

VUU Green Sanctuary Committee - 2015/2016 Annual Report

This year, we again chose as a goal to pursue re-accreditation as a way to re-focus and re-vitalize Green Sanctuary. We changed our annual meeting, with elections and goal setting, to a calendar year so that our many winter residents could better participate. And we conducted a 20-20 Visioning Session in March to help VUU select goals for the future.

The VUU Green Sanctuary (VUUGS) grew out of members' concerns for the Earth. The UUA's office of Earth Ministries set guidelines in the following areas for being certified. There is some overlap in the areas addressed below.

Environmental Justice –

1. **Garden-** The Green Sanctuary Garden at VUU was coordinated by Karen Stucke and Dan Richardson with the help of numerous volunteers from the congregation. More than 750 lbs. of produce was donated mainly to Tempe Community Action Agency as well as to I-Help. A separate Garden Report is attached.
2. **Divestiture from Fossil Fuels-** A team with Jayne Burgess, Jerry Waters and Karen Stucke presented a request to have VUU Divest from Fossil Fuels to the Board, which approved it.
3. **Arizona Faith Network (AFN)-** Sharon Kopina, Jerry Waters and Laurel Hardin attended meetings of the Earth Care Commission of AFN at Rev. Andy's Request. This resulted in GS co-sponsoring and helping fund a Climate Change Rally on 11/7/15, at which we provided prayer flags, petitions and water. Later, GS recommended that VUU become a formal partner with AFN, which was approved by the Board.
4. **AZIPL-** We donated \$100 to **AZIPL**. Patrick Grady was made our liaison with AZIPL, and he requested help with the outreach program they are doing to bring in more congregations. In March, AZIPL presented GS with a S.A.G.E. (Spirited Activists Greening the Earth) award for our activities. We later initiated a newspaper article about this award ceremony, and about the garden, which was published in the San Tan Sun News.
5. **I-Help-**We provided the food and labor for one dinner, breakfast and lunch for **I-Help**.
6. **Oak Flat-** We continued to learn more about the Resolution Copper Mine (Rio Tinto) being planned at Oak Flat. In April, we sponsored a forum where Arizona Mining Reform Coalition leader, Roger Featherstone, presented talk about the proposed mine, using a model, and explained the NEPA process, which was extended to 7/18/16. We put up a poster and asked people to write the Forest Service and to sign petitions supporting bills to overturn the land swap. Later, we recommended VUU become a formal partner of the AZ Mining Reform Coalition, which was approved by the Board.

Worship and Celebration- Support for environmental causes was evident as Rev. Andy and Kellie worked in comments, readings, songs and sermon topics about environmental issues into many Sunday services. One Earth Day Service was recently created in conjunction with Green Sanctuary, and used two members for readings.

Religious Education-

1. Gabriele Reil led a team of about 8 volunteers to conduct **two lessons on food chains** and the importance of biodiversity with our youth 6/7 and 6/14/15.

2. Sally Rings, president of **AZIPL**, presented a forum after service in the Fall. She showed the film “**Nourish**” and a facilitated discussion after about food and climate change.
3. The **Divest from Fossil Fuels** team presented a forum on a Sunday in November 2015 after Service.
4. We proposed the creation of an Environmental **DVD lending library** among members of VUU &/orVUUGS. An initial request for people to share lists of such DVD’s with us was unsuccessful.

Sustainability-

1. **Adopt a Highway Program-** Pam Swan has been the Adopt A Highway Coordinator since 2011. The program is registered with the County under the name: “Valley Unitarian Universalist: A Green Congregation” and we perform two clean-ups per year, reduced from the original four per year. This year we purchased about 6 litter pick-up sticks to help with the effort.
2. **Recycling-** We are currently looking into purchasing dual trash/recycling bins to improve that effort in the sanctuary. We are continuing our kitchen waste composting, textile recycling, ink cartridge and battery collection, and plastic bottle cap collection efforts. In October and November, we collected art supplies and donated about \$400 worth of materials to the Art Resource Center in Tempe.
3. **Silverware-** We increased our supply of metal flatware to about 220 of each (forks, spoons & knives) in order to accommodate the whole congregation for food events. We are working on modifying the Silverware Procedure to make it easier for all VUU leaders and event planners to utilize the silverware and wash it appropriately for proper sanitation. We will be counting it every 6 – 12 months and posting the count on the cart in the kitchen.
4. **Carpooling-** A mobile app called “Duet” was launched in the Fall. Follow-up or monitoring was never conducted and would be difficult.
5. **Carbon Footprint Survey-** A team developed and administered such a survey. Only about 35% of the congregation participated. Results were mixed and proved difficult to quantify or interpret for purposes of our suggesting to the congregation new “behaviors” that might reduce our overall footprint.
6. **Sustainability Policy-** Jerry Waters and Tom Briggs worked with Joe Martin and Facilities to reduce water, electricity and soap use at VUU. They report to the Senior Minister. A separate report of their efforts is attached.

