Restoration Agriculture:

From Permaculture to Agroforestry, the ecological systems design approach

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Text your Name and Email Address to
USA 001-608-478-0907

Mark L Shepard
Restoration Agriculture Development
RestorationAg.com

TREE CROPS

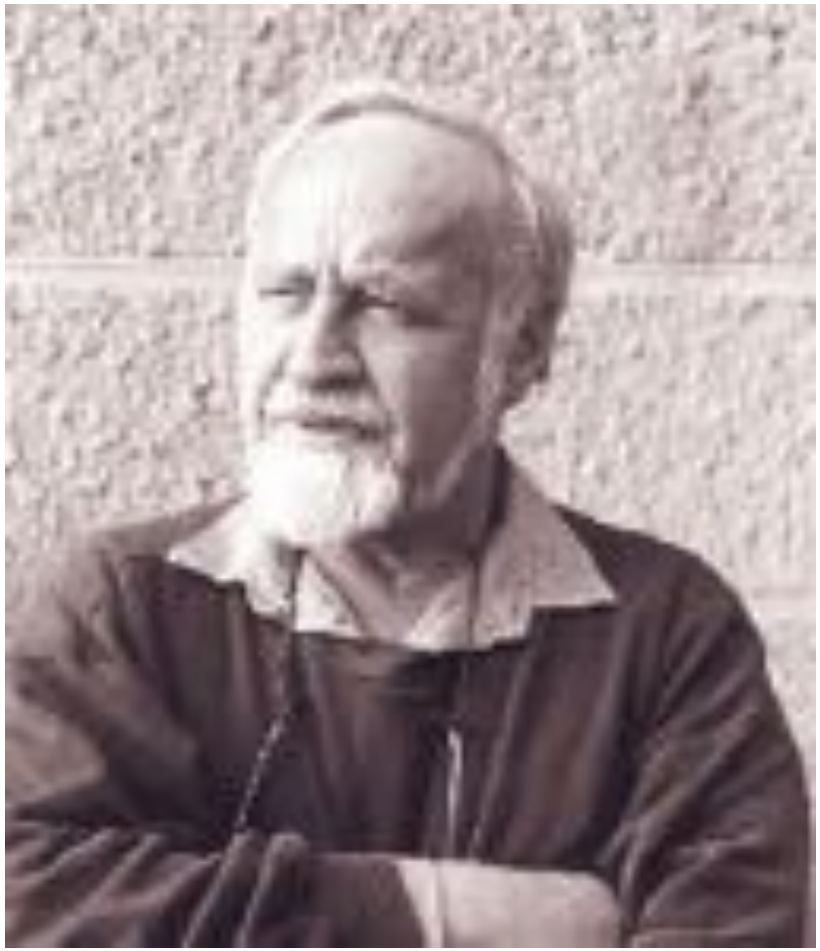
• • •

A PERMANENT AGRICULTURE

by
J. Russell Smith

Introduction by
Wendell Berry

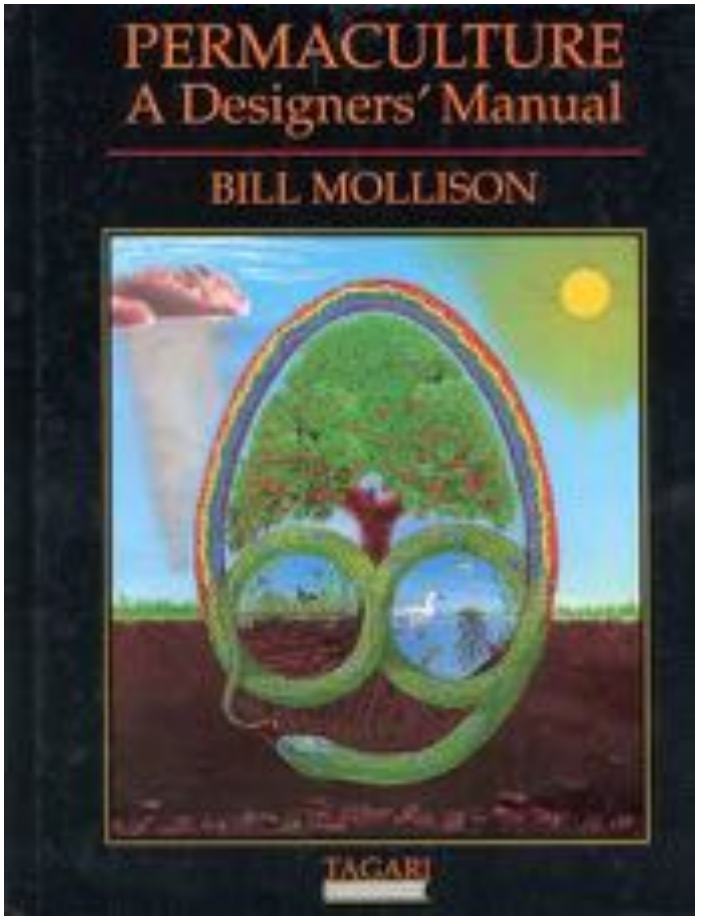
Permaculture



Bill Mollison

Wrote the book:

A Designers Manual



PERMA (permanent)
(agri) CULTURE

“Permaculture is an ecological design methodology where we create relationships between materials, plants, animals and humans in order to optimize function and yield…

The aim is to create systems that are ecologically sound and economically viable.

…which provide for their own needs, do not exploit or pollute and are therefore sustainable in the long term. Much of the design is taken from nature.

It can be as simple or as sophisticated as you like.”

- Bill Mollison

Restoration Agriculture:

Redesigning Agriculture in Nature's Image

Agricultural Biomimicry

AGRICULTURE

"A fascinating vision for recasting our relationship to nature and the land."

ANNA LAPPÉ, XXXXXXXXXXXXXX

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PERENNIAL PERMACULTURE FOR THE FARM

Acres U.S.A.

