

CALVIN  
College™

# Calvin Sustainability Scorecard

*April 2014*

# Purpose

In response to God's faithfulness and the Biblical mandate to exercise responsible stewardship of all God's blessings, Calvin College developed "practical guidelines that lay a foundation for living in a way that honors the Creator and his beloved creation" in the Statement on Sustainability.<sup>1</sup> The Statement on Sustainability notes that "[s]ustainable living is the daily working out of the stewardship mandate." As Calvin grapples with issues of sustainability, we must find ways to formalize our commitments and make sustainability the "way of life" for Calvin both in terms of operations and the educational mission of the college.

The Calvin Sustainability Scorecard (CSS) is Calvin College's means of assessing (on an annual basis) our progress toward the aspirations of the Statement on Sustainability. The CSS covers several aspects of sustainability at Calvin, and it is intended to be a simple but helpful way to evaluate our activities on campus. CSS metrics are related to the Statement on Sustainability topics on the following pages.

No assessment process or set of metrics are perfect, and this scorecard is no exception. It was designed to be simple, and therefore sustainable through time, and it includes mostly data that we routinely collect anyway. Data are reported based on both academic and calendar years, depending on typical reporting intervals. We will find good reasons to change, adjust, or amend the scorecard as we become more aware of the campus impact on God's Creation, as we continue the process of evaluating our activities in the context of the Statement on Sustainability, and as we strive to live as responsible stewards of the Earth. Comments, both praise and criticism, are welcome.

# Summary

The goal of the Calvin Sustainability Scorecard (CSS) is to provide a quantifiable measurement process to track our progress in conjunction with the College's Statement on Sustainability.<sup>1</sup> Some of the sections in the Statement on Sustainability lend themselves well to numeric metrics, while others do not. In the process of assembling these metrics, we are becoming more accountable for the effects of our actions on the environment.

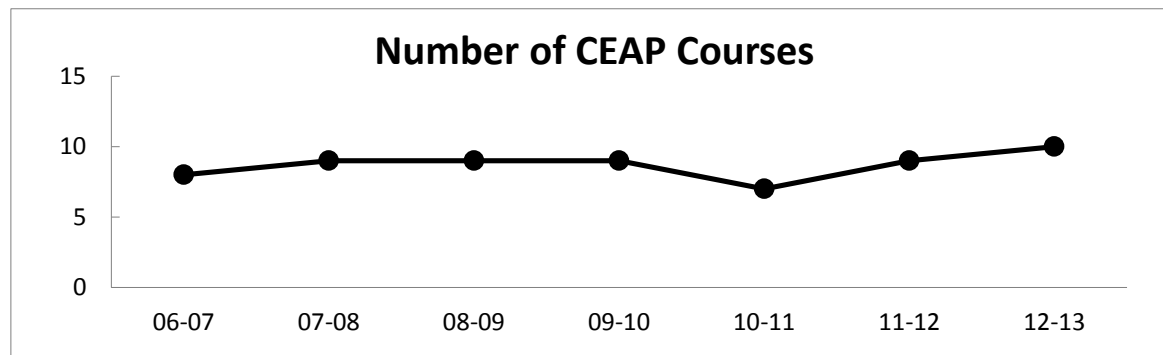
Energy consumption and CO<sub>2</sub> emissions (4) continue to be a challenge for the college, with minimal change over over the last two years. While emissions from flights, electricity, and fuel emissions decreased from 2012, natural gas emissions increased from 2012 due to the higher heating needs during the cold November and December of 2013 (4). Areas showing improvement include a significantly lower amount of incinerated and landfilled waste from 2012 (3) and a five million gallon decrease in water consumption from 2012 (5). In its fourth year, Calvin's composting program increased the mass of composted material by a factor of 3 from 2012-2013 (3). Total local food purchases increased from 2012 due to a significantly greater consumption of local milk and ice cream products on campus (8). Bus rides and bus passes decreased from 2012-2013 possibly due to the stabilization of gas prices, resulting in a higher number of parking permits and commuters driving their cars to campus (7). Faculty involvement with sustainability topics as reported in the Faculty Activities Report (FAR) shows a decreasing trend, but this may be an issue of incomplete reporting (1) (13).

<sup>1</sup> <http://www.calvin.edu/admin/provost/sustainability/actions/statement.html>

# Teaching and Research 1

The Calvin Environmental Assessment Program (CEAP), started in 1997, is a collaborative faculty effort to dedicate regular lab sessions or assign student projects that contribute to an overall assessment of the campus environment and surrounding community. Students learn about their campus environment and are exposed to sustainability ideas and concepts through CEAP activities. The data collected and analyzed by students form the basis for recommending changes in campus policies, for programs that target individual behavioral changes, and for identifying issues that involve and impact adjacent neighborhoods and the West Michigan community. At the end of each semester, CEAP projects culminate in a poster session where students present their findings.

