

TREE FUND
Cultivating Innovation

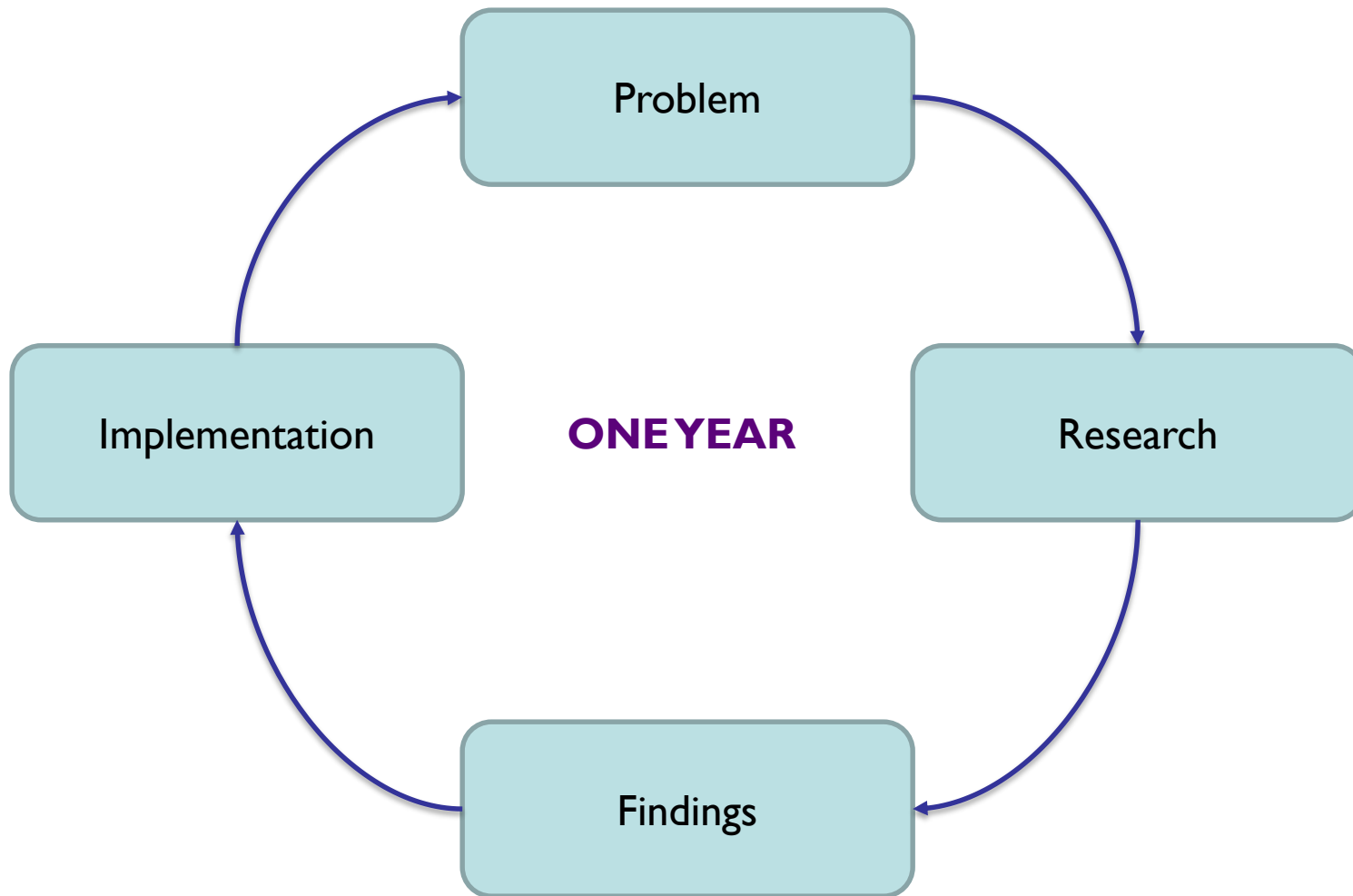
Utility Arborist Research Fund:

