

Wildergarten







April 2014



Biodiversity as maladapted artifact



May 2010

Before



April 2002





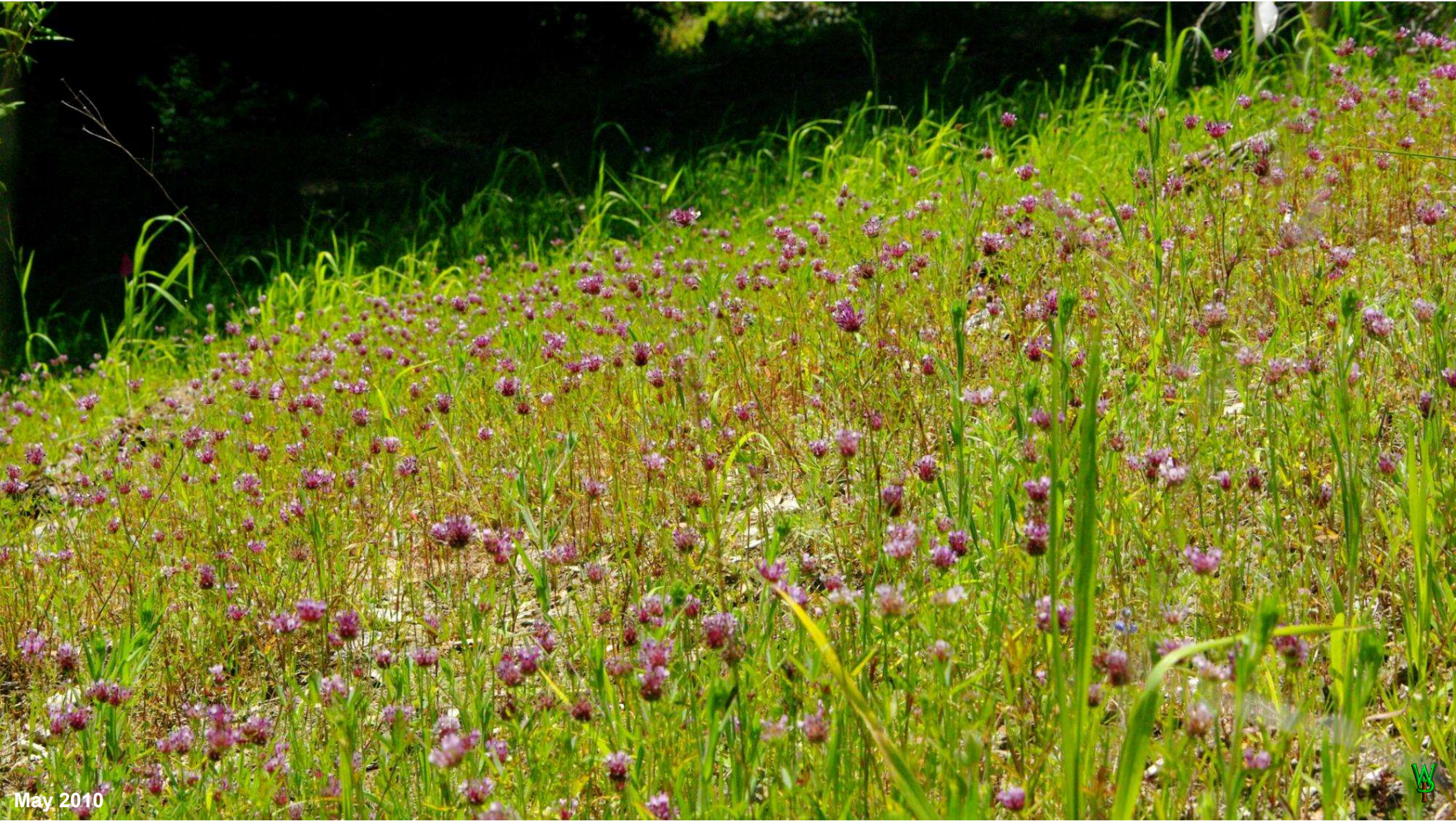
May 2010





1"





May 2010





May 2015



July 2019

W

It Wasn't Always



March 1994



Successful Maintenance for Biodiversity



200 Years of "Abuse" and Neglect

Toll road from
Santa Clara Valley to
Santa Cruz
Est. 1858

Spanish supply road from
Mission Santa Clara to
Mission Santa Cruz
Opened August 1791