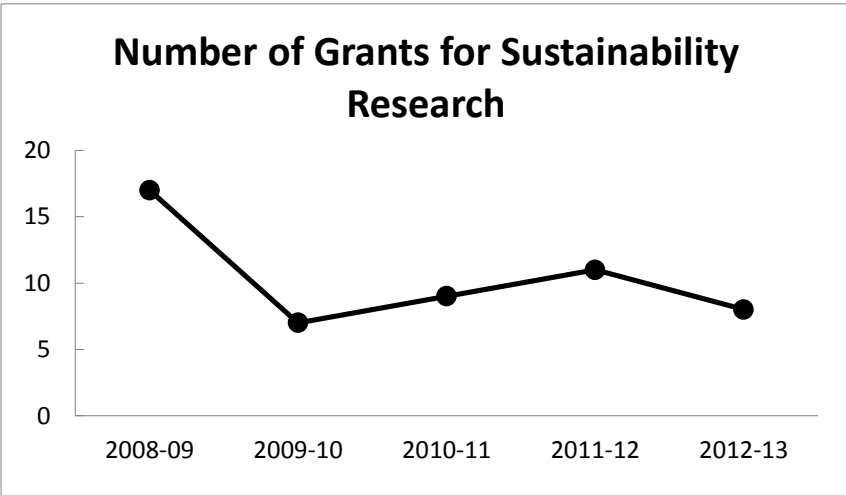
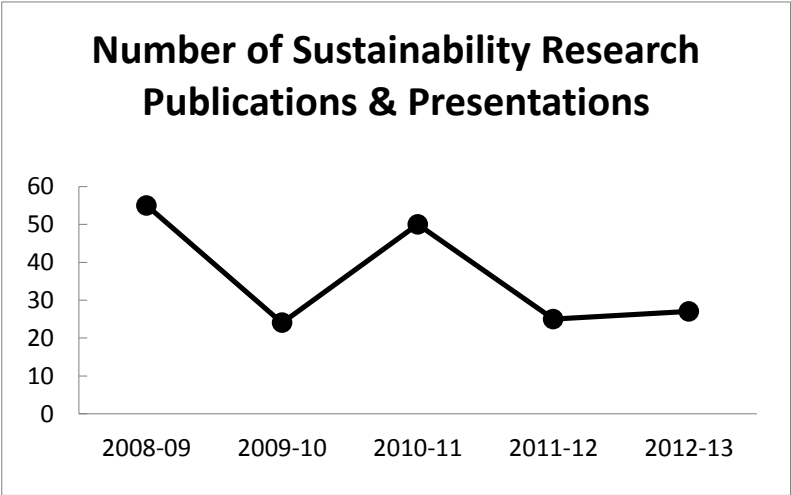
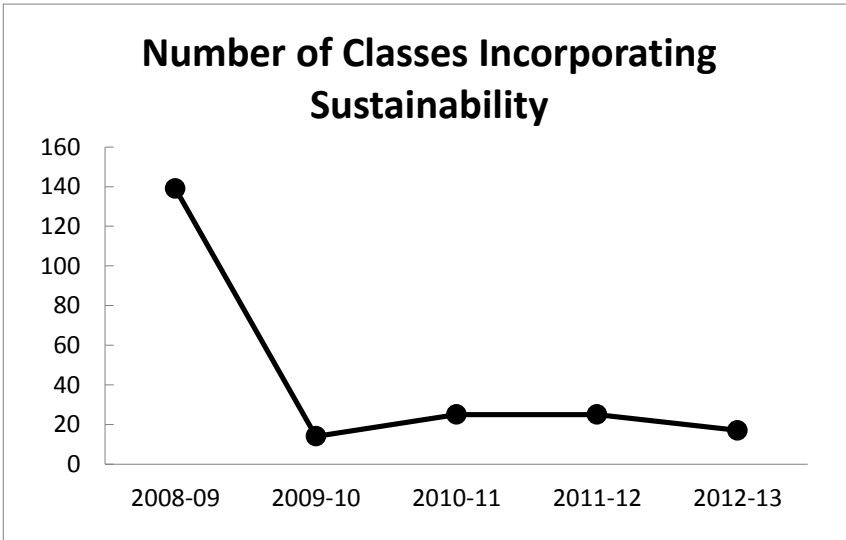
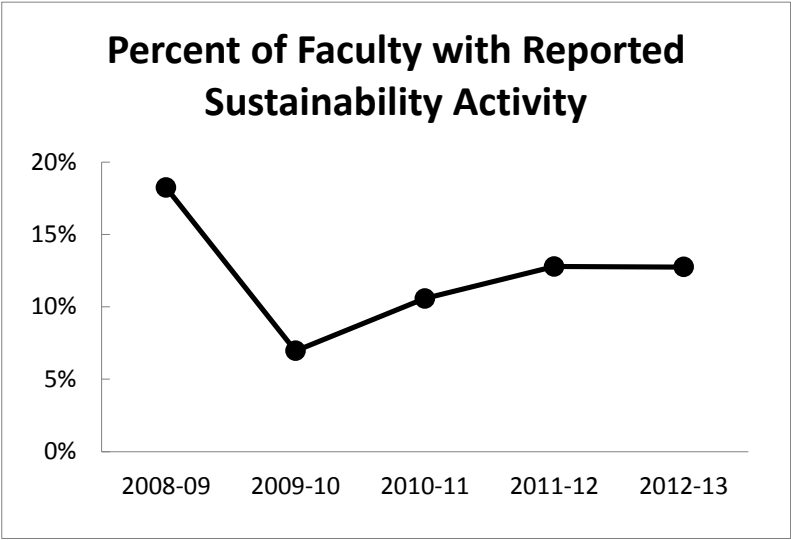
*Notes about the data:* The number of CEAP courses fluctuates depending on course rotations and faculty teaching loads. It is only one indicator of how sustainability and creation care is integrated into the Calvin curriculum.



Beginning in the 2008-2009 academic year, the scorecard has also been tracking sustainability activities of faculty through the annual Faculty Activity Report (FAR) in three subcategories: sustainability-related class content, research and publications, and grants and fellowships.

*Notes about the data:* When sustainability reporting was first introduced in 2008, many faculty documented their activity. However In 2009-10 and 2010-11 the FAR process was insufficiently comprehensive to capture the breadth of faculty activity because of significant under-reporting. While there was an increase in reporting for the 2011-12 academic year, the 2012-2013 academic year showed a decline in reported sustainability classes and grants. We are continuing to research alternative ways to collect these data in future years to provide more accurate results.

