Private Industry and Invasive Plants

Peninsula Urban Forestry, LLC
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Why me?!!

- 15-years of experience in trees community restoration
- Community Forester, Certified Arborist, Municipal Arborist, Tree Risk Assessor, Trained in Tree Forensics/Expert Witness
- Formally trained in computer science
- Environmental Practitioner / Applied Science
- SOLUTION ORIENTATED

Peninsula Urban Forestry

- 24-months old (passed the 18-month small-biz threshold!)
- Focused on holistic, integrated management of urban & community landscapes
- Began as Community Forestry & municipal arboriculture …
- Transitioning into: Community Landscapes & Managing Built Ecosystems

Disconnection between environmental fields,

especially between disciplines of natural and built ecosystems.

Topics

- Long-term landscape health in residential properties
- Tree risk and biomechanics related to English Ivy
- English Ivy using Scythe (Pelargonic Acid)

Feel good quote

“Nature does not hurry, yet everything is accomplished.”

-Lao Tzu

Customer quotes

- “When will you be finished?” – Customer
- “How long will this take?” – Customer
- “Why can’t you just do it now?” – Customer
- “How much is this going to cost?” - Customer
- “I’m sure I can find somebody else…” – Former customer

Manage for the long-term with ephemeral property owners

- Plants are not fun for 50%+ of people.
- How can we resonate those people?
- Tools for engagement

Provide clients with solutions.
Plants are merely a medium.

Engage on concepts of functionality, benefits, and the relief of personal hindrance and harm.

Talk local rather than watershed-scales.

Functionality of Plants in the Built Environment

Mechanical/ Engineering

Monetary

Sociological

Psychological

and…

Environmental

Functions in detail…

- Mechanical/Engineering:
  - Marine & Freshwater shoreline stability, ravine stability, reduce sediment deposition and entrainment, stormwater buffering, wind & noise reduction.
- Monetary:
  - Improved real estate values by 10-30%, healthy trees appraise for thousands of dollars, low maintenance, low watering.
- Sociological:
  - Political/Community interpretation/positive peer-pressure, broken window theory, rodent prevention, community interaction & communication.
- Psychological:
  - Architectural, aesthetic design, Shinrin-Yoku, stress relieving activities.
- Environmental:
  - Birds, birds, birds & bees, water rights.

On The Design Side of Things

- Think outside of the native-box for homeowners.
  - Native-hybrid cultivars, non-native, non-invasive
- Individual species don't provide these functions, communities of species do.
  - Different plant palette for each environmental opportunity
  - Graminoid, herbaceous, shrub, tree
    Fungus?, bacteria?
    Soil conditions, environmental factors
- **The right plant in the right place!**

Kids enjoying their lawn

Caption

Quick discussion on tree risk in relation to English Ivy

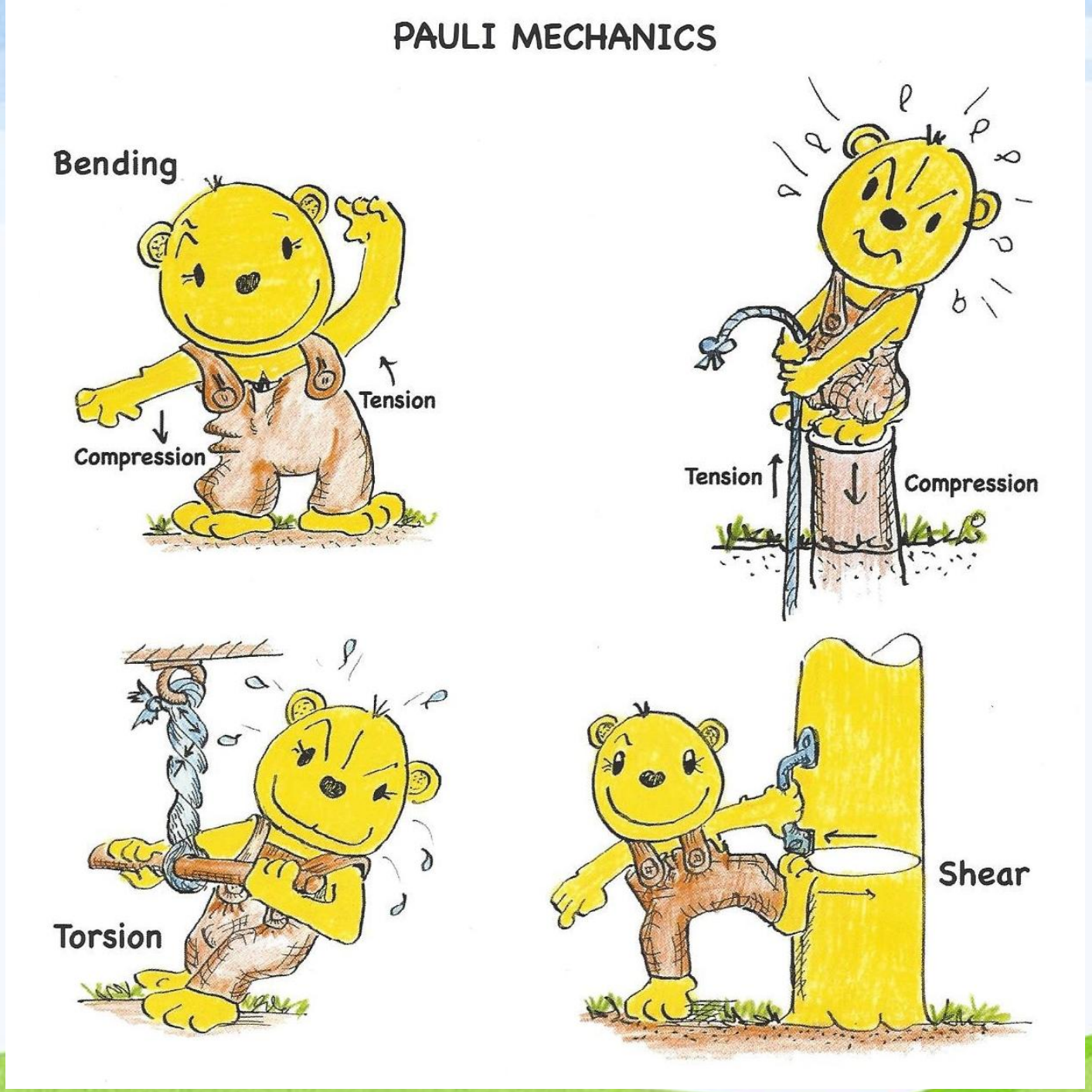
- Tree risk assessment is the process of evaluating the likelihood that part or all of a tree will fail, and the likelihood that failure will cause harm.
- For a tree to have risk it must have a target to impact.
  - Target is open to interpretation.
- Tree windthrow is the primary detrimental influence on localized slope stability associated with woody vegetation.