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Real-World Permaculture *for* Farmers

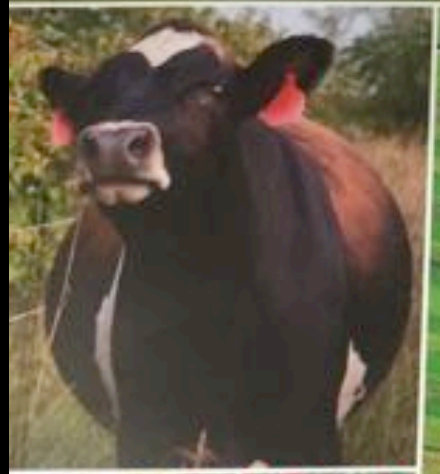
An Amazon Bestseller!

Mark Shepard

MARK SHEPARD

- Conversion de 42 ha, conçue en **permaculture**
- Un système hautement productif et rentable
- Des analyses chiffrées
- Les outils et techniques pour pratiquer une **agroforesterie** haute en couleurs

AGRICULTURE DE RÉGÉNÉRATION



Éditions *Imagine Un Colibri*

The Restoration Agriculture process:

1) Identify your biome and dominant plant communities

2) Optimize rainfall distribution pattern and prevent runoff

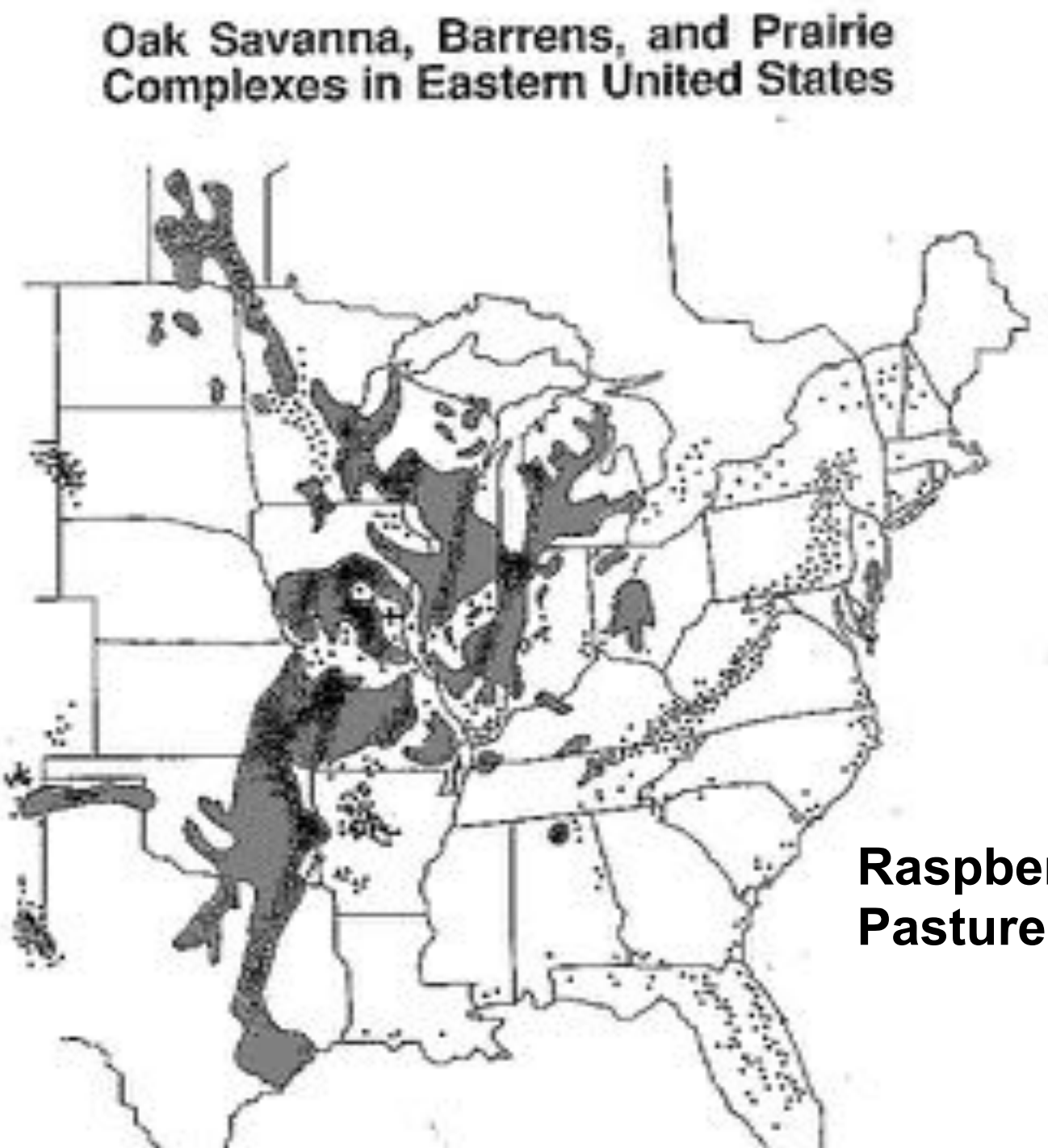
3) Establish woody polycultures using Agroforestry practices

(Build fences & roads, utilities, pipelines following water management pattern)