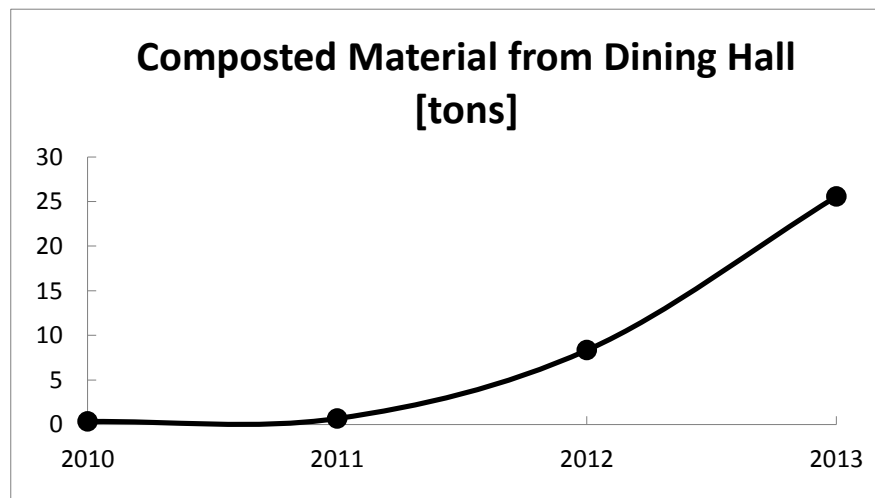
# 1 Teaching and Research



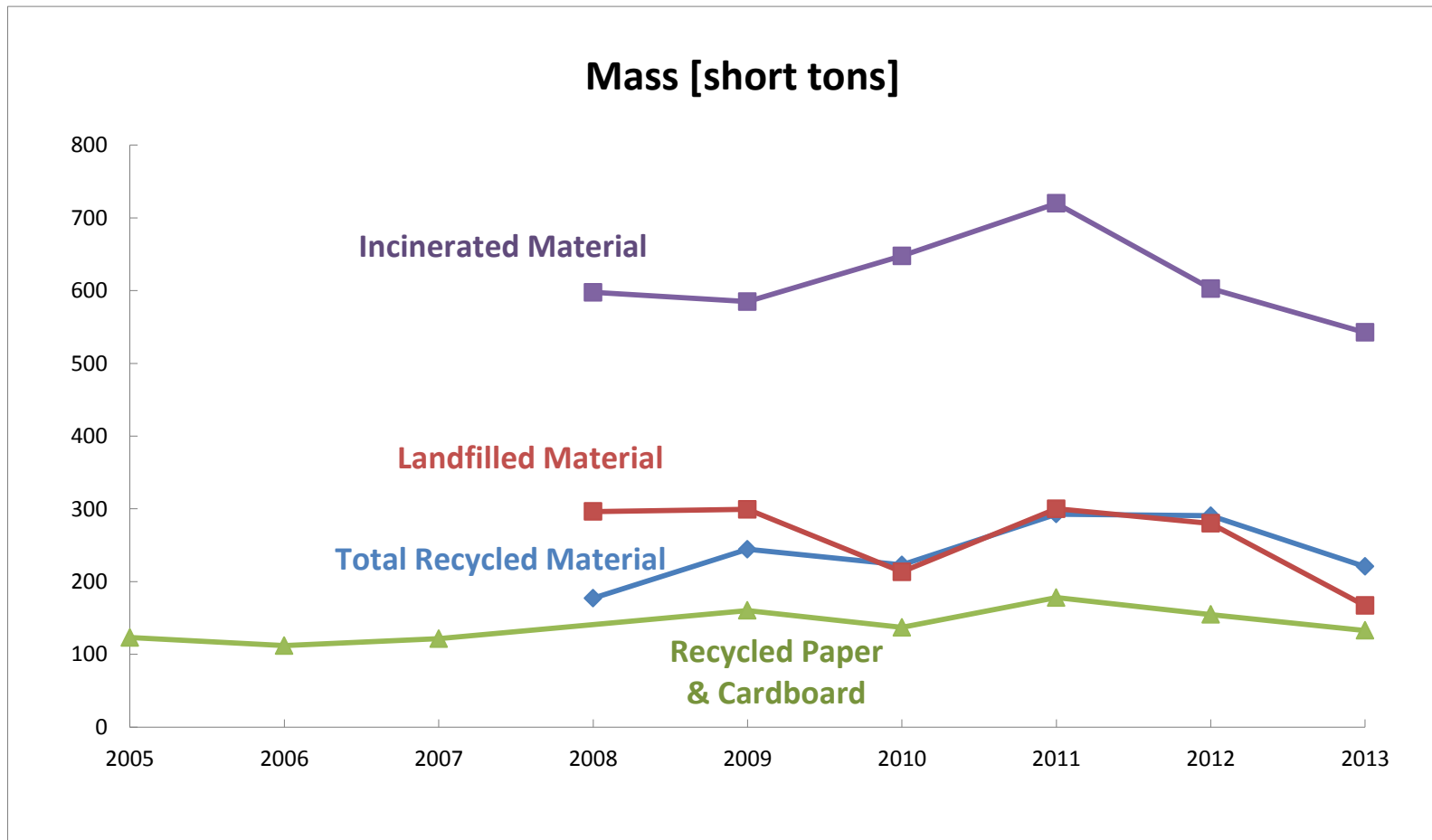
# Solid Waste Reduction and Recycling 3

Calvin College continues its efforts to recycle as much material as possible. Currently we recycle office paper, paperboard, corrugated cardboard, books, glass, metal and plastic food and beverage containers, electronic devices, lamps and ballasts, batteries, polystyrene, scrap metal, concrete, used oil, and antifreeze. Composted waste diverted from the trash stream has dramatically increased due to a full year's implementation of a dining hall composting program that started midway through 2012. Additionally, incinerated and landfilled material have decreased due, in part, to the end of construction activities.

*Notes about the data:* Data are collected in terms of both volume (e.g., 5-gallon pails of batteries) and mass (e.g., tons of cardboard). For this scorecard, all volume data is converted to mass using measured density values. Accurate values for 2008 could not be recorded due to a change in reporting periods. The following graphs contain data reported in both academic and calendar years. Data for academic years are represented by the fall semester year i.e. 2009-2010 data are plotted in 2009.