Work in Progress, Work to Come

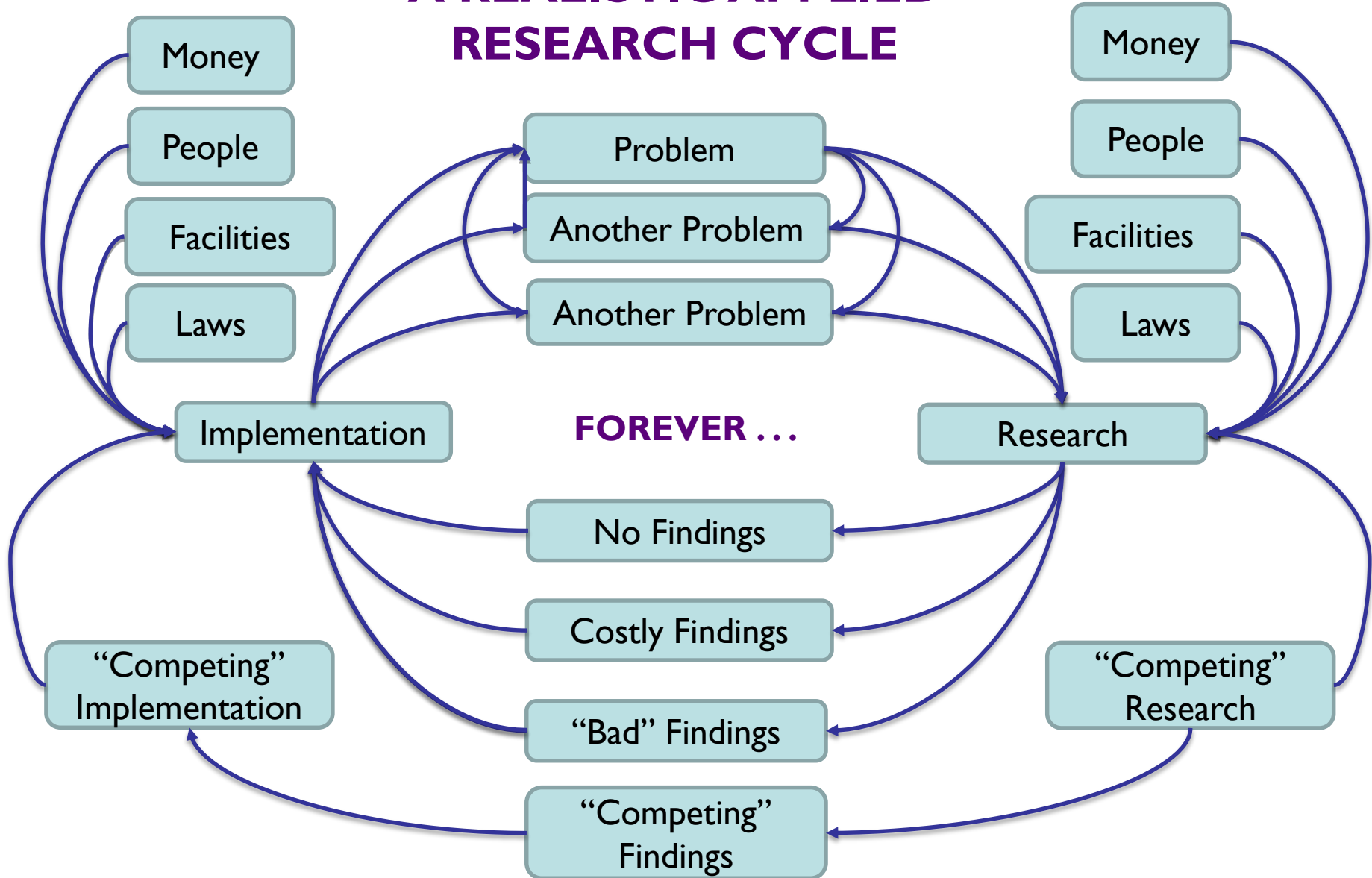
May 23, 2018

By J. Eric Smith, President and CEO

AN IDEALIZED APPLIED RESEARCH CYCLE



A REALISTIC APPLIED RESEARCH CYCLE



1952:A Problem ...



1952: A Problem ...

- Hunters in the Pocono Mountains reported declining wild game populations in Central Pennsylvania
- Same hunters also noticed herbicidal applications on utility rights of way in/near their game lands
- Causation? Correlation?
- And if so ... was someone liable?

1952: Research



- Rabbit habitats established in utility ROWs undergoing herbicidal treatment
- Dogs broke in and killed the rabbits
- Finding: Dogs kill rabbits if you let them
- Problem solved: No.

1953: Research (Take Two)

- 3.5 miles of ROW on State Game Lands 33
- Six test segments:
 - Mowing
 - Basal low volume herbicide
 - Foliar herbicide
 - Control plots
- Initial Public-Private Partnership:
 - Asplundh Tree Expert Company
 - Penn State University
 - Pennsylvania Game Commission
 - Penelec
 - DuPont

Bramble and Byrnes (and Johns)



Dr. William Bramble, Hyland R. Johns and Dr. Richard Byrnes in 1990.