4) Manage for complexity

1. Identify biome and plant communities.

Substitute improved cultivars when possible



Fagacea:
Oak,Chestnut, Beech

Apples

Hazelnut

Prunus:
plum, cherry,
peach

Raspberry, grape, currant
Pasture, animals, fungi

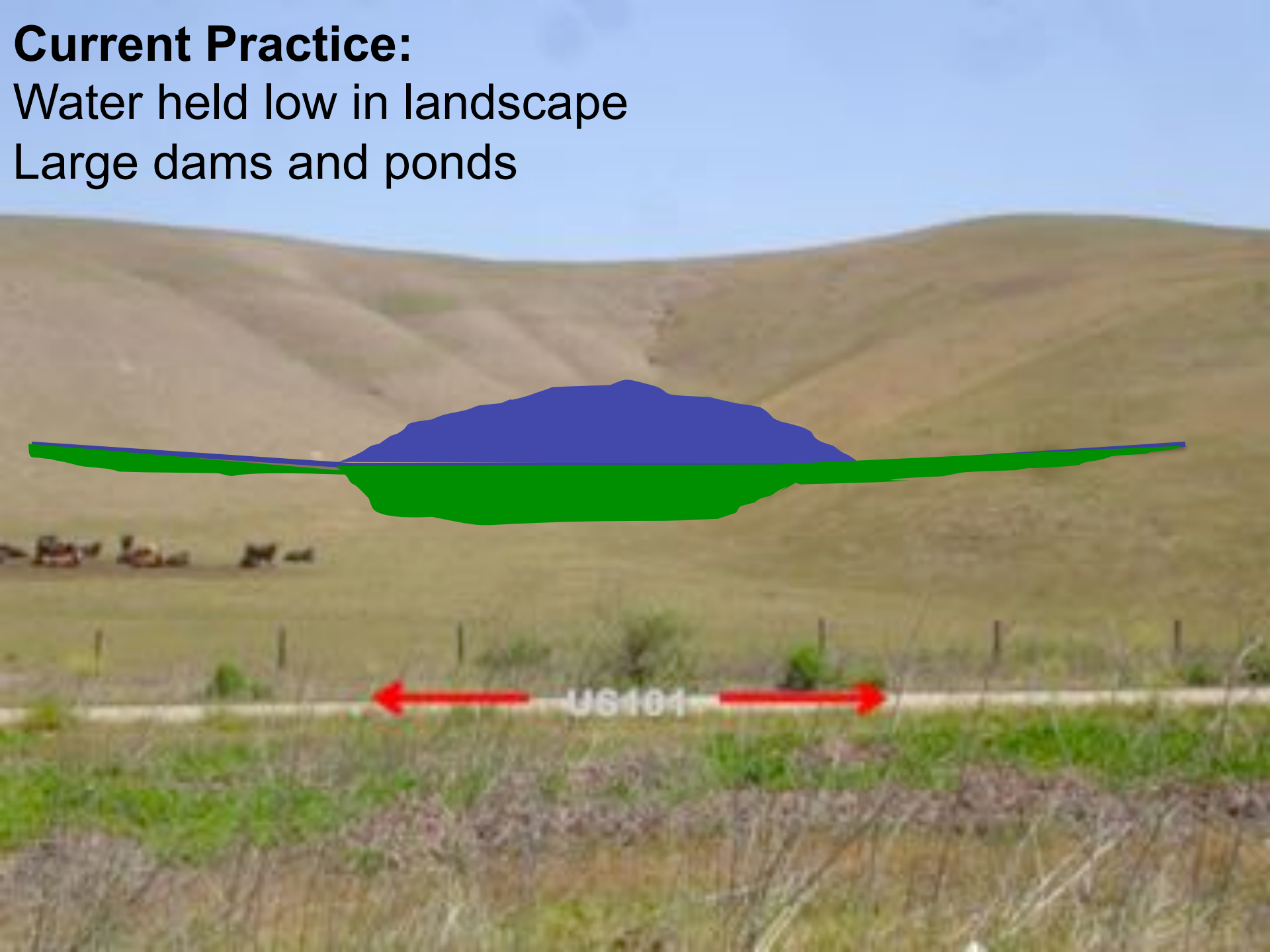
2) Optimize rainfall distribution pattern and prevent runoff


US101

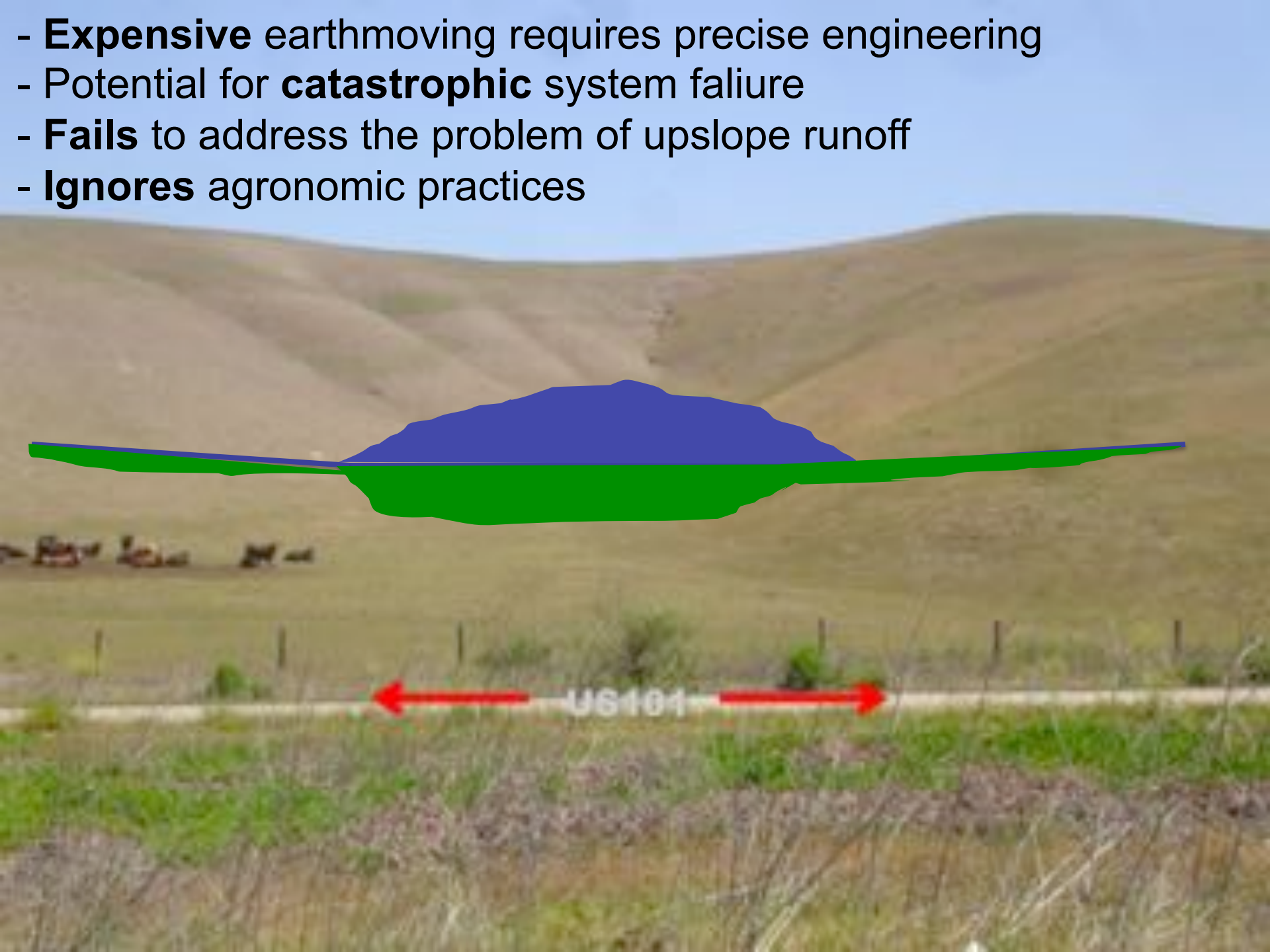
Current Practice:

Water held low in landscape

Large dams and ponds

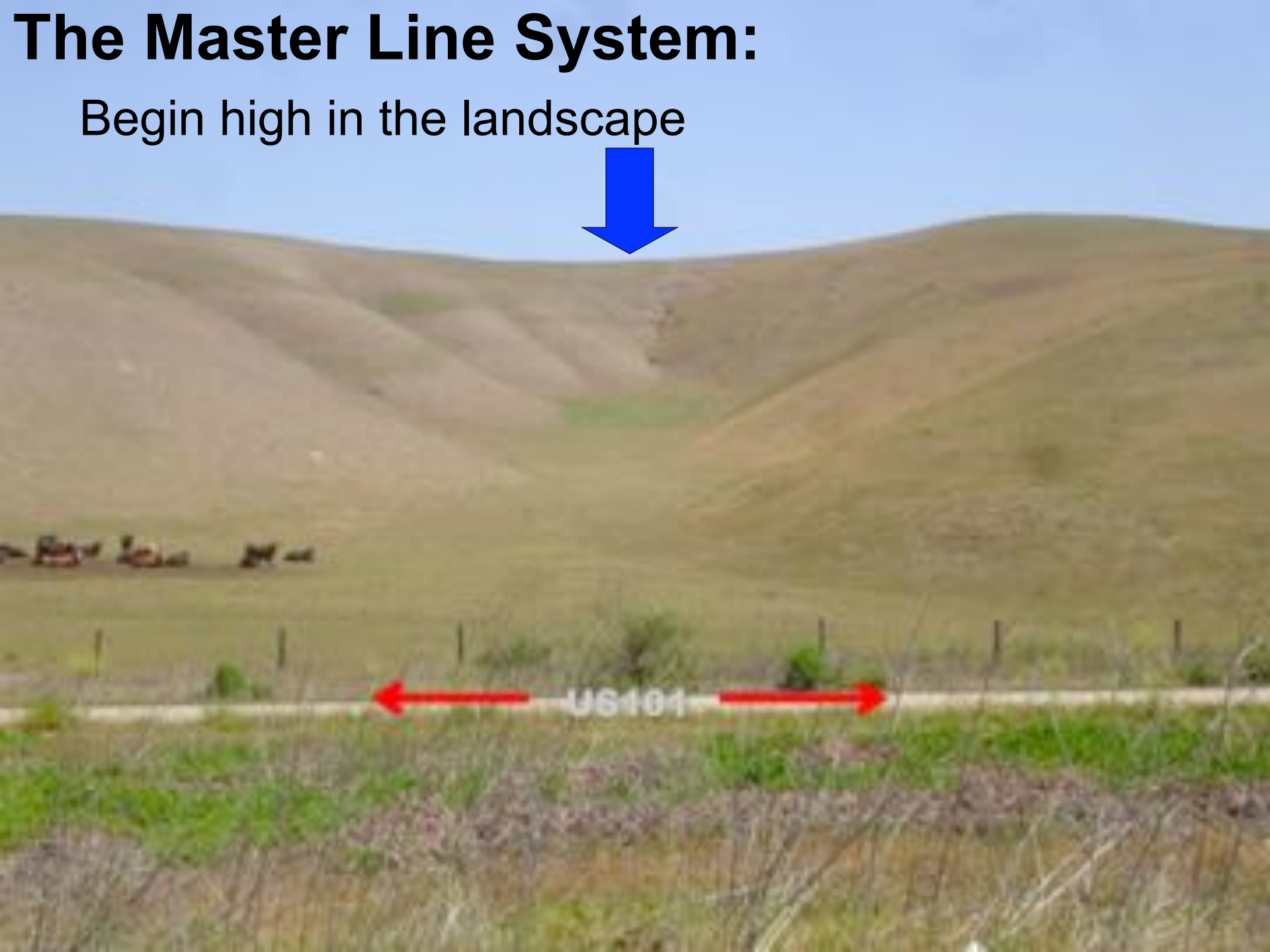


- **Expensive** earthmoving requires precise engineering
- Potential for **catastrophic** system faliure
- **Fails** to address the problem of upslope runoff
- **Ignores** agronomic practices