# 3 Solid Waste Reduction and Recycling



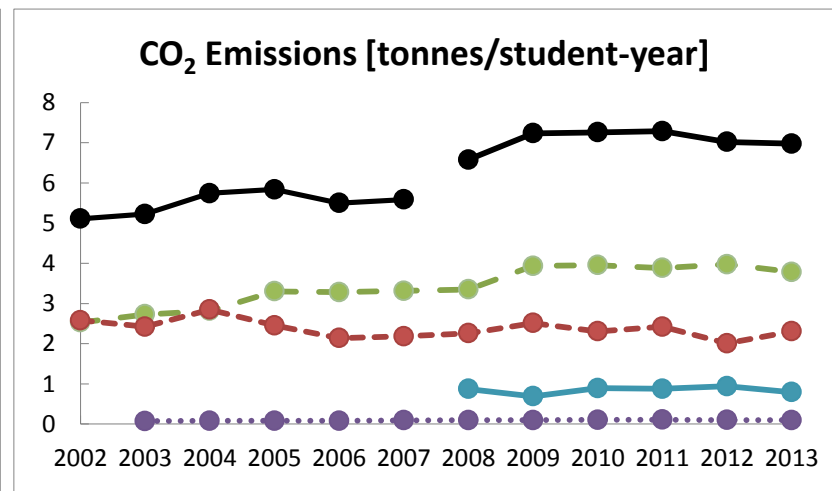
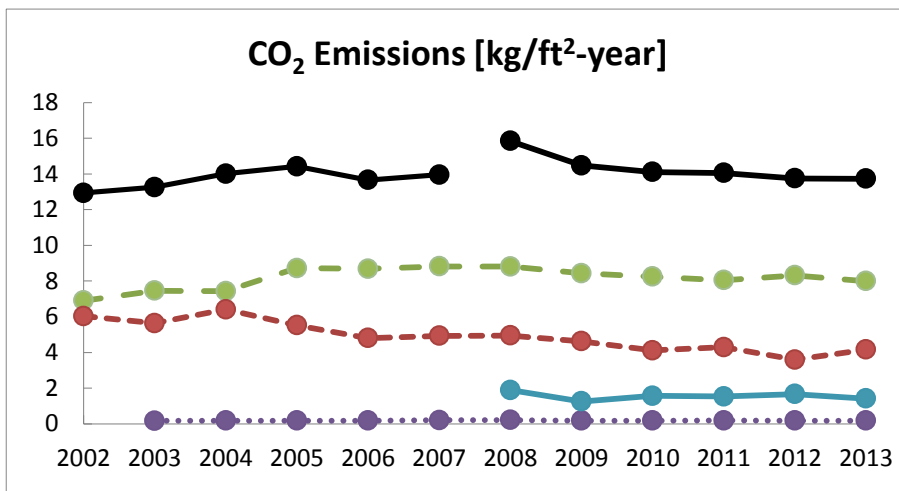
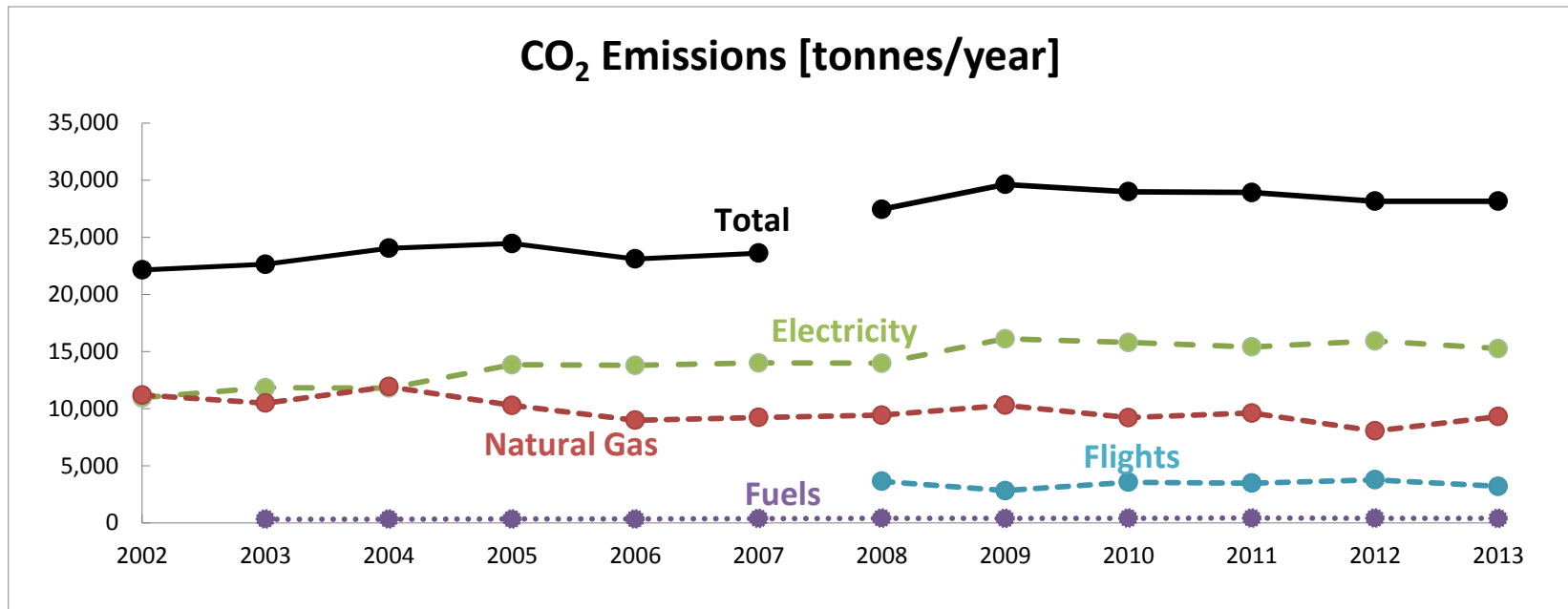
# Energy Purchasing 4

Greenhouse gas emissions (CO<sub>2</sub> included) are an important way to assess environmental impact. The earth is affected by total atmospheric CO<sub>2</sub> concentration. However, carbon emissions "intensity" (emissions per student or per square foot of building space) can provide useful information for comparison with similar institutions. We seek to reduce our total greenhouse gas emissions from all activities on campus.

Emissions gradually increased from 2002 (when data collection began) to 2009, when they slowly began decreasing from 2009 to 2012. Emissions in 2013 were nearly identical to emissions in 2012. Emissions from flights, electricity, and fuels all decreased while natural gas emissions increased relative to 2012. Natural gas emissions increased due to the higher consumption of natural gas to provide heat to campus during the colder-than-average November and December 2013.



# 4 Energy Purchasing

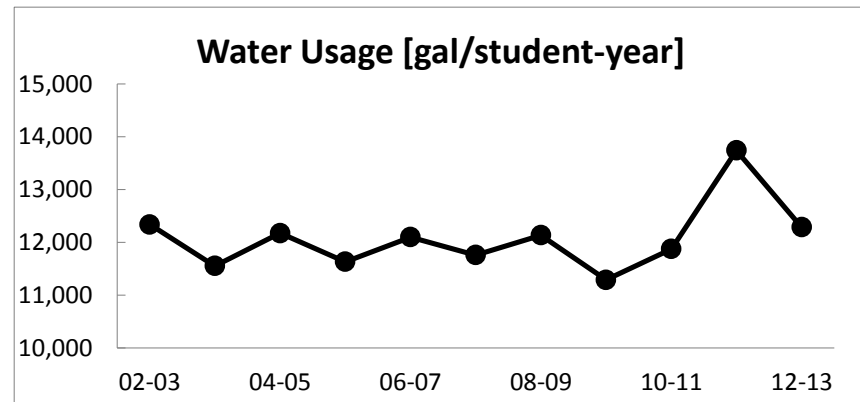
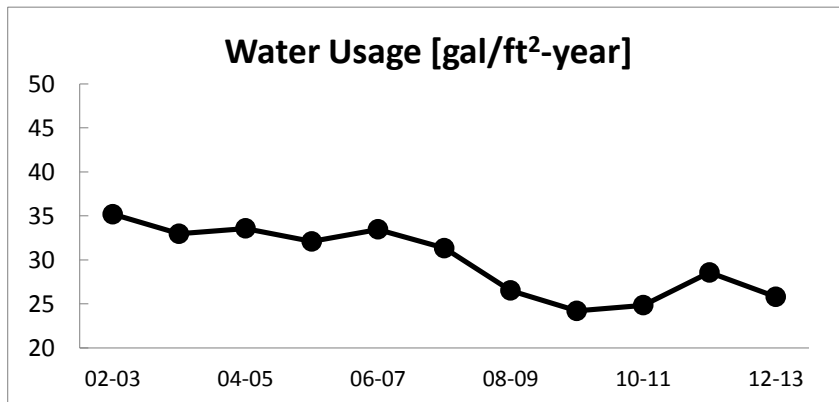
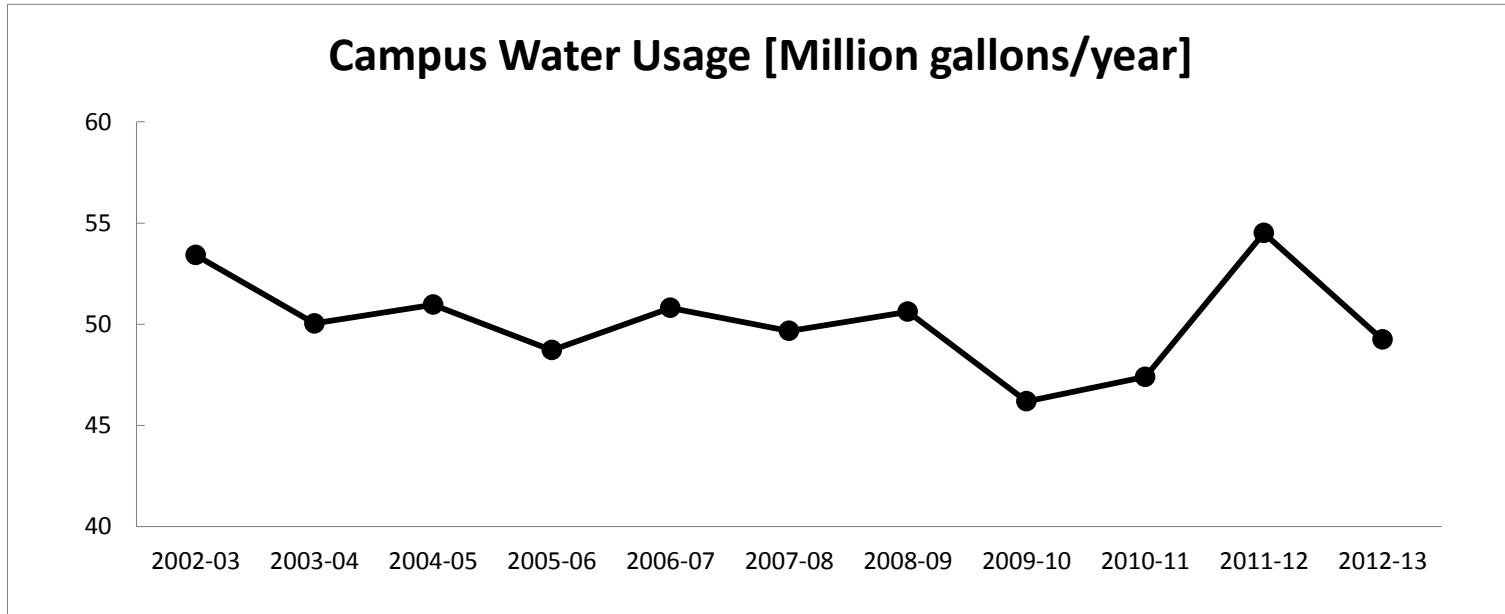


