

Ecological Restoration is a Science, Too

Discussion at TACF Restoration Committee Meeting

September 2021

Restoration is at the Heart of TACF

- **Vision:** *“Our Vision is a robust eastern forest **restored** to its splendor. Our Mission is to **return** the iconic American chestnut to its native range.”* TACF’s Strategic Plan
- **TACF Donation Webpage lead:** *“Your support helps bring the American chestnut back from the brink of extinction. You are **restoring an entire ecosystem** and leaving our world a better place than we found it.”*
- *Michael Doochin, quoted on TACF website: “TACF is **committed to restoring** the American chestnut tree to our eastern woodlands to benefit our environment, our wildlife, and our society...The concept of our mission is...about **restoration of an entire ecosystem** and making our world a much better place than we found it.”*

Standards Exist: Society for Ecological Restoration (SER)

- International non-profit; founded in US in 1988
- Members in 70 countries
- Mission: “Advance the science, practice and policy of ecological restoration to sustain biodiversity, improve resilience in a changing climate, and re-establish an ecologically healthy relationship between nature and culture.
- Sets International Standards for the Practice of Ecological Restoration

Society for Ecological Restoration's Definitions

- SER defines ecological restoration as the **process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed**
- When combined with conservation and sustainable use, ecological restoration is the link needed to move local, regional and global environmental conditions from continued degradation to one of net positive improvement.

Standards Provide Important Foundational Assumptions

- **Appropriate eco-restoration reference models are not based on immobilizing an ecological community at some past point in time, but rather *increasing potential for native species and communities to recover and continue to reassemble, adapt, and evolve***
- **Eco-restoration is part of a larger set of ecosystem management practices designed to conserve and sustainably utilize native ecosystems and should never be a justification for damaging existed native ecosystems or unsustainable use**

Eight Principles Underpinning Ecological Restoration



1 ENGAGES
STAKEHOLDERS

2 DRAWS ON
MANY TYPES
OF KNOWLEDGE



3 IS INFORMED BY
NATIVE
REFERENCE
ECOSYSTEMS,
WHILE CONSIDERING
ENVIRONMENTAL CHANGE

4 SUPPORTS
ECOSYSTEM
RECOVERY
PROCESSES



5 IS ASSESSED AGAINST
CLEAR GOALS
AND OBJECTIVES
USING MEASURABLE
INDICATORS

6 SEEKS THE
HIGHEST
LEVEL OF
RECOVERY
POSSIBLE



8 IS PART OF A
CONTINUUM
OF RESTORATIVE
ACTIVITIES

7 GAINS
CUMULATIVE
VALUE
WHEN APPLIED
AT LARGE SCALES



Eight Principles: 1 to 4

- 1. Engage:** Ecological Restoration Engages Stakeholders,
- 2. Go Wide:** Ecological Restoration Draws on Many Types of Knowledge; Local, practical and scientific
- 3. Establish Baseline:** Ecological Restoration Practice Is Informed by Native Reference Ecosystems, while Considering Environmental Change
- 4. Design to Reinstate Conditions to Support and Assist Natural Recovery Processes**