Slope



Weeds and Succession
Suppressed Germination of Over 80% of Local Plant Species

French Broom

More Broom

Tall
Oats

Italian Thistle

Rattlesnake Grass

Foxtails and Rip Gut

Every Year



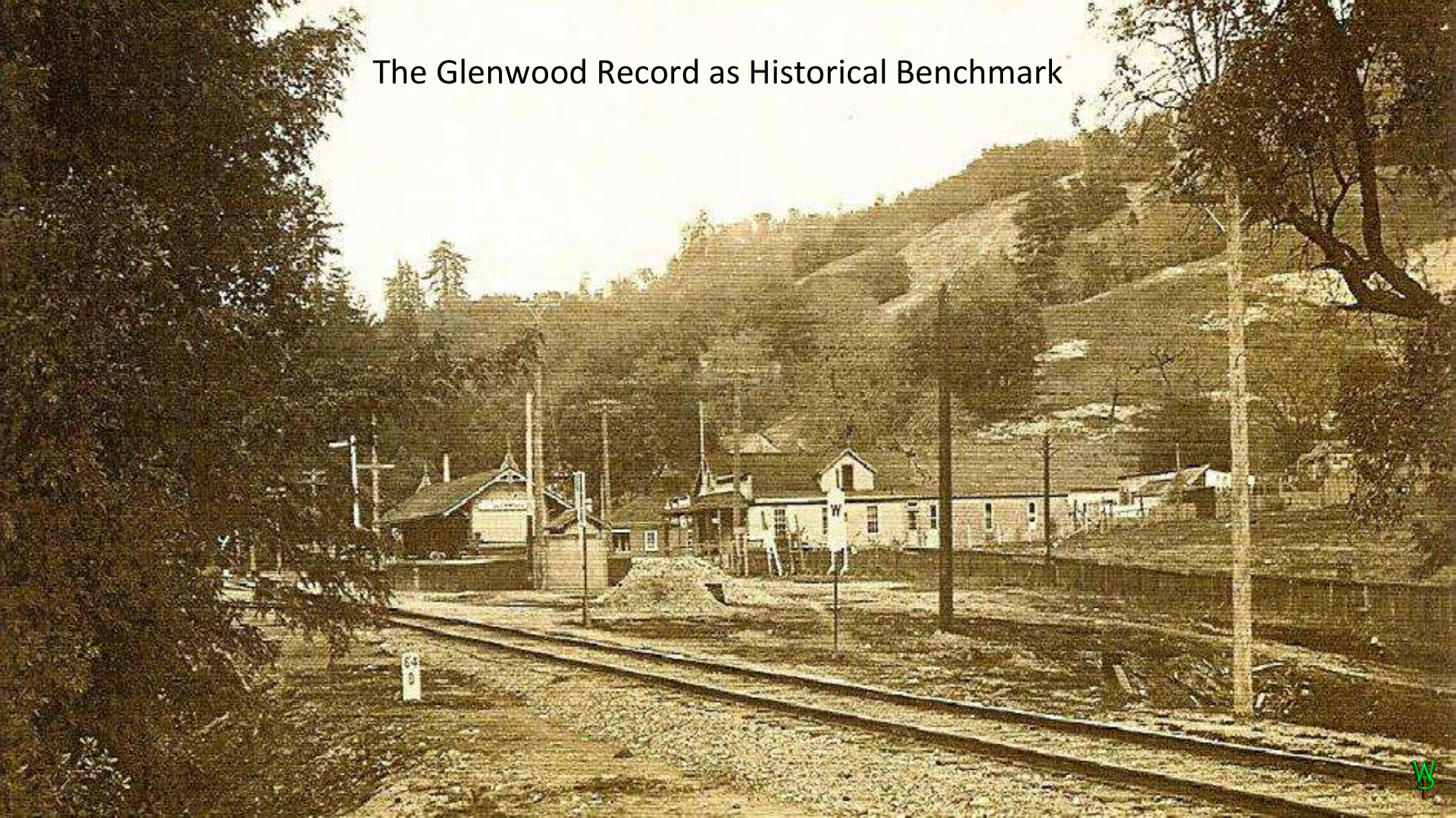


Uninterrupted Perennial Succession Destroys Biodiversity
And Accumulates Fuel

Spring 1990



The Glenwood Record as Historical Benchmark



Initial Conditions



November 1989





June 2011



annual

Moisture Retention via Epigenetic Adaptation



May 2009



Multilayered Diazotrophic Annual Understory

1"

