FOOTPRINTS AND HANDPRINTS: HOPEFUL SUSTAINABILITY

Gregory A. Norris
“All of the industries, including in Akron, just dumped their waste in the river--untreated,” remembers Ben Stefanski, who was 28 when he was hired as utilities director of Cleveland. “That was just what the river was there for.”

The Allegheny Front, 21 April 2017
How A Burning River Helped Create The Clean Water Act
OUR RESPONSE WAS PRAGMATIC

- Identify larger emitters
- Require them to reduce their impacts
SHARED RESPONSIBILITY

- Not just a few actors: we’re all connected by commerce
- Voluntary Systems: Report and reduce your footprint
Footprints

- The negative impacts of production and consumption
- Each person’s or organization’s share of the total mess
- The burdens or costs of our presence, our existence
- Carbon, water, health, biodiversity, slavery, poverty, etc.
Reasons that Footprints Matter

- Exceeding Carrying Capacity
- Using up non-renewable resources
- Using renewable resources faster than they regenerate
- "Externalities"
Sustainability: Shrink your Footprint
Reduce your share of the mess

Flickr: chuddlesworth
Every Product Has Many Footprints
The planet would be better off without me?
It’s true that we unavoidably have footprints. Thankfully, we also have other influence potential.
Can we give more than we take, for people and planet?
What we “Take”: Our Footprints:

- The Negative Impacts of Production and Consumption
- My Footprints: My shares of the total mess, for each mess
- The Burdens or Costs of our Presence/Existence
Handprints: The Idea
What we Give.
The Fruits of our presence
Changes we (help to) cause in the world
Handprints: Definition:

- Positive impacts that we create, relative to business as usual. They include:
  - Reductions we create in the human footprint
    - Our own
    - Those of others
  - Beneficial impacts we cause which are measurable in footprint units.
Handprints

- For every impact category on which humans have footprints, we can also have handprints.

- Carbon Footprint
- Water Footprint
- Health Footprint
- Biodiversity Footprint
- Slavery Footprint
- Poverty Footprint

- Carbon Handprint
- Water Handprint
- Health Handprint
- Biodiversity Handprint
- Slavery Handprint
- Poverty Handprint
We can be Net Positive
The US EPA Estimates:

If everyone in the US installed 2.0 GPM showerheads, annual savings:

- 260 billion gallons of water
- $2.2 billion in water bills
- $2.6 billion in energy costs

And that’s just the USA.
Individual as Catalyst

We’ve come to realize that just doing our own bit won’t cut it
Solution: Design for Ripple Effects

• Make it Viral; Pass it On; Pay it Forward
• Harness “Rebound” Resources
• Purposefully design actions that snowball
Part 1
• Install an LED. Or a low-flow showerhead.
• Positive environmental (and $) return.

Part 2
• Use some savings to pay it forward

Part 3
• Ask/encourage your recipients to do the same

Part 4
• Reinvest as much as possible of your additional savings in further handprints

Part 5
• Retire early. Seriously.
What If... Handprints were Gifts?

What if...
Jane uses the first 6 months of savings to buy two more showerheads.

She gives them as gifts to two friends. And asks her friends to *Be part of the Save Wave*

• Accept the gift
• Benefit from it
• Pay it forward
If Jane starts on New Year’s Day...

And if each person passes it on to 2 more people after 1 week...

... We’ll hit 1 billion showerheads 30 weeks later.
The same year.
HARNESS SOCIAL PHYSICS

- Social Learning: exploring seen behaviors
- Social Pressure: adopting behaviors recommended by F2F peers; responding to social incentives
I can check and properly inflate my tires. This will reduce my carbon footprint by 1%.
Scale by 100
Get 5 friends to join me with gauges and pumps at a supermarket parking lot one afternoon.
“If everybody in the US did it”:

- Save over $4Billion for US consumers
- Save more than 100 lives (fewer crashes)
- Avoid burning over 1 billion gallons fuel
- Avoid 14 million tons of CO2 emissions
A Pump-It-Up Save Wave

- Two compressors in York Maine, donated to the library, shared from workplace to workplace.
- Save $1-2/month; donate first $ to the wave.
- Double the number of pumps every 2 weeks.
Roles we might play

• The Idea-Generating 5%: new action and wave ideas
• The LCA\textsubscript{2} Nerd 5%: assess the impacts of actions
• The Artist 5%: Make art, live and media, to inspire us
• The People: 85%. Participate and enjoy
Most Footprint Units Don’t Mean Much to Most of Us

If my footprint is...

- 4380 cubic meters of water
- 1.5 years of life lost
- CO₂ 22 tons of carbon dioxide

... what does that mean?

2 Million tons, 200 million tons... what’s the difference?
Footprints Accrue Over a Year

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Water Usage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>365 days</td>
<td>4380 cubic meters of water</td>
<td>100%</td>
</tr>
<tr>
<td>180 days</td>
<td>2190 cubic meters of water</td>
<td>50%</td>
</tr>
<tr>
<td>36 days</td>
<td>44 cubic meters of water</td>
<td>10%</td>
</tr>
<tr>
<td>1 day</td>
<td>584 liters of water</td>
<td>0.3%</td>
</tr>
<tr>
<td>5 hours</td>
<td>a third of a liter of water</td>
<td>0.06%</td>
</tr>
</tbody>
</table>
Taking or Spreading Actions Creates Net Positive Days
Avoiding False Precision
Big Impacts = Months
Small impacts = Minutes

Days are blue
Hours are dark green
Minutes are light green
Negative are gray and striked out

You can make impacts on these categories
Each category has its own icon

🌐 Climate ⚹ Water 🗑️ Waste 🎧 Health 🌍 Ecosystem
Use reusable paper

Plant a tree in the community

Low flow showerhead
1 Way to Handprint

Encourage other people

Encourage, inform, and inspire existing members about how they can reduce their footprints, recommending existing actions to friends and to other organizations. Maybe invite them to try an action that recently worked for you.

Riding bicycle to work
A 2\textsuperscript{nd} Way to Handprint

Give a gift that handprints

Maybe you can pump up your friends’ tires, or offer them an LED light bulb, or help them to plant some vegetables, to build a composter, or to set up a clothesline. It’s like Encouraging, but goes farther, through the generosity of your time, effort, presence, and maybe spending some money too.
A 3\textsuperscript{rd} Way to Handprint

Participate in a Save Wave

This builds on the gift idea, and takes it farther, because you pay a gift forward to 1 or more people. For example, if a friend gave you an LED light bulb, use some of the money you’ll save to buy two more bulbs, and offer them to two new friends, inviting them to be part of the wave with you.

You buy a LED light bulb and save money.

Use some of the money you saved to buy two more bulbs, and offer them to two new friends.

They save money to and buy their friends 2 more LED light bulbs and continue Save Wave.
A 4\textsuperscript{th} Way to Handprint

Create your handprint idea, and share it with the world

Be sure you tried it out yourself first, and share ideas about how to make it work. Another part of idea creation is modeling the impacts of an action idea so that we can all understand what impacts it has in the world.
A 5th Way to Handprint

Take a Pure Positive action

Planting a tree is a wonderful example. So is restoring habitat so that it purifies water and provides places for life to thrive. Rather than reducing somebody's footprint, it's creating new positive impacts, some of which may be measurable in footprint units.

Plant a tree in the southern US

[Image of hands planting a tree]
A 6th Way to Handprint

Grow the handprinting community

Strengthen and broaden the movement. Invite new people. Invite organizations too, including ones you’re a part of. Make sure they know: There’s room for everyone. We’re incomplete without you.