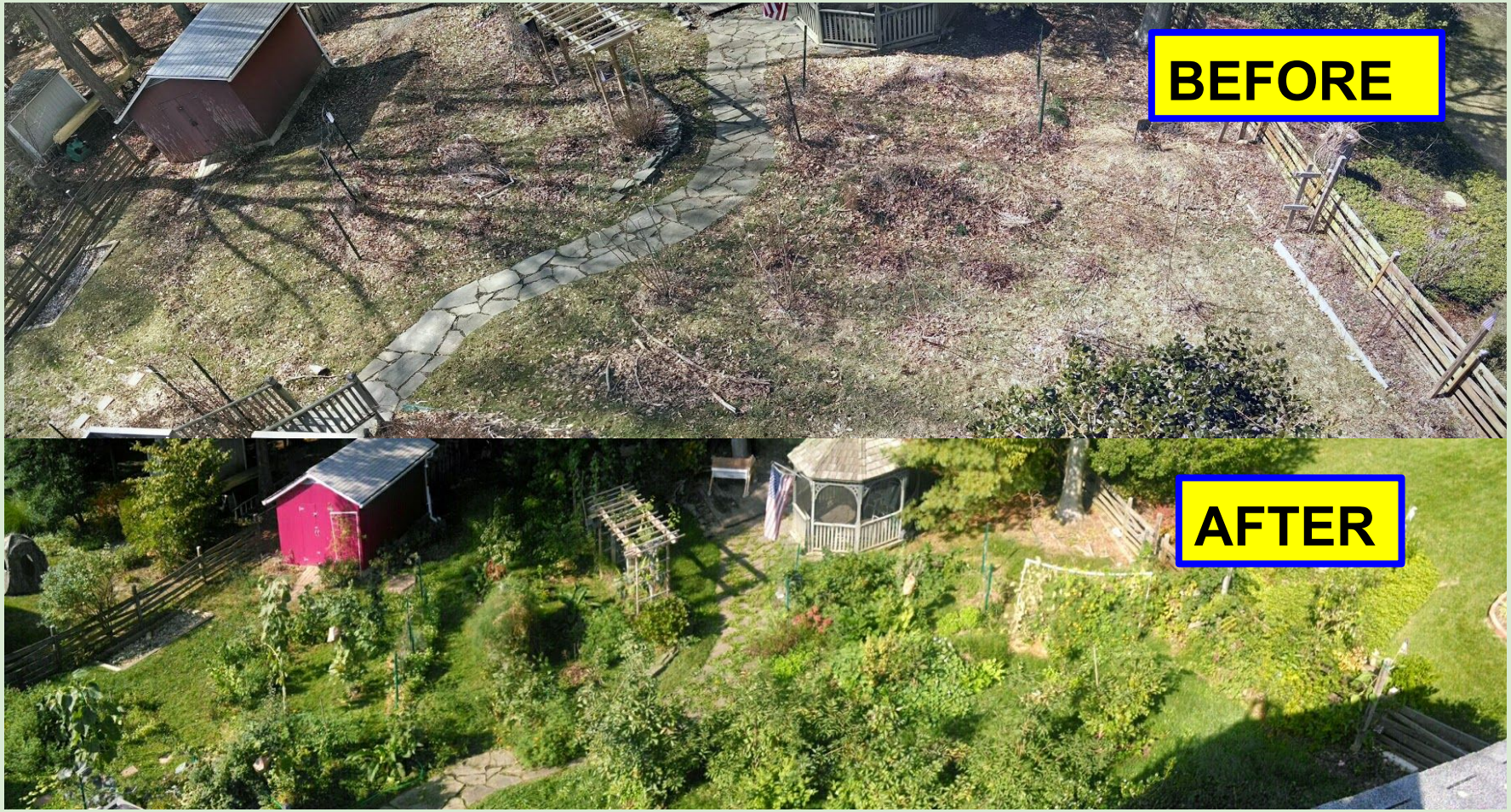
Sustainable Garden Design With Permaculture Principles


BEFORE
AFTER

Disclaimer

This information is provided for educational purposes only. The user assumes full responsibility for how they choose to use this information. This presentation is a culmination of failures and successes between 2009 and 2020. We began the journey with what is happening today in mind. One plant at a time, one system at a time to make a better tomorrow. The results presented here are sparse in detail as this was a ten minute presentation for a local garden club. The images presented are my own except those otherwise credited and are intended to inspire. Your results will depend on many factors beyond the scope or intention of this material. Keep in mind the area presented is just about 2,500 square feet or 0.057 acre. Shade rules most of the day and rain water use to run off the property like a stream. The website https://tonyteolis.com and relevant social media such as https://youtube.com/user/tokyo73 features the principles one by one in more explanation.