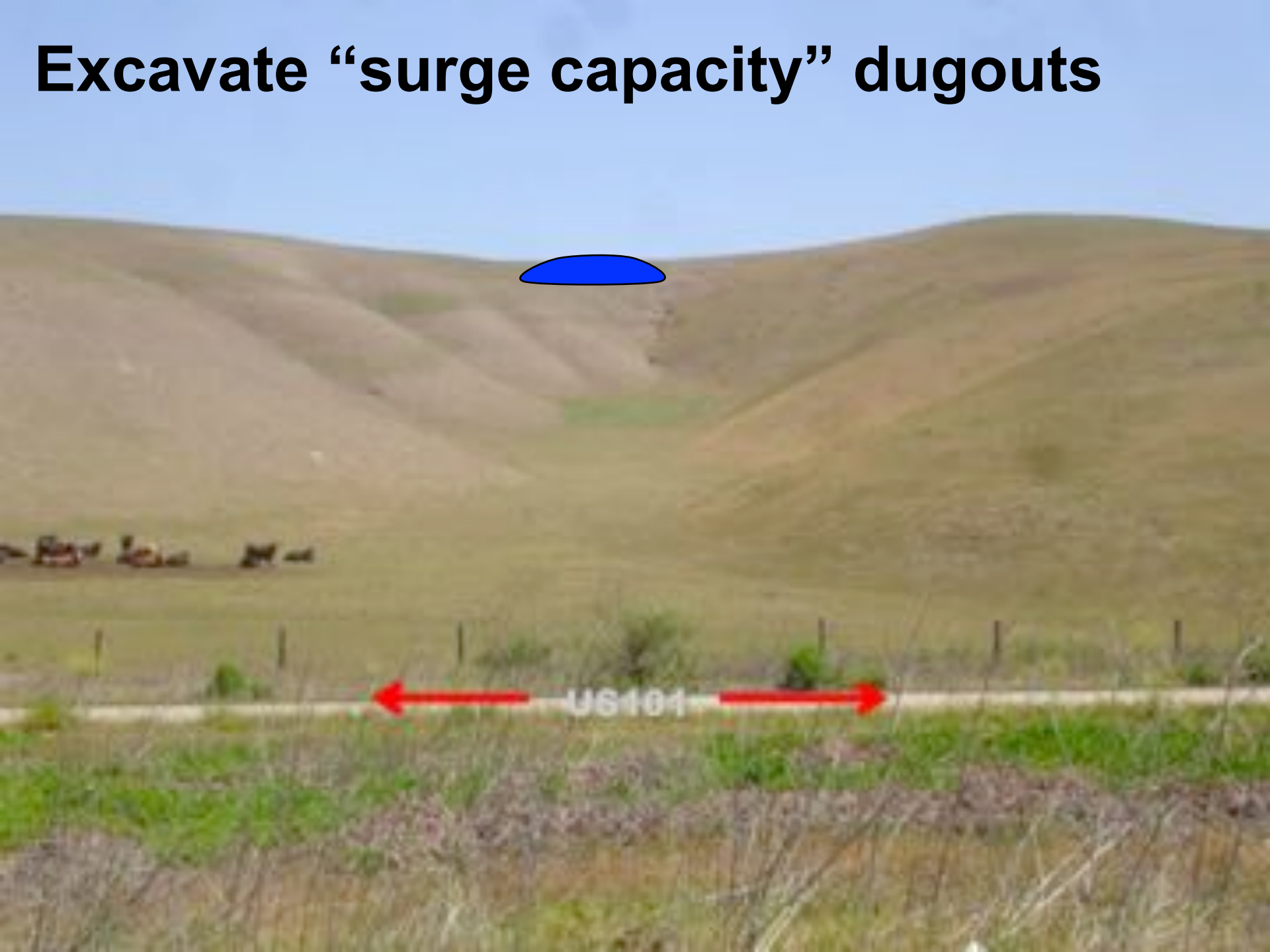


The Master Line System:

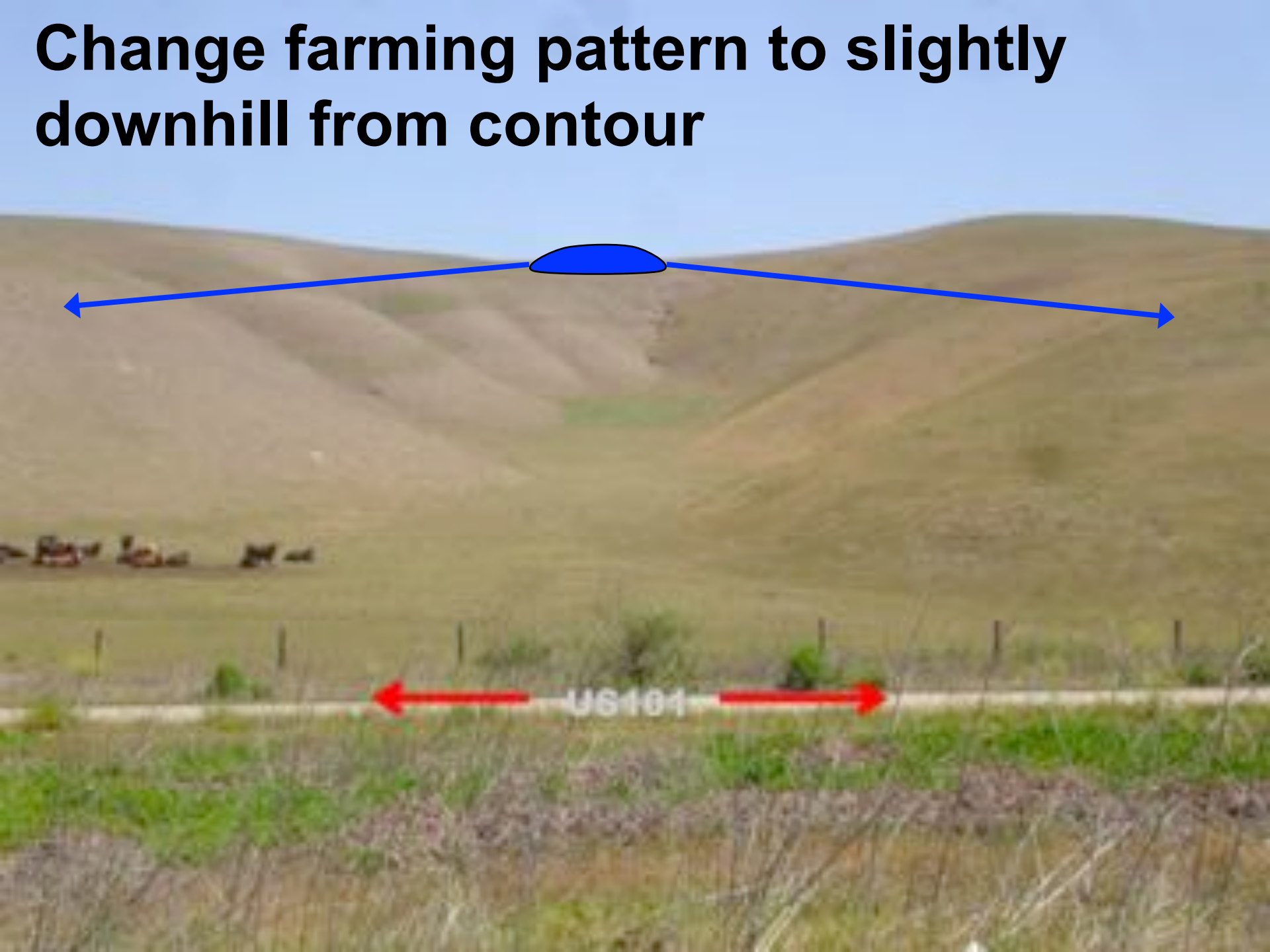
Begin high in the landscape



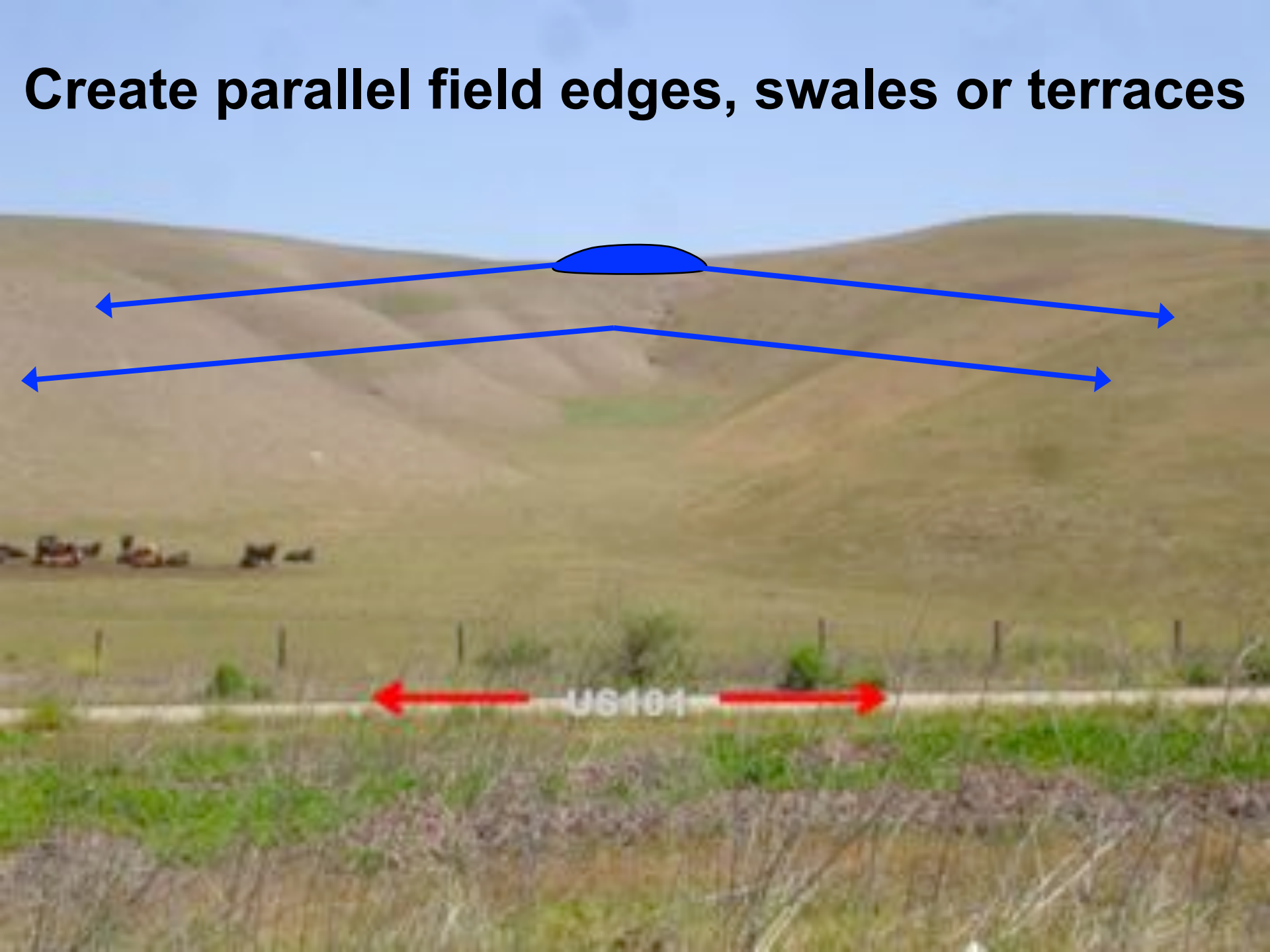