Principles 4-8

5. Monitor and Adapt: Ecosystem Recovery Is Assessed against Clear Goals and Objectives, Using Measurable Indicators

6. Continuous Improvement: Ecological Restoration Seeks the Highest Level of Recovery Attainable

7. Apply Sufficient Scale: Restoration Gains Cumulative Value when Applied at Large Scales

8. Think Bigger and Interconnected: Ecological Restoration Is Part of a Continuum of Restorative Activities

Native Seed Standards are also Emerging

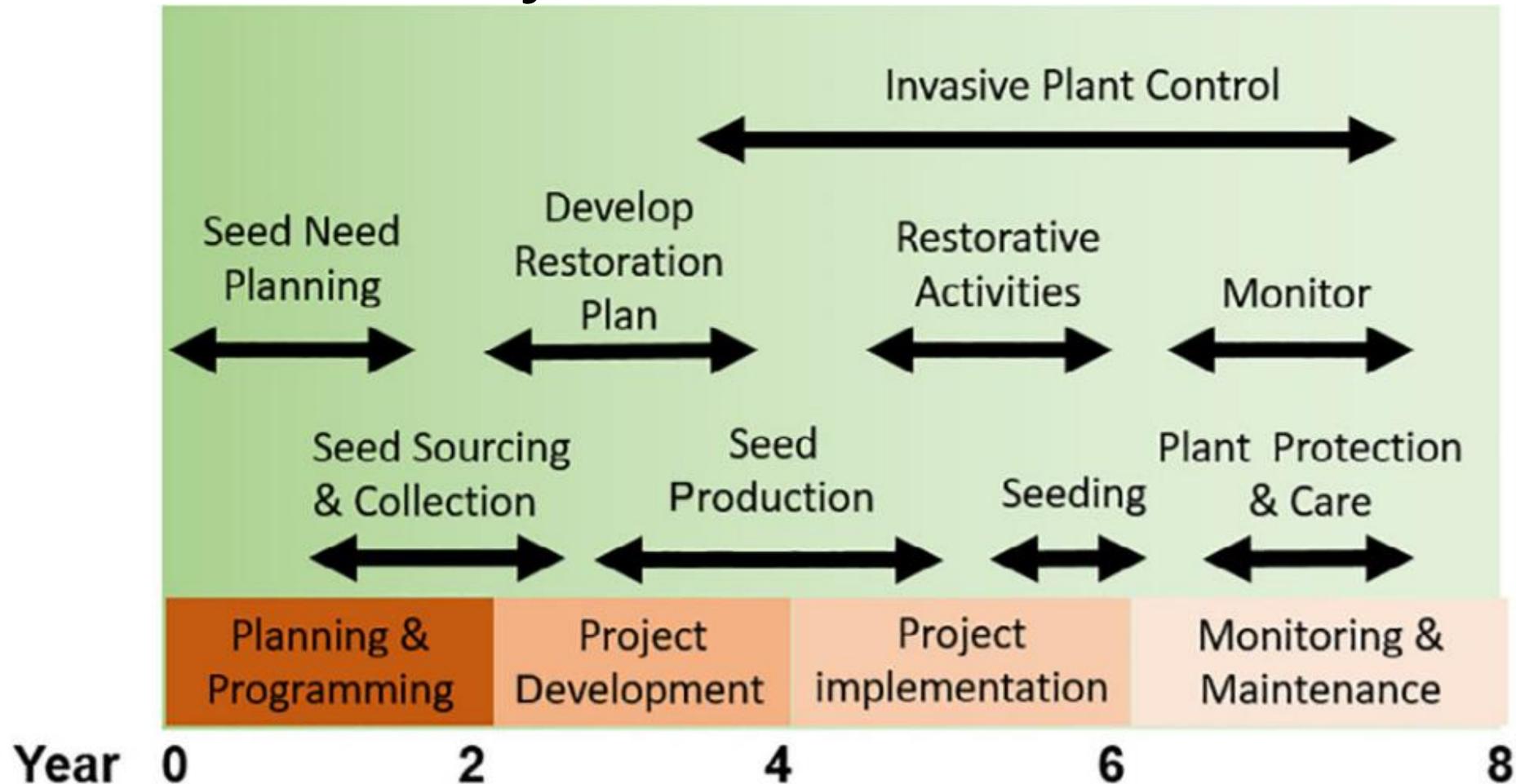
Just as Ecological Restoration Standards can inform and frame restoration initiatives, standards are being developed for native seed development, a cornerstone of many restoration projects.

Native Seed Supply Standards: Supply Chain



Source: [NativeSeedStandards RestorationEcology2020.pdf \(blm.gov\)](#)

Timeline for Planning & Implementing Restoration Projects



Some Key Questions

1. Is our R&D agenda for each program--tree **research & development** *AND* **restoration** clearly defined?
2. What does TACF mean by 'restoration?' What is the minimum standard that will indicate American chestnut will be restored to the forest?
3. Do we have a clear commitment to a restoration program with goals, objectives, funding and defined projects across the former range of chestnut?
4. Is our restoration agenda clear to our members, donors and major prospective donors? How are we using our chapters to extend our restoration footprint?
5. What is the arrangement with ESF for pollen production, nut and seedling distribution?