Green Sanctuary Garden Report

April 2015 – January 2016

There were 2 seasonal gardens planted this year -- the spring/summer garden from April through July, and the fall/winter garden from October through March. Some firsts for this year were a bumper crop of apricots and our first edible oranges from the orange tree. Our largest measured harvest for one season was 500 lbs. from the spring/summer garden. We are currently harvesting from the garden planted in October.

The garden program has been consistent for the past several years. 90% of the harvest is delivered to Tempe Community Action Agency, and the other 10% is given to iHelp and members and volunteers. A small amount is sold to the congregation in fundraisers for garden expenses.

We rely on volunteer help. Two volunteers who put in many hours on a consistent basis are Dan Richardson, assistant gardener, and Rene Rodriguez, compost master.

Jerry Waters, Dan Richardson and Alan Beaudoin installed a new garden shed last February. It took several days, but it looks great and has helped us organize and expand our tools and supplies.

Most of volunteers who come consistently for planting and harvesting are members of the Green Sanctuary team.

Many members of the congregation bring kitchen scraps and lawn clippings consistently for our compost barrels and VUU members at-large donate used garden equipment. Sharon Kopina donated essential shelving for the inside of the shed.

The details and tasks involved in keeping a large garden healthy and active are too numerous to mention. It is not a small undertaking. Our water system is aging and needs repairs. Looking ahead to the next few years, many of the improvements needed are costly. They would require a volunteer who has the time and skills to apply for grants, and then follow up to implement the improvements.

Some of the volunteers who have helped plant and harvest through the year are:

Donna Bennett
Ade Banjoko
Willa Cree
Cara and Charlie English
Garry Cantley
Veronica (?)
Charlie Thomas
Laurel Hardin
Andrew Hermann
Sharon Kopina
Dan Richardson
Rodriguez Rene
Barbara Sorauf
Lou Scinto

David Sheh
Margaret Stewart
Karen Stucke
Charlie Thomas
Susan Wiedekamp
Jerry Waters
Drew Waters
John Wurm
Cathy and John (winter visitors from Iowa)
Plus 6-7 children, some returning several times

Submitted by Karen Stucke, Garden Chair
January 23, 2016

VUU Sustainability Policies and Procedures Results – Fiscal 2015 – 2016

May 26, 2016

Tom Briggs

O. Jerry Waters

1. Cleaning Supplies

Current practices include rinsing after using these materials. When a plastic container empties, the container is rinsed and recycled. Most materials have a minimal scent.

2. Energy

Electricity usage reached a low point in 2014 (8860 kwh monthly avg) probably as a result of several years of replacing incandescent light fixtures with compact fluorescents and careful usage of programmed thermostats. In 2015, electricity usage increased 18 % compared with 2014. The biggest increase was in Sanctuary usage during the summer months of July, August and September probably for air conditioning use. The cause may be increased use of the Sanctuary for meetings and events, including more frequent use as an IHelp sanctuary overnight. This is good news in that we are making more usage of the Sanctuary to fulfill VUU's mission but one of the side effects is increased electricity use. So far in 2016 we are showing reduced electricity usage compared to 2015 but we have had an unusually mild spring. We will need to see if the high use of last summer repeats this year.

