

3. Water Use Data

Computation of unimpaired flows requires removal of the effects of human uses of water – withdrawals and returns – from the historical stream flow record. Water uses considered in this study include municipal, industrial, thermal power, and agricultural irrigation. Removal of these effects is accomplished by adding net withdrawals and returns to observed historical flows based on the following procedures:

- Municipal withdrawals and returns were aggregated by reach rather than by individual utilities; utilities may withdraw from and return to different reaches of the same river or return to different rivers or river basins from which withdrawals were made (interbasin transfer).
- In most instances, thermal power intakes and outfalls are co-located within reaches, and available water use data normally reflect reach net (consumptive) use.
- Agricultural water use data aggregate direct surface and effective surface withdrawals from groundwater pumping.
- Net reach water uses were aggregated for all users and use categories by reach on a daily time step for purposes of unimpaired flow derivation.

Monthly water use data were collected from the earliest date of available monthly withdrawal and return data through 2007. Monthly data are limited to the most recent 10 to 20 years in almost all cases, and most include data gaps that required filling. Data including major and minor withdrawals and discharges by municipalities, industries, thermal power plants, and agricultural users were obtained from the Georgia EPD Watershed Protection Division, Georgia EPD district offices, or other public databases with the assistance of Georgia EPD staff. Water use data were also obtained from neighboring states of South Carolina and Alabama, when possible.

Water use data were provided to the regional water planning councils for review and comment. If desired, additional copies may be obtained from Georgia EPD.