

Water Consumption

Analyzed through STARS

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Project Background:

AASHE is a program that stands for the “Association for the Advancement of Sustainability in Higher Education.” STARS is a small portion of this program and stands for “Sustainability Tracking, Assessment & Rating System.” The STARS website allows universities to self-report on what they are doing to promote sustainability. Universities are scored based on their participation in sustainable categories. Each category is scored based on a set standard. Each categories score is totaled and the University is awarded a bronze, silver, gold or platinum rating. There are two versions of STARS that I focused on. STARS v1.2 and v2.0. With STARS 1.2 I focused on two categories; Water Consumption and Storm Water Management. With STARS 2.0 I focused on operation credit 26 which is water use.

Platinum	0
Gold	59
Silver	159
Bronze	67
Reporter	23

Total number of universities in each category as of March 28th

Results:

Out of all the universities that reported on the STARS website and completed both enrollment data and water consumption; the average water consumption is **11,751.53**

Gallons/student.

Conclusions:

Originally this project was intended to find the best water consumption practices for WMU. However, as my research continued I found that since STARS is a self-reporting website the universities that were giving themselves a better score might not actually have the best practices. For example, some institutions would receive a high rating for reporting that they implemented porous paving, when they only have a tiny area in one of their parking lots that is for research purposes. On the other hand you had some universities that would give themselves a lower score but, have four vegetated roofs. When you compare STARS 1.2 to STARS 2.0 you get some interesting data. In STARS 1.2 you get more detailed responses about what the individual university is doing for best practices but, you might not get an accurate score. In STARS 2.0 institutions in similar climate zones can be combined together to compare for best practice results. This will allow you to learn from areas that are similar to you. However, the downside to v2.0 is you do not get as many details on how universities accomplished its rating.

STARS 1.2

OP-22 Water Consumption:

- * Water Consumption baseline year
- * Water Consumption performance year
- * Dates of performance years
- * Brief description of plans to achieve water reduction goals
- * Website of water conservation initiatives

OP-23 Storm Water Management:

- * Brief description of the institution's storm water management initiatives
- * Website of storm water initiatives
- * Vegetated roof
- * Porous paving
- * Retention ponds
- * Stone swales
- * Vegetated swales
- * Brief description of other technologies or strategies for storm water management.

STARS 2.0

OP-26 Water Use

- * Portable water use
 - o Baseline year
 - o Performance year
- * Number of residential students
- * Recycled water
- * Brief description of water recovery and reuse systems
- * Plumbing fixtures
- * Water-efficient landscape design practices
- * Weather-informed irrigation technologies
- * Water conservation and efficiency strategies
- * Website of other information

Each University's total score for this section changes based on how big of a risk they are, the more abundant water is the lower the risk they are. This graph is how it is decided.

Physical Risk QUANTITY	Points Available For Each Part	Total Available Points For This Credit
Low Risk	2/3	2
Low to Medium Risk	1	3
Medium to High Risk	1 1/3	4
High Risk	1 2/3	5
Extremely High Risk	2	6

V1.2	V2.0
Provided a better qualitative data analysis.	Provided a better quantitative data analysis
The scores for this version were given based on answers to yes or no questions. It does not analyze the benefits each project provided the university.	This version provided a more accurate scoring since the scores relied on a more critical analysis of what was being done. Few universities achieved a perfect score.
This version gave more details about the best practices being done on each campus.	Allows for fair comparison between universities by taking into account the climate of their locations.
It was common that universities provided a link for their website to find more information on each of their practices.	Information about how a university was obtaining their scores was not readily available.
Universities are asked to categorize the climate of their location. This allows for comparison between climates.	This version accounts for baseline data for each institution such as water consumption and enrollment rates. It also includes performance data to see an institution's progress over the years.

Future Research:

- * I would recommend helping WMU finish their STARS form so we can compare how we are doing relative to other universities.
- * Then, we could develop best practices for WMU to lower our water consumption.