3. Water and Water Conservation

Paramount, our landscaper, monitors outside water usage and fixes any leaks identified. Leak checking is an ongoing process. The use of a rain switch which would stop watering during rain events is being considered. As toilets wear out, they are being replaced with 1.2 gpf (gallons per flush) units. We plan to standardize on a Kohler Cimarron model, with 1.2 gpf. Replacement toilets cost \$250.00 each. There are 18 flush toilets currently. To replace working units is considered too costly. Some ten toilets with regular water tanks were leak tested on 1/13/2016 and again on 5/26/2016. One failed in January and was fixed. During the May tests none of the 10 regular toilets showed leaks. Toilets in the sanctuary rest rooms are power-flush units. They will now be tested and adjusted to a lower flow if necessary.

VUU reached an all time low water usage in 2008 (640 kgal) after much repair work was done to the irrigation systems for both the Sanctuary and Admin area buildings. Usage since then has been gradually increasing, reaching 1030 kgal in 2014 which is similar to historical usages pre-2008. although VUU does have more members now, uses the kitchen more often and has created some new gardens during this period. In 2015, VUU water usage increased another 9.2 % compared with the previous year. The most notable increase was in the Sanctuary where usage doubled between 2014 and 2015. In one month, July. 2015, we used 28 kgal of water which was equal to half of all the Sanctuary usage the previous year. The large July usage may have resulted when we hooked up a "shower trailer" for IHelp to the Sanctuary water system. Once again, the use of VUU facilities to further our mission is great but it does have some consequences in utilities usage. Water usage for the first 4 months of 2016 is up 2.7% from the same period last year so we continue to see an upward usage trend.

4. HVAC Maintenance and Replacement

MERV 11 filters are now being used for our A/C units. Filters are checked periodically and cleanliness is rated from 1-6 based on appearance. Filters are changed when cleanliness is rated 5 or higher. Typically filters may last 2 – 5 months. Sanctuary filters see the least use and

are changed the most infrequently. Joe Martin evaluated filters from four different suppliers to arrive at the lowest cost MERV 11 filters. Savings of \$300/year for filters and installation was projected.

5. Power Control

Electronic thermostats are currently used and are evaluated every quarter. The Upright freezer in Classroom No. 1 is an older less-efficient unit. Its use is minimized. Lighting was extensively improved in 2015 under the direction of Debbie Dinyes. Nine main parking lot lights, eight Sanctuary lights and three Admin building lights were changed from high pressure sodium to LEDs. Photocells control the energizing of our outdoor parking lot lights. Some 60 bulbs in the classroom areas (walkways and alcoves) were changed to compact fluorescents. Forty fluorescent fixtures were upgraded to energy efficient fixtures by installing electronic ballasts with energy efficient/low mercury bulbs. Joe Martin found a new supplier for CFL bulbs (1000bulbs.com). Prices were reduced 25%.

6. Purchasing (HVAC, Appliances and Office Equipment)

Energy Star products are considered for purchases, but they must be economically attractive. Very few incandescent bulbs are still in use and will be replaced as they fail with CFLs.

Most paints we use are latex based, with very low VOC (volatile organic compound) levels. Oil-based paint is used for metal gate and metal fencing maintenance. Some 2 quarts are used every two or three years.

Toner cartridges are recycled. The least expensive paper is purchased for copies. This normally means the paper has a considerable recycled content. Paper copies are minimized.

One recycling difficulty is that people co-mingle waste on Sunday mornings. We need to communicate better that soiled paper must be trashed. Now receptacles of otherwise recyclable paper must be trashed. Green Sanctuary is considering the purchase of dual receptacles that would be joined together. This should draw attention to the choice of the proper place for our waste.

Our No-smoking policy is followed in our buildings.

Spent fluorescent lights are recycled.

A new Energy Star Air Conditioner was installed by Brewers Air Conditioning. This 3.5 ton Trane unit, our No. 7, provides cooling for the Nursery and the W Sanctuary. Negotiation with the supplier by Joe Martin resulted in a price reduction of \$1300 from the original quote.

7. Miscellaneous

Metal flatware is used for most congregation events. Someone from Green Sanctuary personally washes the utensils.

Green Sanctuary investigated Ride-Sharing for Sunday Mornings without finding an attractive process.

The use of re-fillable water bottles is encouraged.

