times and processing sites into a BioSum project has been converted to use SQLite for data storage. The user-supplied data must be created in an SQLite database. Analysts have the option of downloading the gis\_travel\_times\_master.db from the <http://biosum.info> site and placing it in their ‘AppData’ folder if they don’t want to supply their own data.  
     
   As part of the upgrade process, existing projects will have their data migrated from /gis/db/gis\_travel\_times.accdb to its SQLite equivalent. Travel times and Processing Sites do not need to be reloaded.
6. **Treatment Optimizer**: Optimizer configuration tables and system outputs will be stored in SQLite databases effective with this release. For older projects configurations will be migrated from scenario\_optimizer\_rule\_definitions.mdb to scenario\_optimizer\_rule\_definitions.db as part of the upgrade process, but the older .mdb file will be left in place for reconciliation purposes. Settings in the optimizer\_definitions.accdb will also be migrated.  
     
   Because the FVS PRE-POST tables are now generated in an SQLite database, the FVS PRE-POST Context Database option has been removed from the ‘Run Optimizer Scenario’ screen.  
     
   The weighted variables data tables will not be converted for existing projects. Use the “Recalculate All’ button to populate this data before running an Optimizer scenario that uses it. The optimizer\_results.accdb files for existing scenarios will not be converted. Treatment Optimizer scenarios will need to be re-run for all variant packages. Because the output is in SQLite, the ‘Export to SQLite’ button has been removed.

**Quick Reference: What processes need to be rerun for existing projects?**

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| **Process** | **Rerun with v5.11.0 ?** | **Notes** |
| Loading plot data | No |  |
| Defining prescriptions | No |  |
| Running FVS to generate an FVSOut.db | No |  |
| Audits related to FVS Output data | Recommended | FVS Append Output needs to be re-run |
| FVS Append Output | **Yes** | Required by Processor, Optimizer |
| Run Processor scenario(s) | **Yes** | Required by Optimizer |
| Load GIS Data | No | Existing data will be migrated |
| Optimizer calculated variables | **Yes** | Uses SQLite FVS Output. Use ‘Recalculate All’ button |
| Run Optimizer scenario(s) | **Yes** |  |

1. Many additional minor enhancements are described in the BioSum [online release documentation](https://github.com/USFS-PNW/Fia-Biosum-Manager/releases/tag/5.11.0).