# Water and Wastewater 5

Water consumption is another way to assess environmental impact. We seek to reduce total water consumption on campus. Water usage at Calvin was trending downward since 2002; however, a significant increase in water usage of 7 million gallons (from 47 to 54 million gallons) occurred in 2011-2012, resulting in the highest water usage since 2003. The high water usage in 2011-2012 is partially attributed to three water main breaks between January 2012 - February 2012. The 2012-2013 water usage appears to be returning back to the downward trend that occurred between 2002-2011.

*A note about the data:* Data for water usage is difficult to obtain precisely, because of the many independent water bills that Physical Plant receives. For this report, water usage is reported from the main campus meter and includes the main campus but excludes the Bunker Interpretive Center, DeVos Communications Center, Prince Conference Center, Seminary Buildings, the Physical Plant building, Knollcrest East, Burton Street houses, and Ravenswood.

# 5 Water and Wastewater

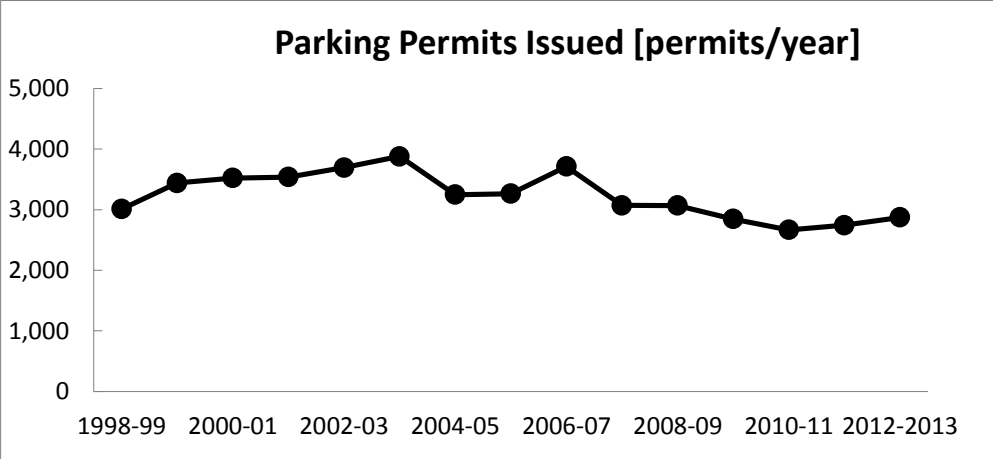
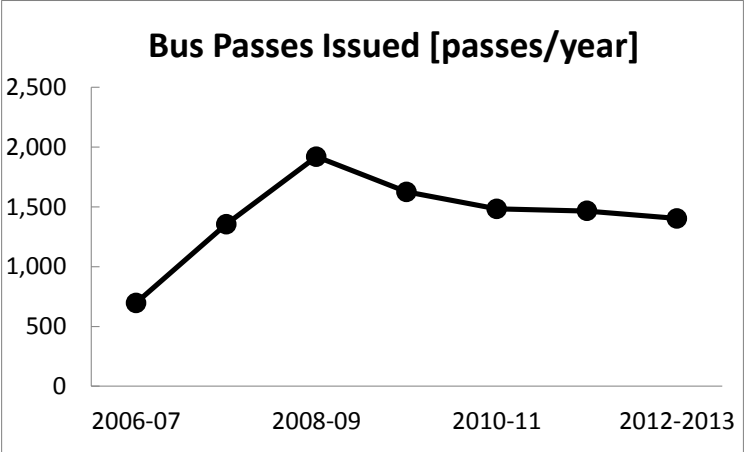
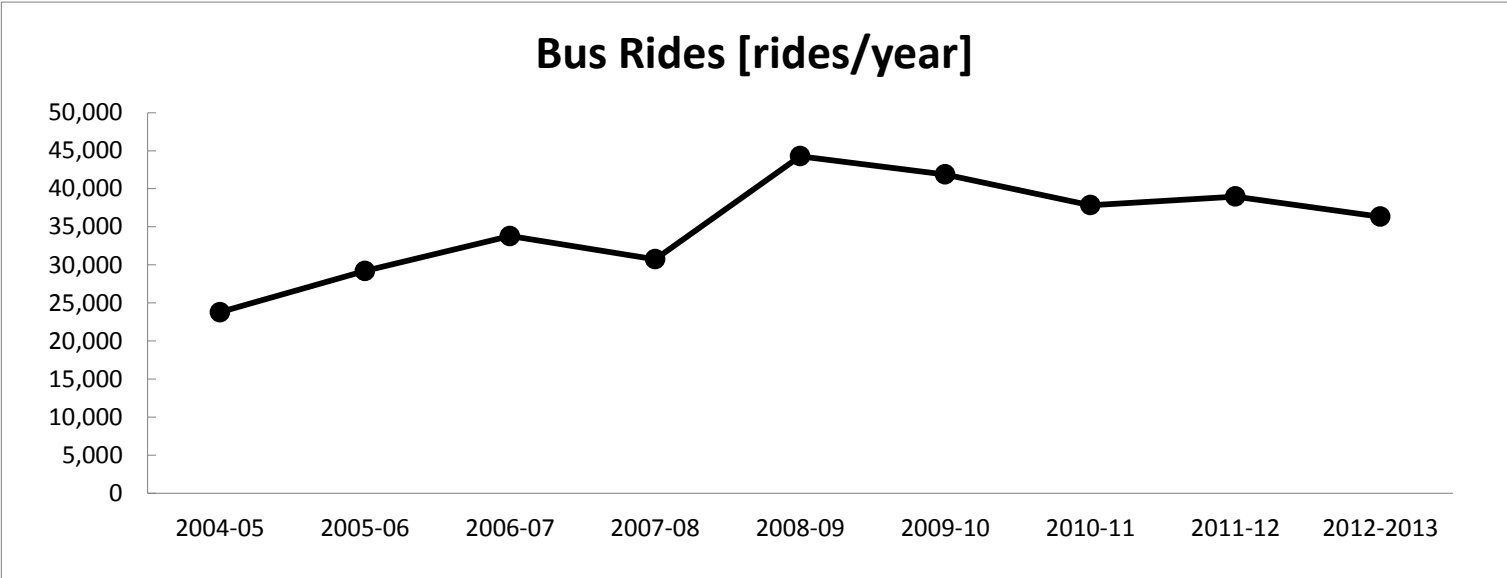