Bramble and Byrnes (SGL 33)

- Research continues on original plots
- 60+ publications by the founders
- Original game focus expanded
 - Bird population and nesting ecology
 - Small mammal population studies
 - Amphibian and reptile studies
 - Pollinator studies
- Continuity of public-private partners:
Now Asplundh, Corteva (DowDuPont),
PECO, FirstEnergy, PSU

Bramble and Byrnes (SGL 33)

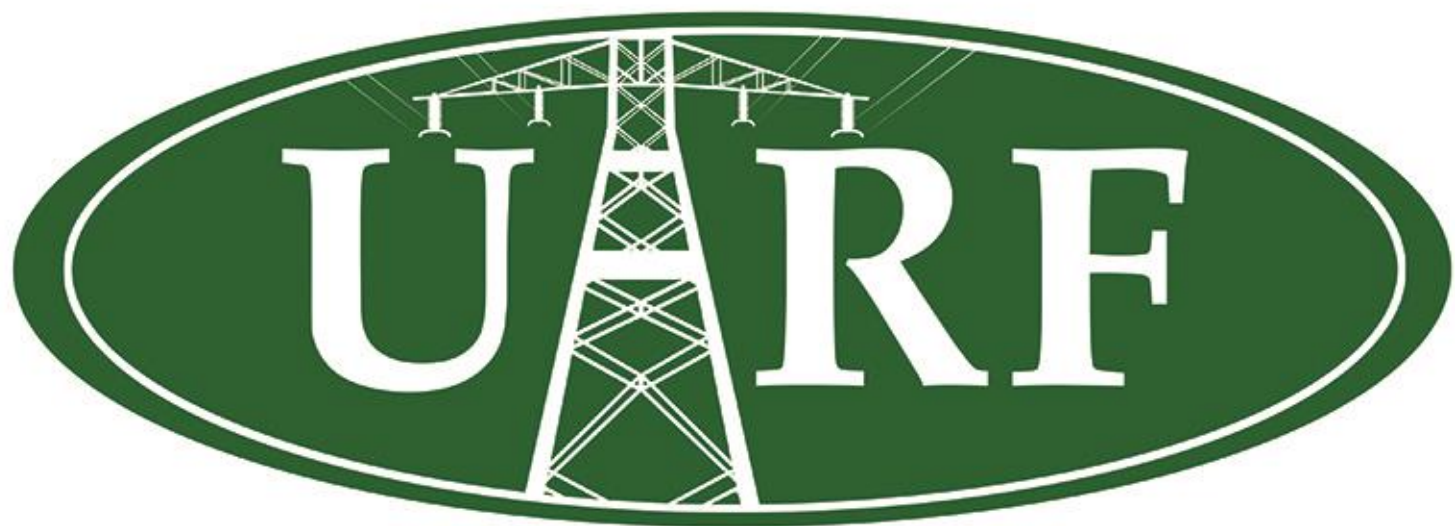


- Green Lane Research and Demonstration Area added in 1987
- Dr. Carolyn Mahan (PSU) leads current work
- TREE Fund working with PSU and cooperating partners to continue work in years ahead

Eras of IVM

(per Christopher A. Nowak)

- **1890s-1950s:** safety, reliability
- **1960s-1970s:** safety, reliability, regulations, environment
- **1980s-1990s:** safety, reliability, regulations, environment, socioeconomics, integration, management systems
- **2000s-2010s:** safety, reliability, regulations, environment, socioeconomics, integration, management systems, sustainability



UTILITY ARBORIST RESEARCH FUND

TREE Fund • Utility Arborist Association

Utility Arborist Research Fund

- Established in 2010 by UAA and TREE Fund
- Reached \$1.0 million activation level in 2017
- Will award \$50,000 per year in perpetuity beginning this year
- Funding specifically for utility arboriculture, independent of other research priorities

Why An Endowment?

- Permanently restricted gifts generate earnings for long-term research
- Highest long-term return on investment
- Best way to fund long-term work (e.g. research) on long-lived organisms (e.g. trees)
- Provides stability to survive down markets

UARF Further Empowers Public-Private Partnerships

- Businesses, Nonprofits, Municipalities and Academia working together to:
 - Hone evolving definition of IVM, built on scientific principles, codified in regulations
 - Manage established test plots, adapting to long-term needs and emergent problems
 - Provide independent validation of findings
 - Establish emergent test plots support better understanding of regional variances

UARF Further Empowers Public-Private Partnerships

- Businesses, Nonprofits, Municipalities and Academia working together to:
 - Educate customers and share-holders
 - Enhance safety for crews
 - Increase profitability – cost analysis indicates so, but quantitative benefit analysis still needs more research

UARF Research Grants

- First research report issued in 2015: John Goodfellow's "Utilizing Data-Driven Methodologies to Manage UVM Programs"
- **NEW:** \$46,000 to Goodfellow for "The Cost-Effectiveness of Integrated Vegetation Management," continuing to develop business model for industry application, adding analysis of pipelines vs transmission lines (PG&E sponsored)

Example of Public-Private UVM Research Model

- *Integrated Vegetation Management on Powerline Rights-of-Ways: Effects of Vegetation Treatment on Plant Communities and Wildlife Diversity*
- \$175,000 grant awarded in December 2016
- Partnership between TREE Fund, UAA, Sonoma State, PG&E and SMUD
- Principal Investigator Christopher Halle will provide summary of work to date and planned