Excavate “surge capacity” dugouts



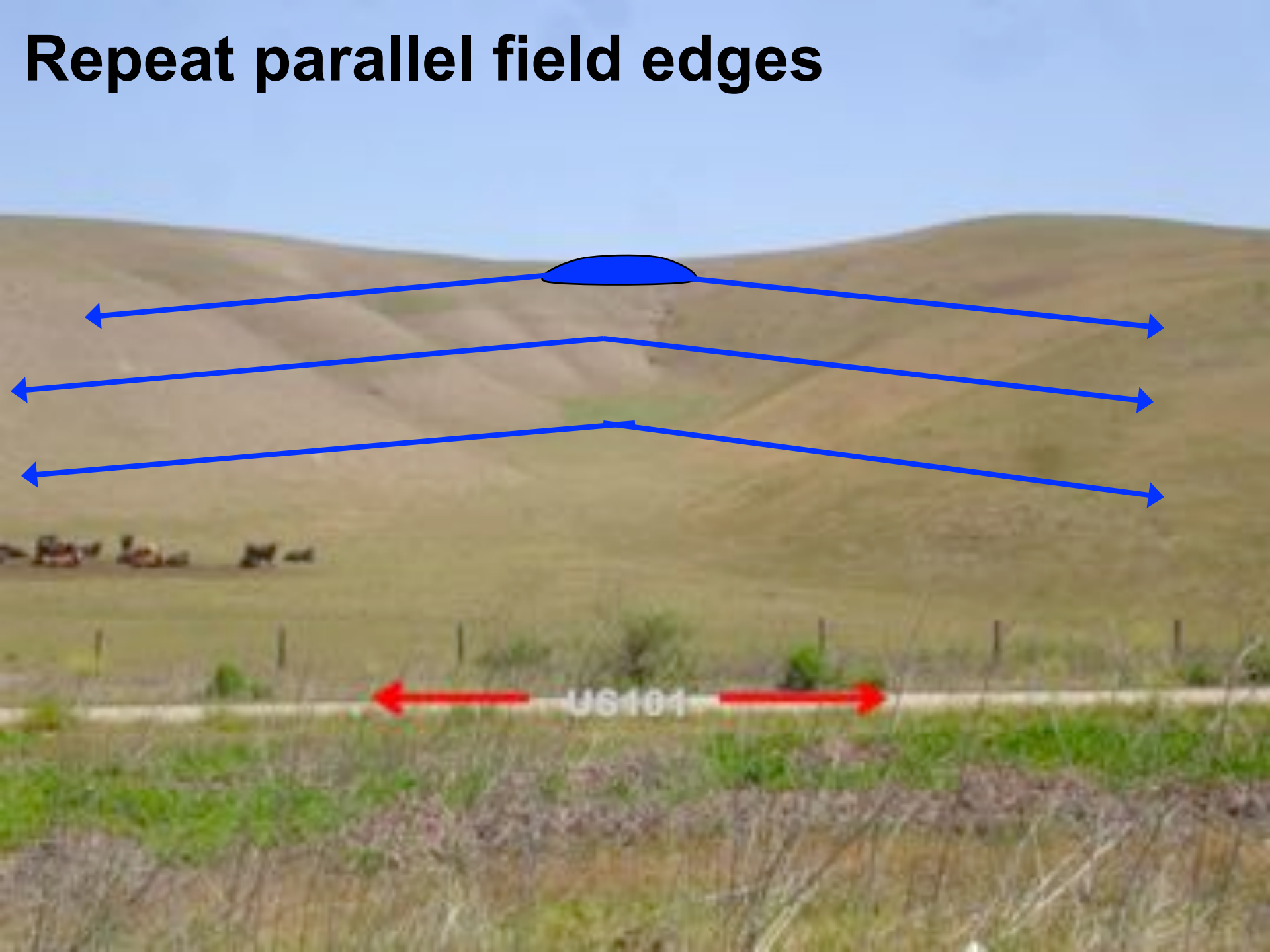
Change farming pattern to slightly downhill from contour