# Transportation 7

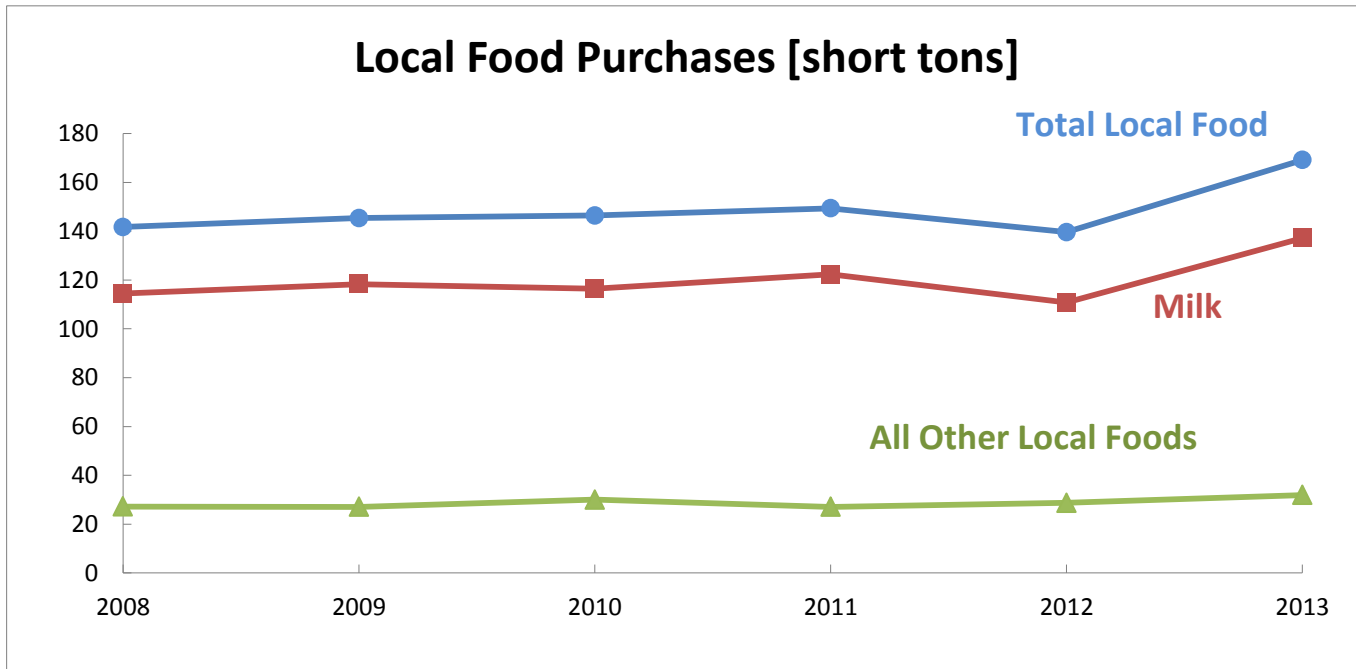
Walking, biking, and public transport are popular means of commuting to campus. Bus ridership saw its peak in 2008 corresponding to elevated gasoline prices. As the economy has recovered and gas price volatility has subsided since 2010, bus ridership and subsidized bus rides have been trending downward while parking passes have been trending upward.

*A note about the data:* Rapid discount cards have been available since the 2006-07 academic year, and Rapid ridership information is available since 2004.