Us v. US: This Is What You Get

Wet Season Conditions	Our Place	"Your" Place ^Ω
Mean annual rainfall*	43.4"	41.18
1/1-4/30/2013	4.6	4.82
5/1-8/31/2013	0.2	0.13
9/1/13-2/1/14	2.5	2.20
Frost days	15	25
Dry Season Conditions		
Fog days	15-20	100
100+° days	10-15	3-5
+90+° days	50	10
Peak Monthly average high	93°	86°

* Rainfall data from the City of Scotts Valley Wastewater Treatment Plant, two miles toward the coast from the image at right.

^Ω This disaster belongs to the Land Trust of Santa Cruz County. It is virtually 100% non-native. They have one (1) full-time employee to manage 13,000 acres that used to pay taxes and produce food. This is what you "get."



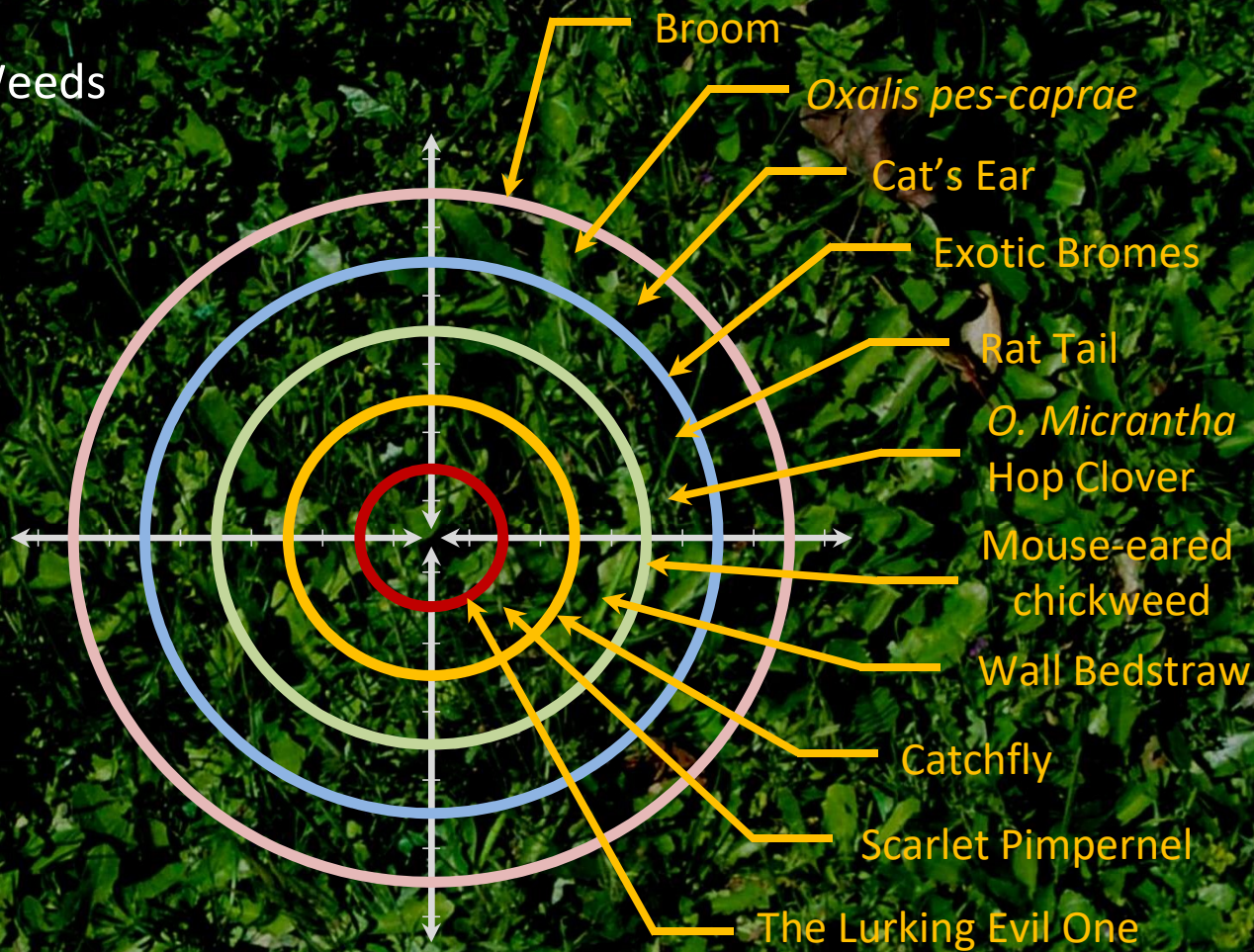
This Place Had Been Nuked





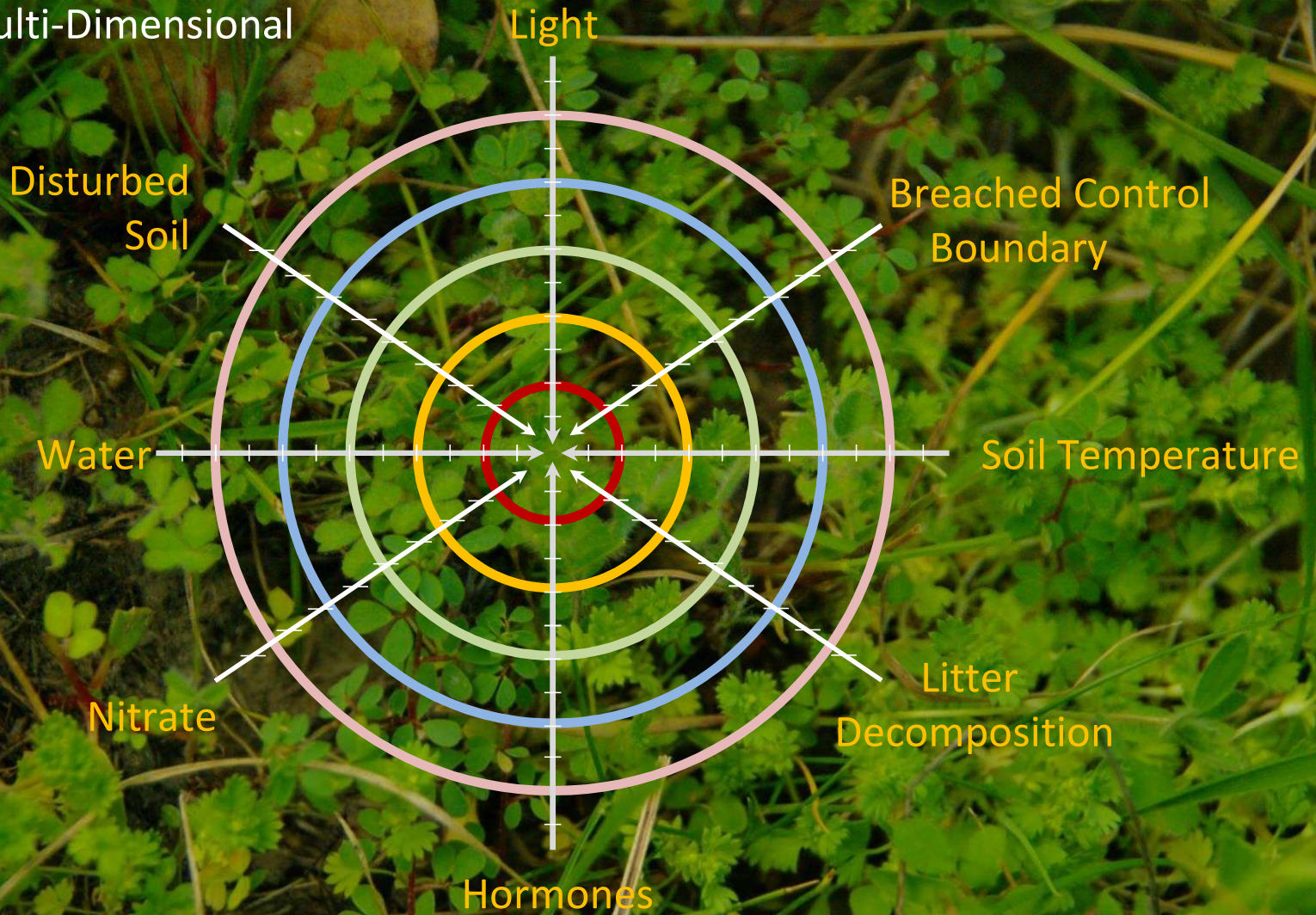
Onion of Weeds

Suppressing Other Weeds



* Large patches of *O. pes-caprae* have only been found on neighboring properties