- **https://tonyteolis.com/about/privacy-policydislcaimer**
- **Before You Dig - Call 811 Miss Utility**
- **Check for permit requirements**
- **Check with your family and neighbors**

The ethics earth care, people care and fair share form the foundation for permaculture design. The 12 principles are guided by these ethics.

CREATIVELY USE AND RESPOND TO CHANGE

USE EDGES AND VALUE THE MARGINAL

OBSERVE AND INTERACT

EARTH

USE AND VALUE DIVERSITY

CATCH AND STORE ENERGY

USE SMALL AND SLOW SOLUTIONS

OBTAIN A YIELD

INTEGRATE DON'T SEGREGATE

FAR SHARE

PEOPLE

APPLY SELF REGULATION AND FEEDBACK

DESIGN FROM PATTERNS TO DETAILS

USE AND VALUE RENEWABLES

PRODUCE NO WASTE

Origins of Permaculture

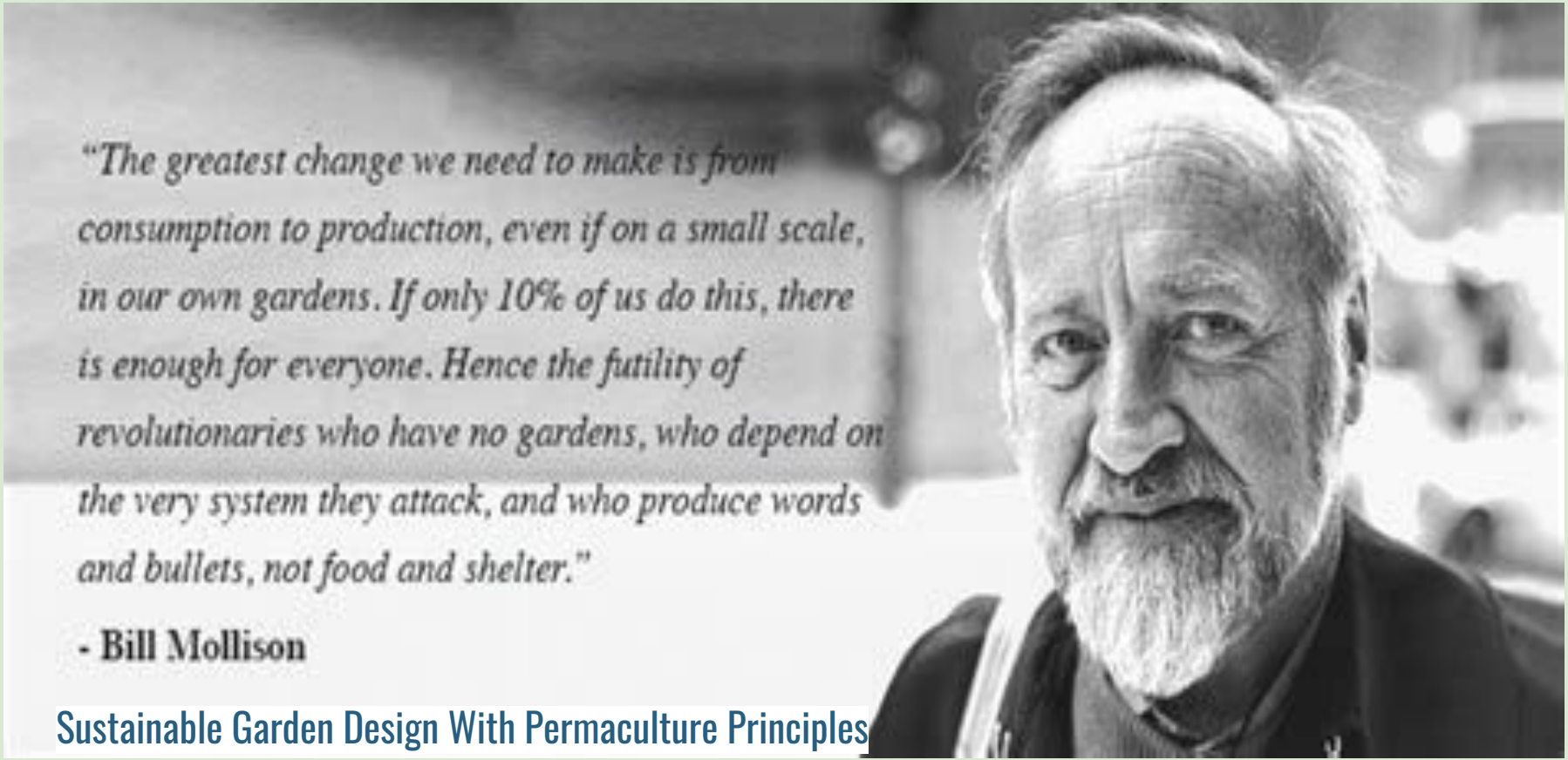
The term permaculture was coined in 1978 by Bill Mollison, University of Tasmania, and David Holmgren, Tasmanian College of Advanced Education's Department of Environmental Design. It originally meant "permanent agriculture", but was expanded to stand also for "permanent culture".

