

# Corporate Water Gauge™ FAQs

As of February 15, 2009

**Q: What is the Corporate Water Gauge? Is it a product, a piece of software, a service?**

**A:** The Corporate Water Gauge™ (CWG) is a multi-faceted offering that consists of (1) a water metric embodied in a spreadsheet, (2) a GIS technique for measuring and allocating water supply and use in watersheds, and (3) a consulting service for teaching, and/or assisting with, use of the whole package. Perpetual, non-exclusive licenses to keep and use the CWG (i.e., the water metric) are granted free of charge to clients who first engage us to help them use it at a single site, or be trained on how to use it (minimum fees apply in either case). After that, our clients are free to keep and use the CWG as they see fit, with or without our assistance [Note that in the latter case, clients must provide their own GIS and spreadsheet systems]. In sum, our primary deliverables at the conclusion of initial consulting and/or training engagements consist of: (1) a spreadsheet file which embodies the CWG metric (populated with site data, if applicable), (2) sample or actual graphical depictions of watershed areas [see Figures 1a, 1b and 1c on last page], (3) sample or actual GIS shapefiles: watershed data, census data, and precipitation data, and (4) a general methodology for using the CWG.

**Q: The Corporate Water Gauge is considered a sustainability quotient. What is a sustainability quotient and how does it differ from other measures of sustainability?**

**A:** A sustainability quotient is a general measurement model, or template, for expressing the sustainability performance of an organization (i.e., a general specification for organizational sustainability metrics). Denominators express impacts that an organization should or should *not* have on social and/or environmental conditions in the world (according to the size of an organization in terms of its headcount, revenue, or other economic measures), based on what those conditions actually happen to be. Numerators express what an organization's impacts on the same conditions have actually been. Disparities between numerators and denominators (i.e., less than or greater than 1.0) indicate variances in sustainability performance.

Many other sustainability metrics are numerator-only in form. They report impacts on social or environmental conditions in the world, but fail to do so relative to what such social or environmental conditions actually happen to be. They might tell us, for example, how much water a company has used at a particular facility in the past year, while failing to report such use against relevant background conditions (i.e., are water supplies in the relevant areas scarce or abundant?). Thus, unlike sustainability quotients, numerator-only metrics are context free. Full-quotient metrics, by contrast, put impacts in context. In that regard, they are much more meaningful and informative.

**Q: Can you briefly explain the four pieces of information that go into calculating the Corporate Water Gauge quotient?**

**A:** The main ingredients are (1) facility name, location and geographic information regarding associated watersheds, (2) related precipitation volumes, (3) water inflows and outflows for the facility, and (4) facility size in terms of employment and/or other economic measures.

**Q: What is the final product? A single value? A series of values for different geographic areas (local sustainability, regional, global)? A report?**

**A:** Sustainability quotients produce sustainability scores that can be plotted on a sustainability performance scale. In the case of the CWG, any score of less than or equal to 1.0 signifies sustainable performance (i.e., net water consumption is no greater than a company's proportionate share of available renewable supplies). Obviously, net water use per facility is also reported. All such data can also be aggregated on a geographic or organizational basis. Blended scores in this regard are easily produced. Associated reports provide discussion and analysis of everything.

**Q: How does GIS come into play in calculating and communicating results of a water use analysis?**

**A:** GIS plays a vital role in our method, but no more than the underlying metric does. Indeed, the metric, which is embodied in a spreadsheet, takes data produced by GIS and computes the sustainability score for a given facility. The computation it makes is complex, and is based on cutting-edge sustainability theory and practice, and international standards for measuring and reporting the sustainability of corporate water use. GIS simply allows us to initially compute and allocate available water supplies in the watersheds of interest to a specific facility. To do this, we use a standard configuration of ArcGIS and a broad range of datasets.

**Q: What are your data sources and how 'fine grained' are they? How current is the census data? Where does the precipitation data come from? Is it an average over time? Over what geographic area?**

**A:** Not surprisingly, this varies by location. Thus, we approach it on a case-by-case basis, although multi-site solutions at the country level are liable to be fairly consistent. Analyses are confined to relevant levels of watershed analysis, the determination of which is a step in our method.

**Q: What sort of organizations are target users for the Corporate Water Gauge?**

**A:** Any organization with one or more sites that uses water resources and is faced with the need to manage, measure, and/or report such use can benefit from this tool. Corporate sustainability managers, plant or facility managers, environmental managers, or anyone charged with managing and/or reporting corporate water use in any way should consider using it. ***While other tools might do a reasonably good job of measuring water use, per se, the CWG takes measurement to the next level by comparing such use to available renewable supplies, as allocated to individual facilities.*** Corporate sustainability managers familiar with the Global Reporting Initiative (GRI) will find the CWG particularly relevant.

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For more information about the Corporate Water Gauge™, contact Mark W. McElroy, Ph.D., Executive Director, Center for Sustainable Innovation, Thetford Center, VT [mmcelroy@vermontel.net](mailto:mmcelroy@vermontel.net), or (802) 785-2293.