VUU Electric Usage Summary

ADMIN = Acct 456-860-005 SANC = Acct 266-750-005

Usage kwh	2006		2007		2014		2015		2016					
	Admin	Sanctuary	Admin	Sanctuary	Admin	Sanctuary	Admin	Sanctuary	Admin	Sanctuary				
Jan (kWh)	7001	4208	9094	5680	5520	3600	6880	4720	6080	2960				
Feb (kWh)	5353	3414	6421	4640	4000	2560	3840	3520	4080	2160				
Mar (kWh)	5085	3436	5714	2560	4320	3120	5200	3920	4800	2580				
Apr (kWh)	5162	3120	7065	3280	5920	3760	8560	7280	6240	3360				
May (kWh)	10597	4320	11047	4880	8720	5120	8240	6720	0	0				
Jun (kWh)	13993	5680	14078	7280	13520	7120	13600	8800	0	0				
July (kWh)	18594	9120	18824	8240	15280	8240	16640	12480	0	0				
Aug (kWh)	16078	7840	13946	6800	14880	8080	18480	12000	0	0				
Sept (kWh)	17281	7600	19852	9360	16320	8640	14000	9760	0	0				
Oct (kWh)	10996	5280	9461	6800	8960	5600	9840	8400	0	0				
Nov (kWh)	6536	3520	6262	3434	5120	3280	5040	3280	0	0				
Dec (kWh)	7027	3840	4570	2960	3760	3040	5360	2400	0	0				
2006 Avgs	Admin	Sanctuary	2007 Avgs	Admin	Sanctuary	2014 Avgs	Admin	Sanctuary	2015 Avg	Admin	Sanctuary	2016 Avg	Admin	Sanctuary
Avg (kWh)	10309	5115	Avg (kWh)	10528	5493	Avg (kWh)	8860	5180	Avg (kWh)	9640	6940	Avg (kWh)	1767	922
Avg (\$\$\$)	#REF!	#REF!	Avg (\$\$\$)	#REF!	#REF!	Avg (\$\$\$)	\$1,020	\$687	Avg (\$\$)	\$1,111	\$789	Avg (\$\$)	\$396	\$309

Cost \$	2014		2015		2016	
	Admin	Sanctuary	Admin	Sanctuary	Admin	Sanctuary
Jan	\$1,135	\$745	\$1,095	\$605	\$1,189	\$927
Feb	\$910	\$705	\$1,095	\$630	\$1,189	\$927
Mar	\$910	\$705	\$1,095	\$630	\$1,189	\$927
Apr	\$910	\$705	\$1,095	\$630	\$1,189	\$927
May	\$1,030	\$695	\$1,095	\$696	\$0	\$0
Jun	\$1,030	\$695	\$1,095	\$696	\$0	\$0
Jul	\$1,030	\$695	\$1,095	\$696	\$0	\$0
Aug	\$1,030	\$695	\$1,095	\$1,009	\$0	\$0
Sept	\$1,030	\$695	\$1,095	\$1,009	\$0	\$0
Oct	\$1,030	\$695	\$1,095	\$1,009	\$0	\$0
Nov	\$1,095	\$605	\$1,189	\$927	\$0	\$0
Dec	\$1,095	\$605	\$1,189	\$927	\$0	\$0

2 Yr Avg	Admin	Sanctuary
Avg (kWh)/mo	9250	6060
Avg (\$\$\$)/mo	\$1,065	\$738

Yr Total	2014	2015	Increase Yr to Yr
Total (kWh)/yr	168480	198960	18.1%
Total (\$\$\$)/yr	\$20,475	\$22,792	11.3%

Comparison thru April of Current Yr to Last Yr			
YTD Total	2015	2016	Increase Yr to Yr
Total (kWh)	43920	32260	-26.5%
Total (\$\$)	\$6,875	\$8,464	23.1%