Twelve design principles

- Layers
- Guilds
- Edge effect
- Zones
- People and permaculture
- Domesticated animals
- Vegan permaculture

Common practices

- Agroforestry
- Hügelkultur
- Natural building
- Rainwater harvesting
- Sheet mulching
- Grazing
- Keyline design
- Fruit tree management
- Marine Permaculture



Sustainable Garden Design With Permaculture Principles

https://tonyteolis.com/sustainable-garden-design-with-permaculture-principles

1. Observe and Interact

By taking the time to look around and see where the sun shines and the feel where the wind blows different perspectives come into focus. Where the sun shined and the wind broke there was no production. That had to change.

Large unproductive hedges on the south facing side were removed in 2010 to make room for strawberries raspberries and herb spiral. A fig tree looms large over strawberry and blueberry. Raspberries grow in the background since 2011.

2. Catch and Store Energy

Ditches on contour slow water as it runs off the land and


Builds a life sustaining pool of resources creating a spongy and bountiful backyard.

3. Obtain a Yield

Work is to be rewarded otherwise it needs to be called something else. You reap what you sow but be sure to sow the right plants. Peach trees produce in a 3 year cycle of poor, good, great, and rotate through these cycles. 2020 saw great production out of two yellow peach trees and a white peach tree produced about a dozen. So we're learning to store them longer term. We put a lot of effort into everything and it's important that effort is rewarded. I learned to harvest much easier with a broom and a hard hat.

4. Apply Self Regulation and Feedback

When a system fails or requires too much input sustainable garden design and a will to start over exceeds expectations.

Learning how nature works led me to abandon raised beds and Square Foot Gardens. I learned about Sep Holzer, Gaia's Garden, Food Not Lawns, and Hugelkultur. The backyard has become productive and sustainable with good data a

5. Use and Value Renewables

There are lots of items that might not be considered garden essentials but an old broken pallet and two sawhorses make for an awesome cucumber factory.

Three criteria are to be met in order to meet this design intent. First, the energy conserved and expended by the system must exceed the energy that was required to build it. Second, the system should last long and require little maintenance. Third, the system must be fueled by the sun and provide for itself as well as those that care for it. This cucumber system produced close to 100 cucumbers August - October 2020.

6. Produce No Waste

Waste has a value if we allow for it. The goal of this design example is to get as many worms as possib working for themselves and the gardens. Worms, millipedes and sow bugs are super recyclers of organic materials, consuming plant ‘waste into valuable compost for plant food.

Guidanc
compost bin is in operation and overflowing. It just takes some muscle, practice, patience and of course kitchen scraps, cardboard, lawn trimmings, leaves, etc.

7. Design From Patterns To Details

Sustainable design design examples abound in nature. Patterns in leaves, spider webs and sea shells give clues to the success of interconnectivity and flow. From a snail came a spiral shaped garden. Found in Gaia’s Garden by Toby Hemenway, this garden is now hidden by a group of interconnected lavender, blueberry, marigold, patty pan squash, basil, love lies bleeding and more. From a broad design - a spiral - a blend of life fills what used to be wasted space.

8. Integrate Don’t Segregate

Add new and interesting plants to places that will bring flora and food to all the fauna. In return a sustainable system begins.

The addition of a Buddleja, or Buddleia, commonly known as the butterfly bush attracts Tiger Swallowtail butterflies (Papilio glaucas) and other pollinators. New plants increase productivity in the yard. Integration provides the calming solace needed in these times.

