

An Introduction to Green Labs at Duke

ESI Conference

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Green Labs
at Duke

In 2012 Duke was making a big sustainability push and a small group of lab managers met to discuss the Biology Department's impact.



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Impacts of Research Labs Energy

Labs are 5 times more energy intensive than other campus spaces, on average.

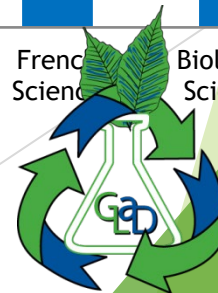
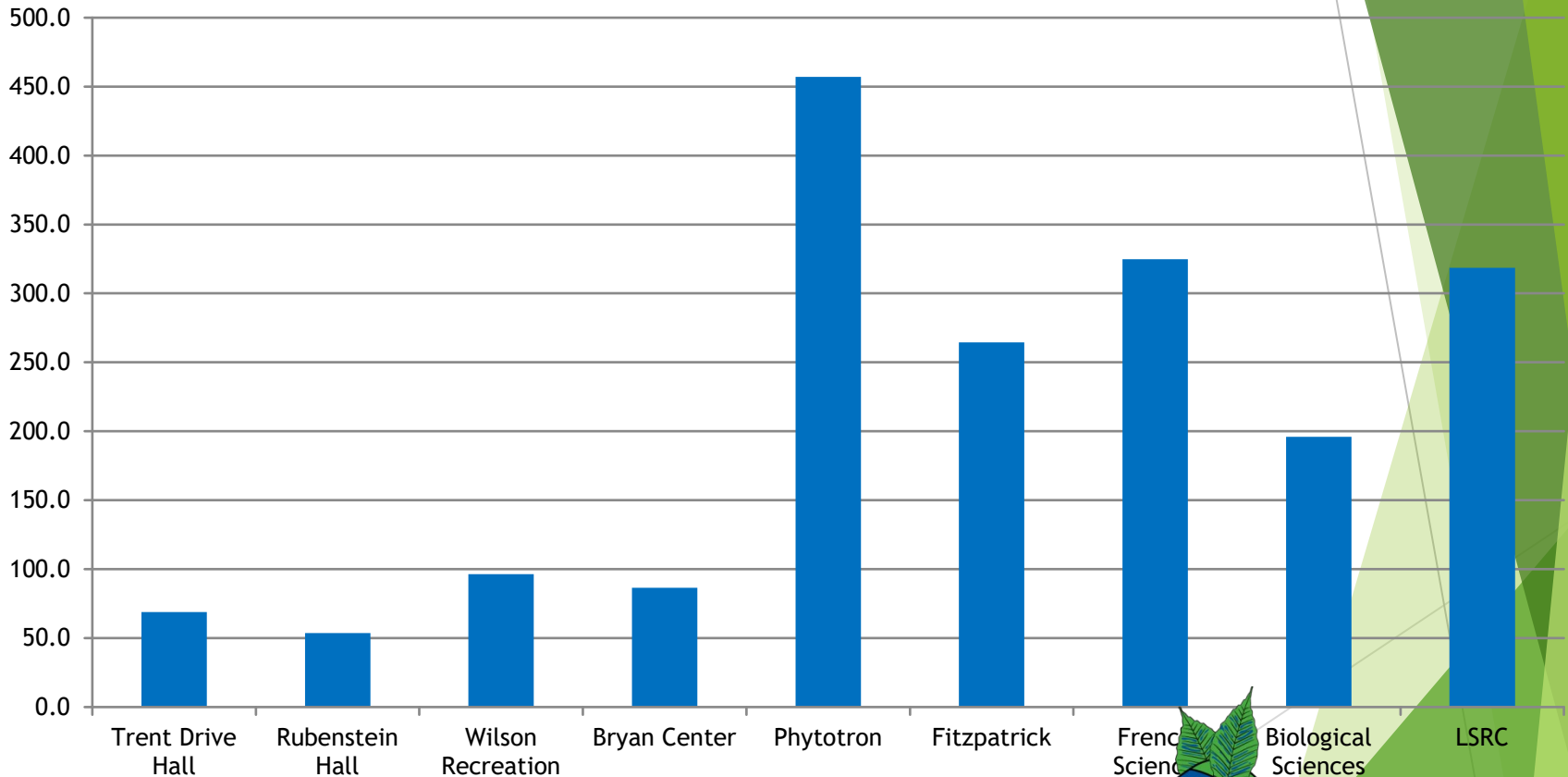
Labs also generally use more water and generate hazardous chemical waste.



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Impacts of Research Labs Energy

3-year average EUI (kBtu/sqft/yr)



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Impacts of Research Labs Water

Ventilation

Equipment cooling

Aspirators

Purified water

Sterilizers

Dish and pipet washers



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Impacts of Research Labs Chemical Waste

2011: 72,000 pounds of Hazardous Waste

2013: 87,000 pounds of Hazardous Waste

Hazardous Waste is 25% of total chemical waste



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Green Lab Certification



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The Green Lab Certification Program was jointly developed by Sustainable Duke and Green Labs at Duke. We would like to recognize the work of the Office of Environmental Stewardship and Sustainability of University of California - Davis, LabRats of the University of California - Santa Barbara, Higher Education Environmental Performance Improvement of the UK and Yale University Office of Sustainability for inspiration and some of the content of this certification program.



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Green Lab Certification

Three levels - Bronze, Silver and Gold

Prerequisites plus points

Certification Checklist

Certification Checklist Guide



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Green Lab Certification

- ▶ Management and Training
- ▶ Energy Conservation
- ▶ Water Conservation
- ▶ Chemical Storage and Use
- ▶ Green Purchasing
- ▶ Recycling and Waste Reduction
- ▶ Field Work
- ▶ Meeting and Conference Travel



Green Labs
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Certified Labs

- ▶ 80 labs certified
- ▶ Arts and Sciences
- ▶ Environment/Marine Lab
- ▶ Engineering
- ▶ Medicine



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Growth Chamber Lighting



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Energy Efficient Ultralow Freezer



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Shut the Sash



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Findensers for Chemistry Labs



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Resources

- ▶ International Institute for Sustainable Laboratories (I2SL)
- ▶ I2SL NC-Triangle Chapter
- ▶ My Green Lab



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