How does English ivy effect trees?

- Strangle? Witnessed inosculation of Ivy and tree trunk once.
- Trees are a self-optimizing mechanical structure.
- Inner canopy of Ivy exclude tree's inner canopy development
  leads to excess peripheral branch weight and
  branch failure and reduced tree resources.
- Increased canopy weight & decreased mass damping
  leads to increased potential for windthrow.

- Trees have a realized factor of safety of 2-3.
  - FoS/SF: Load carrying capacity of a system beyond expected loads.

Dr. Claus Mattheck
2002



English Ivy –
Our techniques for control

- Successful options:
  - 4% Glyphosate & 4% Triclopyr solution with 1% competitor?
    - Successful in two months. Not functionally systemic due to high rates?
- <u>Less herbicide with the same efficiency?</u>
  - 2.0%-2.5% of 2:1 ratio of Glyphosate to Triclopyr
    unless grass recovery desired
  - 1% Scythe® (Pelargonic acid) as penetrant
  - 0.25-0.5% Syl-Tac EA® or Li-700 in salmonid areas as surfactant
  - 1% InPlace® as deposition aid

Scythe® Gowan, LLC (purchased from Down AgroSciences in 2012)

- “Soft Pesticide” or “natural herbicide”
- Non-systemic, defoliant, “burn-down”, no control of roots.
- Non-selective desiccant
- No soil translocation or residual soil activity; does not persist.
- 72-hour dry aquatic/dry drainage time requirement.
- Burndown rates 7-10% solution. Adjuvant rates 1-5% sol.
- $189.00 per 2.5 gallons. (More than both herbicides. ☹)

Scythe®

- 57% Pelargonic Acid (also nonanoic acid)
- Fatty acid-based, herbicide soap
- Warning Signal Word
- Works by penetrating waxy cuticle of leaf and disrupting normal membrane permeability resulting in cell leakage and foliar desiccation.
- Nature Conservancy & Portland Parks trials were based on idea that low concentrations of Scythe could break down English Ivy cuticles resulting in easier translocation of systemic herbicides.

Syl-Tac EA ® (Wilbur-Ellis)

- Vegetable oil & silicon-based surfactant blend
  - Mixture of Hasten (precursor to Competitor?) & Sylgard 360
- Caution Signal Word
- Surfactant & Penetrant
- Low rates: 0.25%-.5%
- EA formulation is aquatic, Syl-Tac (non-EA) also avail.
- $189 for 2.5 gallons

Penetra-Bark ® (AgBio, Inc.)

- Nonionic wetting agent
- improved penetration through bark of basal applications
- Caution Signal Word
- Surfactant & Penetrant
- $60 for 1 gallon
- Mostly arboriculture product used with AgriFos ® to combat Phytophthora ramorum.
- In Washington to combat Phythophthora cinnamomi & Neofusicoccum arbuti on pacific madrones.

THANK YOU! QUESTIONS?!