9. Use Small, Slow Solutions

Sustainable solutions depend on patience.Chemicals, traps, pesticides, herbicides, are all a waste. Be lazy and relax and let nature take it course. Good gardening is a marathon not a race.

The turtle is both small and slow, it carries its home on its back and can withdraw to defend itself when threatened. “slow and steady wins the race” encourages patience while reflecting on a common truth in nature and society.

Every problem has a solution if we are willing to learn. Slugs and other pests always eat our produce. To balance the damage we have created habitat for turtles, snakes, toads and frogs throughout the landscape.

10. Use and Value Diversity

A lifetime of supply chain experience on 3 continents provides a unique perspective to the need for diversity. The less complex a system, the more sustainable it becomes. The complexity of a rigorous chemical mixture to lawns can be replaced by adding lots of different plants that support each other naturally.

It all looks green. The thing in common for these plants is having the good fortune of being planted in our yard.

They all have functions. Together they build a series of interconnected ecosystems to explore and eat.

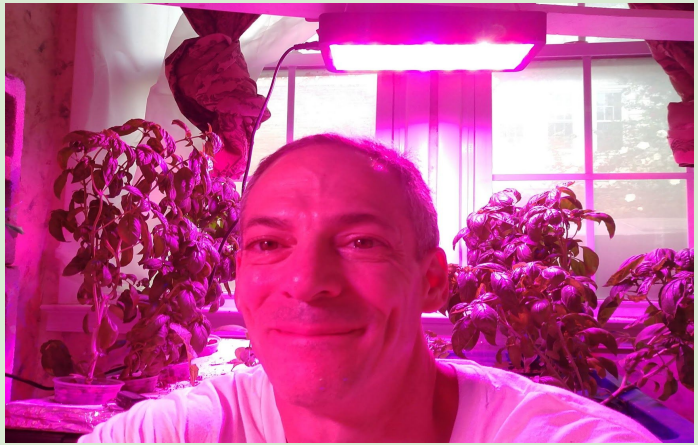
11. Use Edges and Value The Marginal

The most interesting events take place when different landscape features meet. An edge on a plain grass lawn gains value through productive elements in the system. This is how forests are formed. The sun rising on horizon’s edge proves the value of edges.

This new ditch on contour creates edges where there were none. We all know what it's like to be on the edge. It's where all the action happens.

12. Creatively Use and Respond to Change

Change in the weather, outdoor pests, supply chain breakdown. Outside is getting chilly and winter is approaching. ***Remember! Every problem has an embedded solution.*** Inside - the weather is controlled, no pests with this system, local production in a small space. The butterfly is a positive symbol of transformative change in nature, from its previous life as a caterpillar. This reminds us that understanding change is much more than a linear projection.



Creatively use and respond to change with the Kratky method. **Kratky Hydroponics**, look it up. After several failed attempts with different and much more complex methods, I now have results! Kratky Hydroponics is cheap and easy to manage. Basil 4 Ever.

Thank You - Questions?

Gardening and Permaculture

- https://permaculturepriciples.com/principles/_1/
- Bill Mollison - Permaculture: A Designer's Manual PDF
- 2015 Planting Times
- Free Permaculture Resources
- 2014 Planting Times To Do
- 2014 super master plan
- Plant Guilds
- Garden Guilds
- Grow Light set-up
- Frost Dates
- triangular 3 tiered strawberry patch
- 12 Principles of Permaculture – (ref: http://www.permaculturepriciples.com)

Images and some text courtesy of https://permaculturepriciples.com/principles

Why me? Tony Teolis

Grow your garden. From a basic vegetable garden to a full-fledged food forest. I help build self-sustaining gardens the natural way. Contact me for a free garden consultation. Grow your food during times like these and beyond. https://tonyteolis.com/contact

I'll take the mystery out of how to grow your own food and flowers at homes with minimal cost and maintenance. Wake up and get berries for your yogurt in the backyard. Later on pick some flowers for the table and grab some peas and spinach to go with dinner.

I manage operations for the SBE Directorate at the National Science Foundation to include leading teams in the formulation of policy and procedures and oversight and improvement of business operations such as proposal review, grants administration, travel, training, and contracts.

I served in the US Army, developed business in Japan and managed operations for the Federal government. I serviced NTT Communications, Micron Electronics, DataCraft Japan, and the Japan Air Self Defense Force (JASDF).

I have been gardening for a long time and I want to share with you the best ways to grow food and flowers in the suburbs. You can have great food without working too hard or spending too much money.