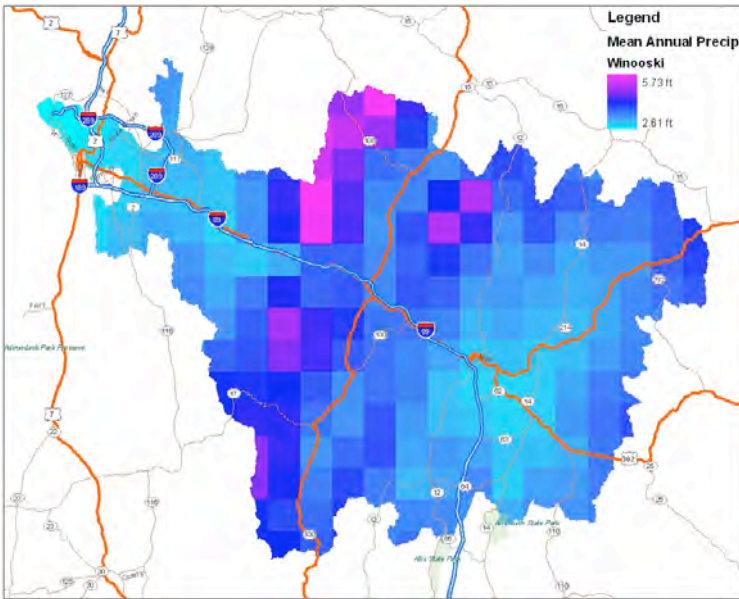


Figure 1a - GIS functionality is used to determine precipitation levels within watersheds at organizational sites of interest.

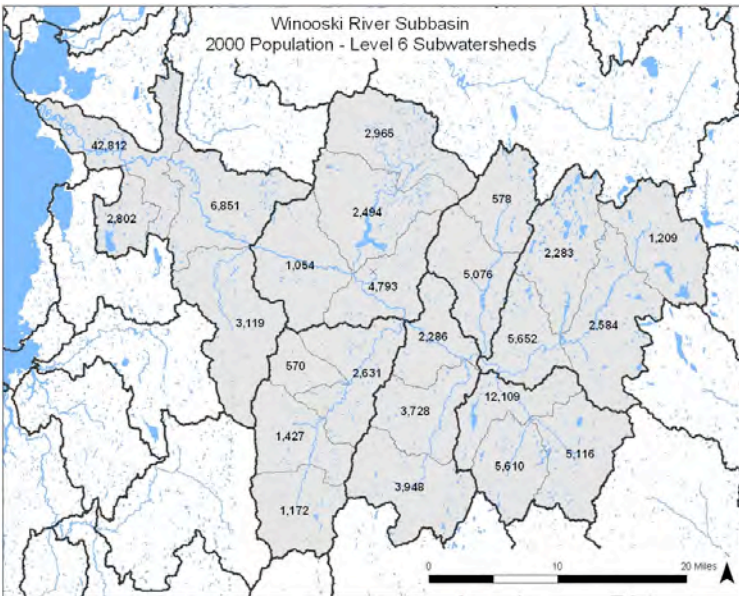


Figure 1b - GIS functionality is also used in combination with census data to determine human populations per watershed.

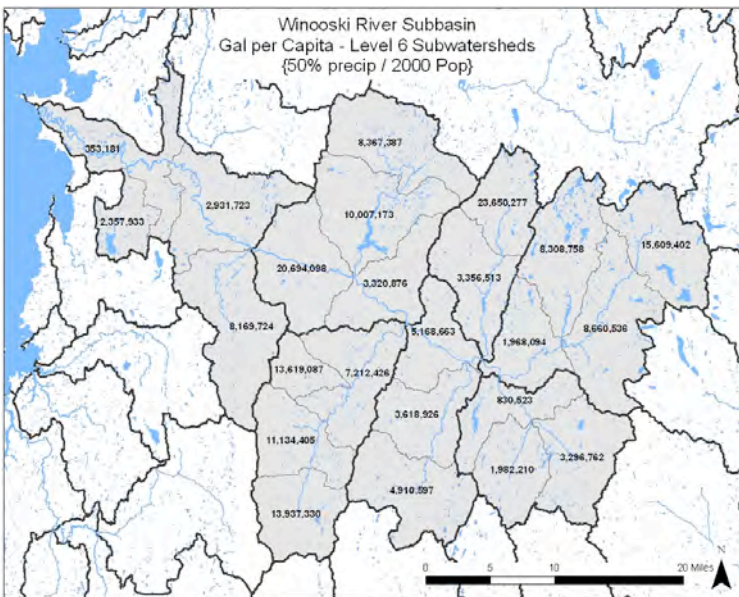


Figure 1c - GIS functionality is then used to determine per capita levels of available renewable water resources per watershed, and/or available resources per level of economic activity – again at the facility/watershed level of analysis.