The Onion Is Multi-Dimensional



The Botanical Record Cannot Be Trusted

Cardamine hirsuta (Bitter Cress)
Five Weeks from Seed to Seeding
Four crops *per season*

(1 pod/plant X an average of 10 seeds/pod)⁴
= 10,000 seeds/plant season

Nobody Knows, But It Wasn't Here



A Genetically Identical Invasive



v. ciliolatum

v. discolor



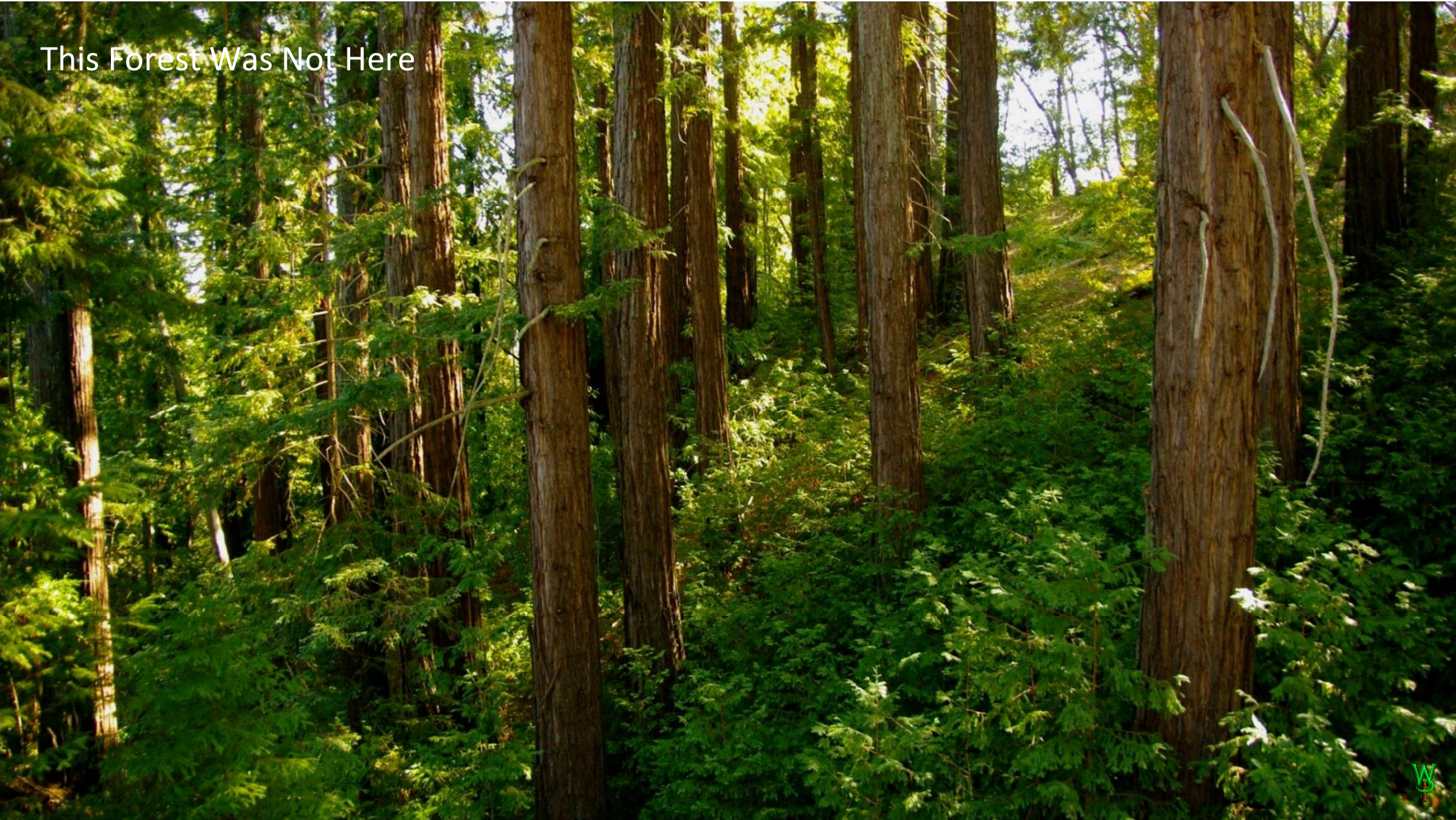
A Genetically Identical Invasive



May 2015



This Forest Was Not Here



An Herbaceous "Forager Pit"