Valley Unitarian Church
Water Consumption

All usages = kgal

Month/Year	Sanctuary irrigation 24919-02	Sanctuary Bldg 045269-01	Adobe + Office 024918-02	Office Landscape 83314	Total Water Usage kgal	Irrigation Water Usage kgal	Internal Water Usage kgal
Jan-07	25	20	3	0	48	25	23
Feb-07	21	22	12	0	55	21	34
Mar-07	19	37	4	0	60	19	41
Apr-07	19	41	2	0	62	19	43
May-07	22	91	5	0	118	22	96
Jun-07	17	130	2	0	149	17	132
Jul-07	24	91	1	0	116	24	92
Aug-07	23	106	4	0	133	23	110
Sep-07	12	79	4	0	95	12	83
Oct-07	18	69	2	0	89	18	71
Nov-07	13	53	4	0	70	13	57
Dec-07	8	18	2	0	28	8	20
Total 2007	221	757	45	0	1023	221	802
Jan-08	10	35	2	0	47	10	37
Feb-08	6	35	2	0	43	6	37
Mar-08	6	32	5	0	43	6	37
Apr-08	9	51	2	0	62	9	53
May-08	9	59	2	0	70	9	61
Jun-08	2	46	3	0	51	2	49
Jul-08	2	52	3	0	57	2	55
Aug-08	2	73	3	0	78	2	76
Sep-08	2	65	3	0	70	2	68
Oct-08	2	50	1	0	53	2	51
Nov-08	2	40	1	0	43	2	41
Dec-08	2	20	1	0	23	2	21
Total 2008	54	558	28	0	640	54	586
Jan-13	9	3	34	0	46	9	37
Feb-13	8	2	33	0	43	8	35
Mar-13	9	4	34	0	47	9	38
Apr-13	10	4	31	0	45	10	35
May-13	16	4	75	0	95	16	79
Jun-13	15	1	74	0	90	15	75
Jul-13	14	2	102	0	118	14	104
Aug-13	26	2	118	0	146	26	120

Sep-13	33	3	46	0	82	33	49
Oct-13	24	2	33	0	59	24	35
Month/Year	Sanctuary irrigation 24919-02	Sanctuary Bldg 045269-01	Adobe + Office 024918-02	Office Landscape 83314	Total Water Usage kgal	Irrigation Water Usage kgal	Internal Water Usage kgal
Nov-13	23	3	14	0	40	23	17
Dec-13	11	4	14	94	123	105	18
Total 2013	198	34	608	83408	934	292	642
Jan-14	23	3	11	36	73	59	14
Feb-14	21	4	13	36	74	57	17
Mar-14	19	4	11	34	68	53	15
Apr-14	24	3	14	43	84	67	17
May-14	33	3	12	69	117	102	15
Jun-14	34	3	11	78	126	112	14
Jul-14	29	2	9	76	116	105	11
Aug-14	24	3	15	64	106	88	18
Sep-14	17	4	18	37	76	54	22
Oct-14	5	4	17	48	74	53	21
Nov-14	12	6	15	52	85	64	21
Dec-14	4	4	10	13	31	17	14
Total 2014	245	43	156	586	1030	831	199
Jan-15	11	3	18	21	53	32	21
Feb-15	11	5	21	21	58	32	26
Mar-15	13	14	14	37	78	50	28
Apr-15	12	6	17	67	102	79	23
May-15	15	4	14	44	77	59	18
Jun-15	18	3	13	58	92	76	16
Jul-15	23	28	12	78	141	101	40
Aug-15	25	4	18	92	139	117	22
Sep-15	15	5	21	58	99	73	26
Oct-15	12	4	16	70	102	82	20
Nov-15	12	6	17	56	91	68	23
Dec-15	8	4	14	67	93	75	18
Total 2015	175	86	195	669	1125	844	281

2015 Compared with 201	-28.6%	100.0%	25.0%	14.2%	9.2%	1.6%	41.2%
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Jan-16	4	6	16	21	47	25	22
Feb-16	16	7	16	32	71	48	23
Mar-16	34	6	18	46	104	80	24
Apr-16	10	4	15	48	77	58	19
May-16					0	0	0

Jun-16					0	0	0
Jul-16					0	0	0
Aug-16					0	0	0
Sep-16					0	0	0
Month/Year	Sanctuary irrigation 24919-02	Sanctuary Bldg 045269-01	Adobe + Office 024918-02	Office Landscape 83314	Total Water Usage kgal	Irrigation Water Usage kgal	Internal Water Usage kgal
Oct-16					0	0	0
Nov-16					0	0	0
Dec-16					0	0	0
Total 2016	64	23	65	83461	299	211	88

YTD 2016 Compare to 2015							
Thru April	36.2%	-17.9%	-7.1%	57065.1%	2.7%	9.3%	-10.2%