# 7 Transportation



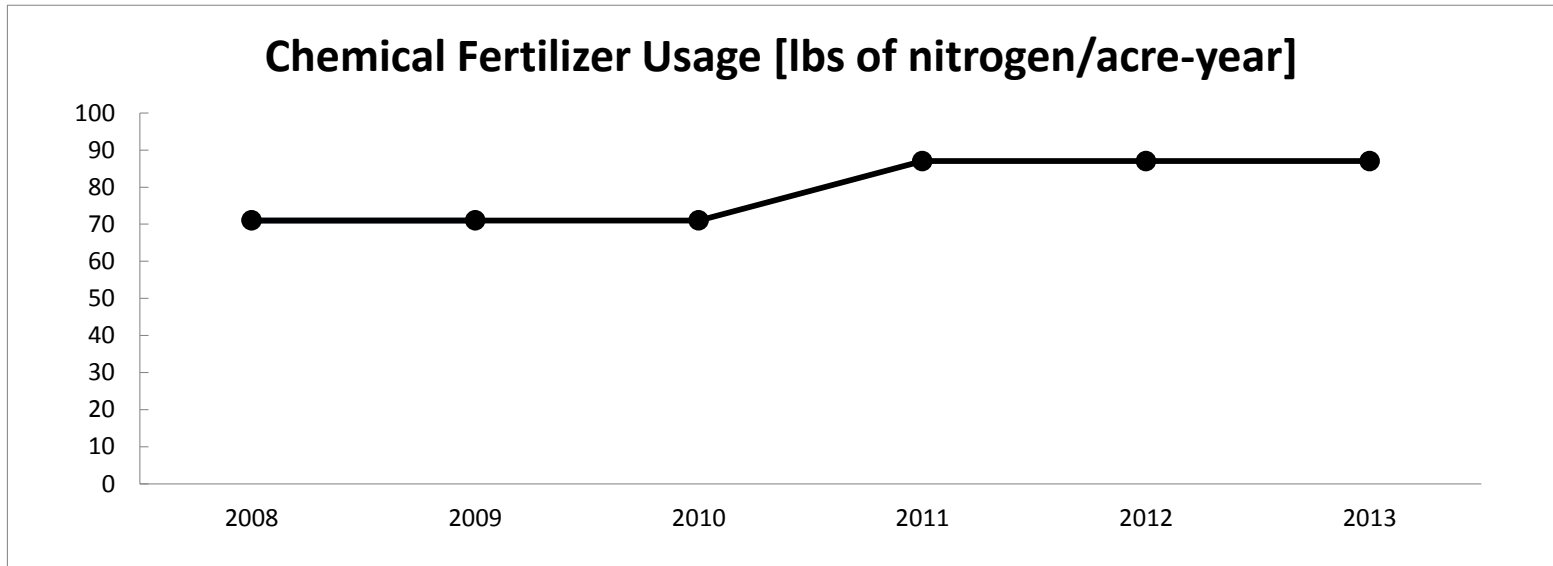
# Food and Food Services 8



Calvin Dining Services (CDS) strives to help students, faculty, and staff understand, practice, and promote sound environmental policies concerning the reduction of food waste and the promotion of recycling. Some initiatives include: buying regional produce in season, supporting local organic farms, and minimizing the use of disposable dinnerware. In 2013, milk and hard ice cream consumption increased significantly from 2011 and 2012. The increase in overall milk product consumption can be attributed to better tracking from Prarie Farms Dairy on milk purchases and the significant increase in meals served.

*A note about the data :* The vast majority (72% by mass) of local food purchased by Calvin Dining Services is milk. 2008 was the first year that data were collected for this purpose.

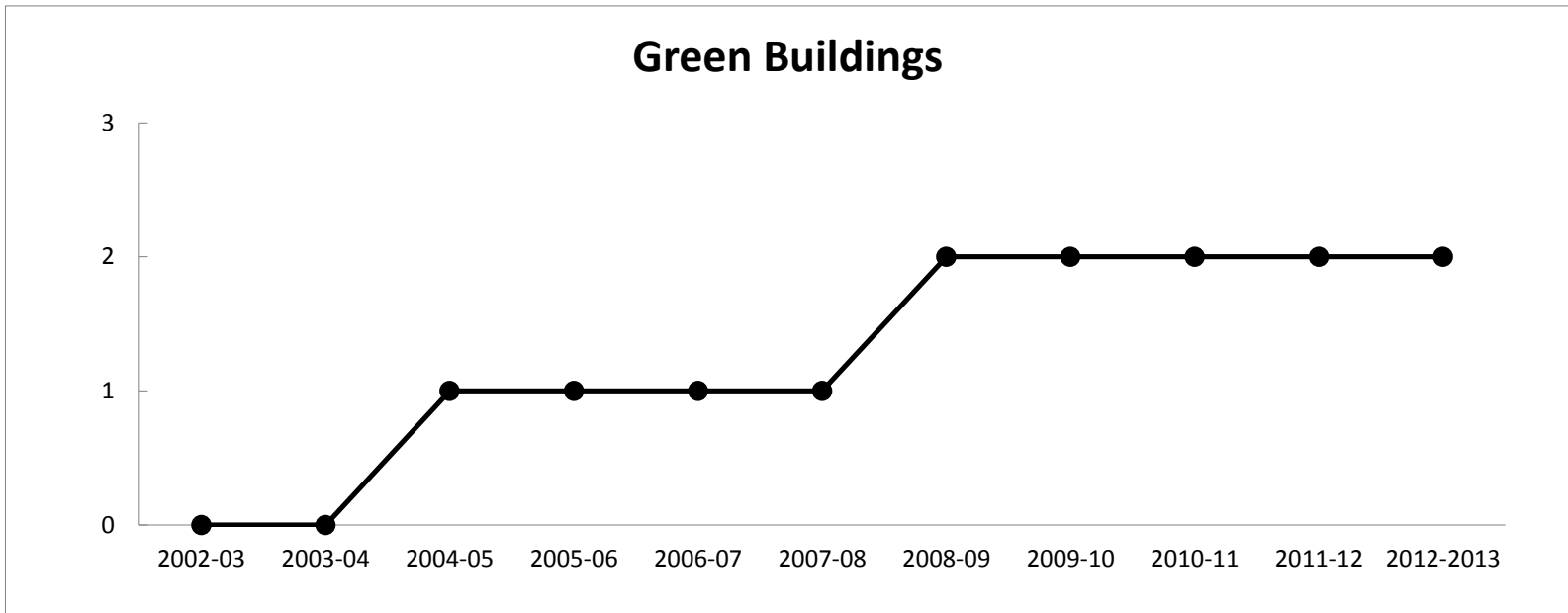
# 9 Campus Grounds and Land Use



General turf areas have been maintained with similar products over the last 10 years. Significant reductions in the lbs of nitrogen/acre-year took place from 1996 to 2000, when the fertilizer programs were modified to reduce usage. The slight increase in application of fertilizer in 2011 is likely due to an increase of athletic field square footage, which require more care than other lawns. The fertilizer program has not been altered in the past three years, so data trends are constant.

*A note about the data* : lbs of nitrogen/acre-year is a common unit of measure in this field. Calvin uses 86 lbs nitrogen/acre-year, but a typical home lawn service applies up to 250 lbs nitrogen/acre-year.