Cooked Area

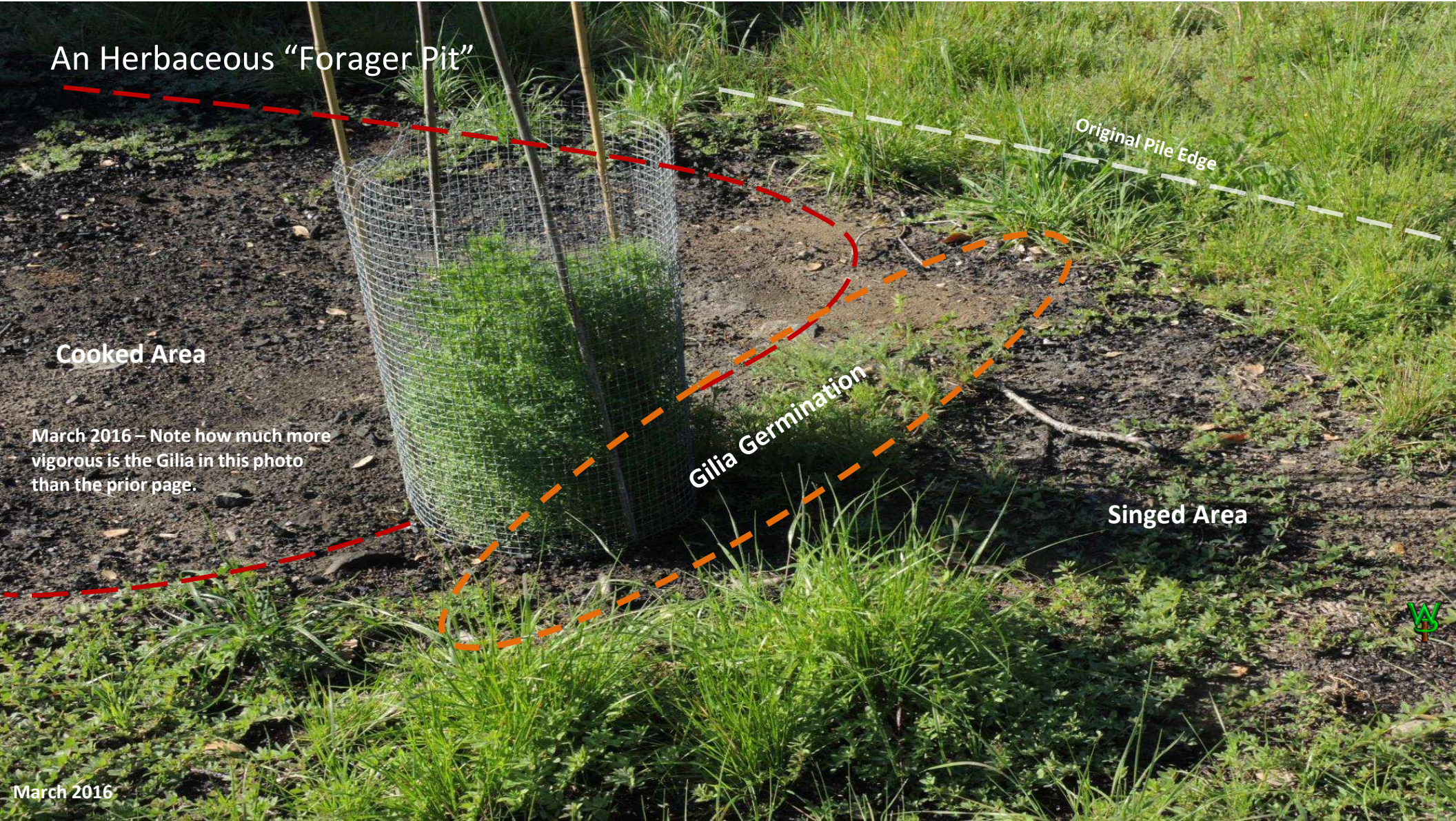
March 2016 – Note how much more vigorous is the Gilia in this photo than the prior page.