# Building Construction: New and Renovation 10

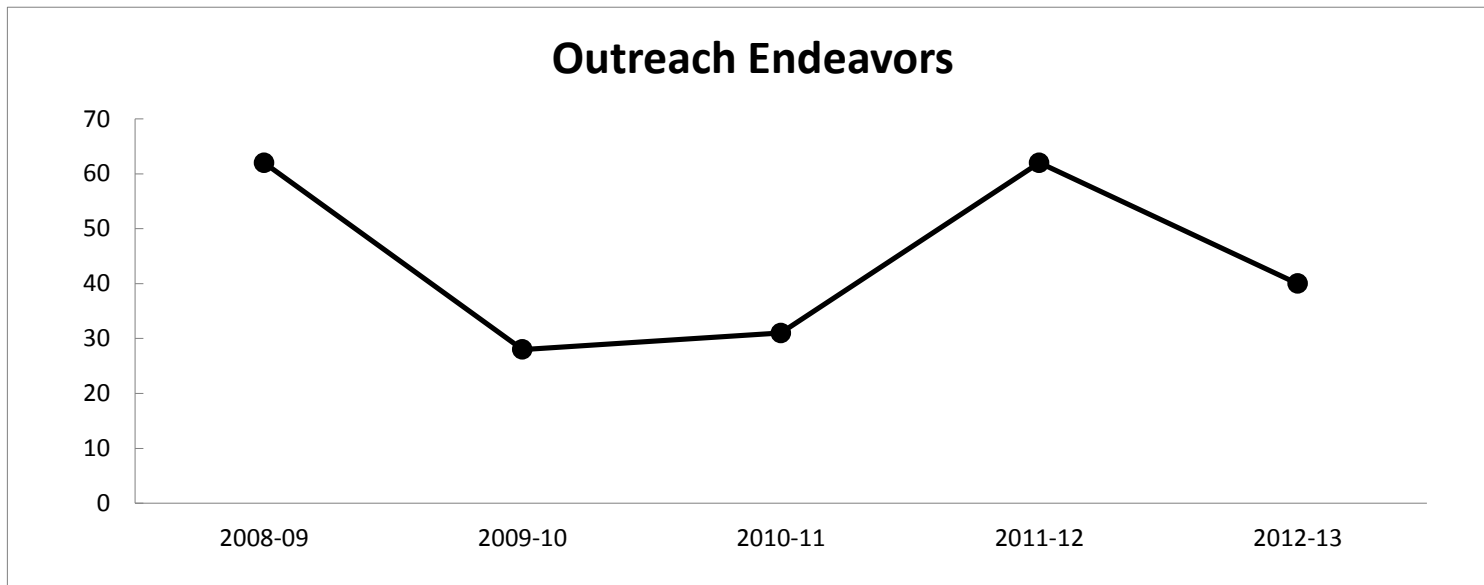


Future construction is an opportunity to create more green buildings on campus. We encourage pursuit of LEED certification for future campus construction projects.

*A note about the data:* The 2005 Bunker Interpretive Center was Calvin's first (and to date only) LEED certified building. (See <http://www.calvin.edu/academic/eco-preserve/bunker/> for more information.) The 2008 vanReken dormitory was built in the spirit of the Statement on Sustainability, but narrowly missed LEED certification due to a change in scoring midway through the project. Learn more about the sustainable features of the vanReken dorm at <http://www.calvin.edu/admin/housing/residence-halls/vr-sustainability.html>.

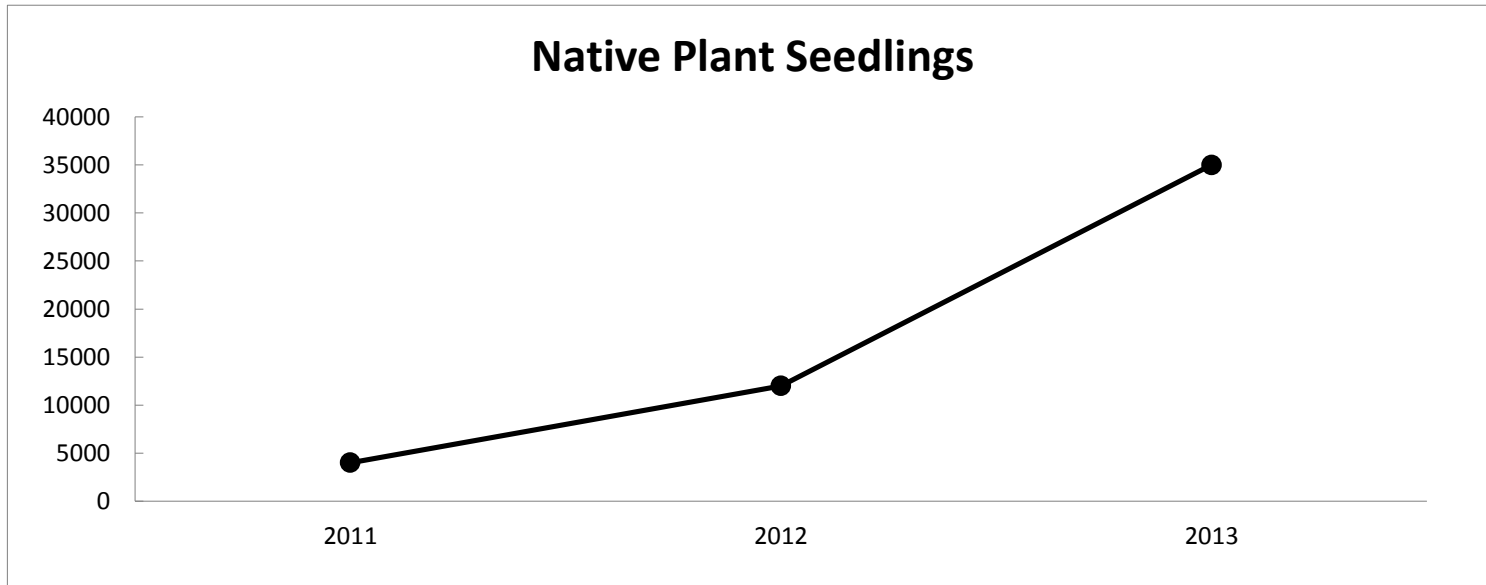


# 13 Outreach



The 2012-2013 academic year provides the fifth set of data obtained on sustainability related outreach activities of faculty and staff via the Faculty Activities Report (FAR). This metric attempts to capture faculty initiatives to raise awareness of sustainability related activities. Under-reporting on the FAR is believed to be the cause of the 2012-2013 decrease in total outreach activities. However, this year's outreach activities are still above 2009-2011 levels, which indicates that the trend of faculty sustainability outreach endeavors is increasing.

# Outreach 13



The 2013-2014 academic year was the first time data were obtained on outreach activities regarding native plant production and distribution. Native plants are adapted to Michigan soils and climate and provide essential habitat and food for birds and insects. Native Landscapes, a native plant nursery and landscaping initiative of Plaster Creek Stewards, collects seeds of locally growing wild plants, germinates them in Calvin's greenhouses, transplants and grows them for eventual use in native habitat and landscaping projects in the city (focused especially in the Plaster Creek Watershed). This program produced 35,000 native plants in 2013, a substantial increase from 4,000 native plants in 2011.

# Acknowledgements

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**Jack Phillips**, Physical Plant: Associate Director Mechanical  
**Jane Prins**, Financial Services: Airline flight data (4)  
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**Geoff VanBerkel**, Physical Plant: Fertilizer data (9)  
**Dave Warners**, Biology Department: Native Plant Seedlings (13)

—ESC, April 2014