Original Pile Edge

Gilia Germination

Singed Area

March 2016





Indicators of Aboriginal Proto-Agriculture

Soap Lilies
(*Chlorogalum pomeridianum*)
Blue Dicks
(*Dichelostemma capitatum*)

Burn Spot



February 2015



March 2016



March 2014





Adaptation of Diazotrophic Bacteria
For Strain-Specific Symbioses

Charcoal Amendment
For Molybdenum Retention



Camissonia micrantha...
As a Commercial Forage?



June 2017 – Boot for scale



WET CHEMISTRY ANALYSIS by Denele Laboratories

Moisture	88.9	70	0	
Dry Matter	11.1	30	100	%
Crude Protein	2.81	7.57	25.23	%
Acid Detergent Fiber	2.66	7.16	23.9	%
Neutral Detergent Fiber	4.7	12.60	42.0	%
Minerals				
Calcium	0.24	0.65	2.16	%
Chloride	0.131	0.35	1.176	%
Magnesium	0.043	0.12	0.384	%
Phosphorus	0.06	0.17	0.563	%
Potassium	0.34	0.92	3.07	%
Sodium	0.007	0.018	0.060	%
Sulfur	0.03	0.08	0.28	%
Aluminum	25.13	67.61	225.38	ppm
Boron	3.36	9.05	30.17	ppm
Copper	4.2	11.3	37.8	ppm
Iron	34.9	93.8	313	ppm
Manganese	5.1	13.8	45.9	ppm
Zinc	6.3	16.9	56.3	ppm
DCAD			305	meq/KG



May 2017

Native Plants Demanding Control Limits





An Unreported Nitrogen Cycle:
Cudweeds in Sandy Soils



כארץ והיתה עובת הארץ לכם לאכלה כך
וילעבדך ולאמותך ובעזבוך וכתועבך הגרים
לבוך וכרבהמוך וכחיה אשר בארעך תהיה





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When Can I Make a Claim? Storage

1/4/11

United States Patent 7,401,824
 Yash-Pal July 15, 2008

Free-market environmental management system having tailored certification to a process standard

Abstract

Environmental regulation by government is structurally incapable of addressing the problem. The present invention is an alternative free-market management system designed to address a significant problem in forest care, with an assured guarantee, and without regulation or oversight by government. The system uses an assured, certified free structure form of private certification that dynamically accounts for the financial value of ecosystem resources. The conduct of practice within the system accounts for the price of assets at risk and characterizes their behavior by which to market them for their ability to effect the environmental aspects of ecological, commercial, and recreational activities.

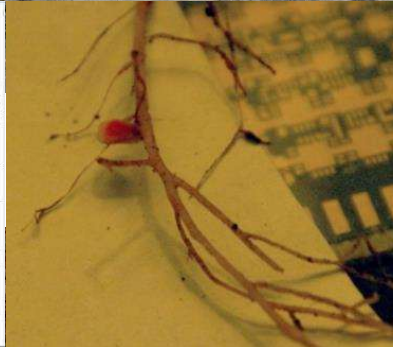
Inventor: Yash-Pal, Mark E. (San Green, CA)
 Family ID: 2027758
 Appl. No.: 09/808,179
 Filed: March 27, 2005

Prior Publication Data

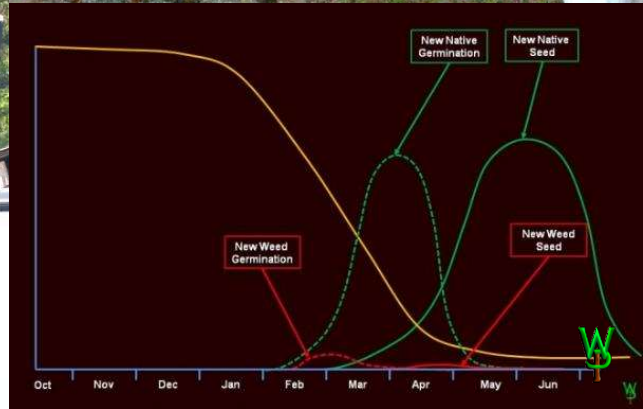
Document Identifier	Publication Date
US 2005018442 A1	Aug 18, 2005

Related U.S. Patent Documents

Application Number	Filing Date	Patent Number	Issue Date
09/818,093	March 17, 2006		



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Restoring A World of Eternal Learning