Create parallel field edges, swales or terraces

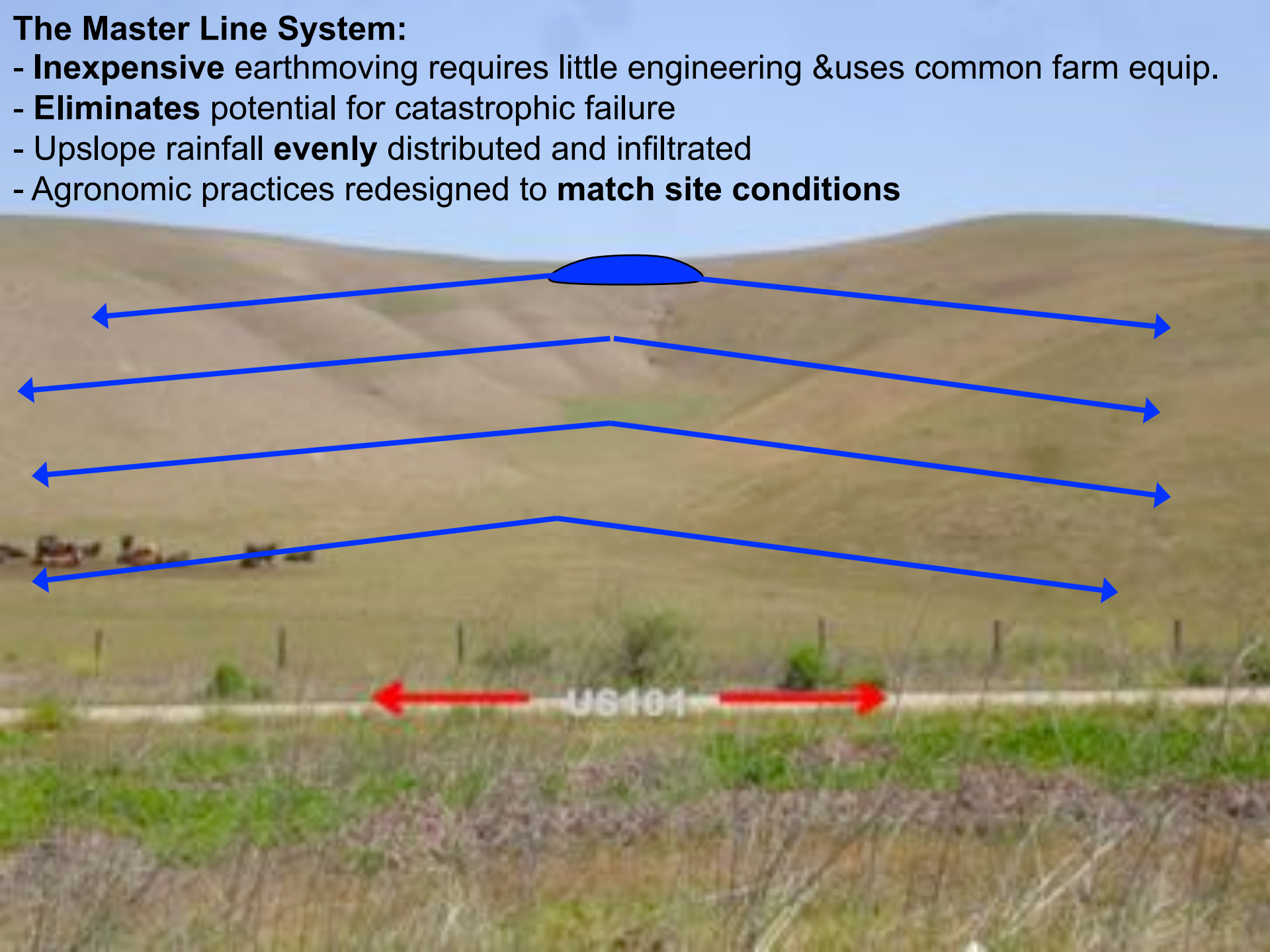


Repeat parallel field edges



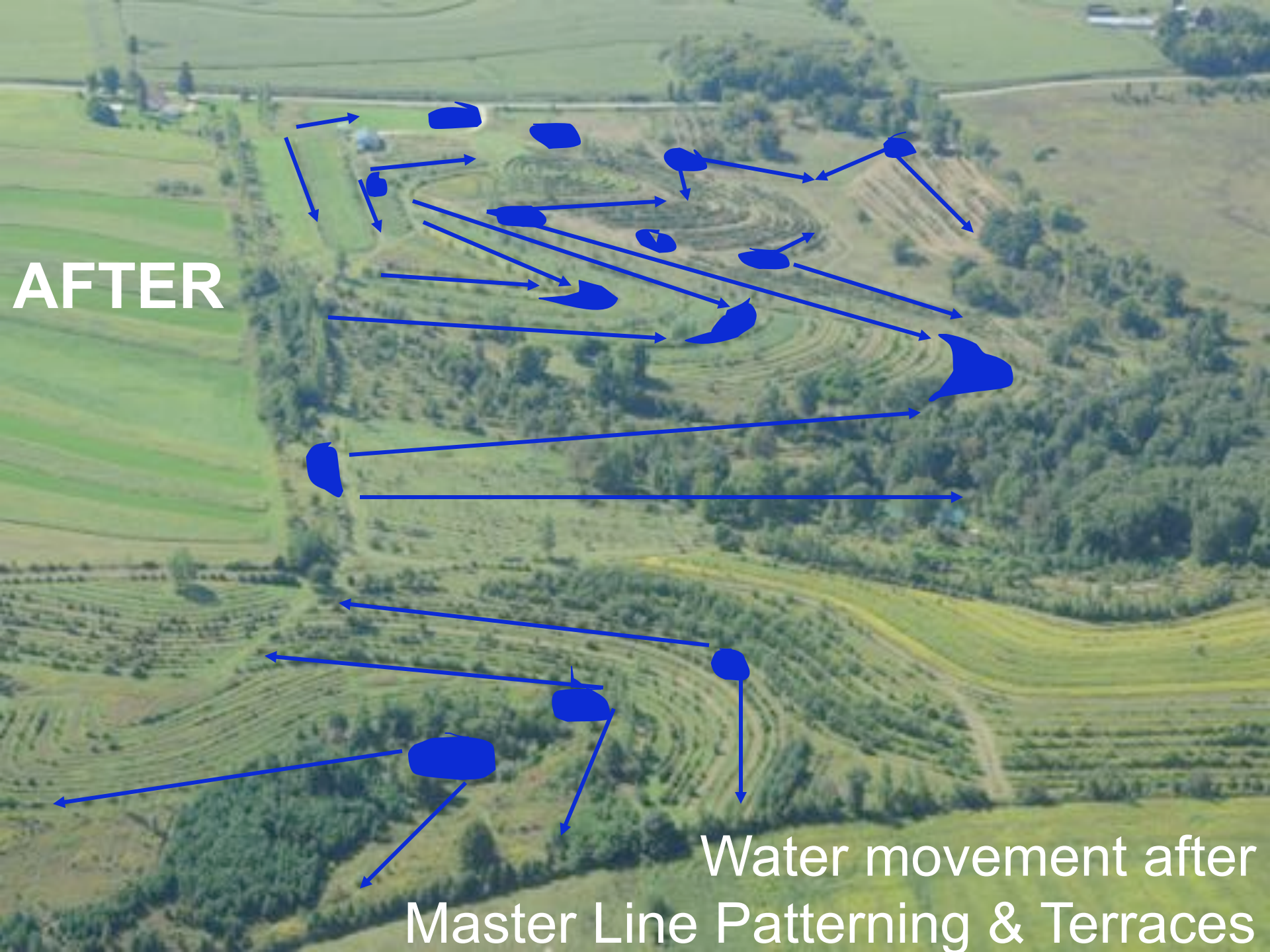
The Master Line System:

- **Inexpensive** earthmoving requires little engineering &uses common farm equip.
- **Eliminates** potential for catastrophic failure
- Upslope rainfall **evenly** distributed and infiltrated
- Agronomic practices redesigned to **match site conditions**




20 years of site development
New Forest Farm
Wisconsin, USA

Water movement before
Master Line Patterning & Terraces


AFTER
Water movement after
Master Line Patterning & Terraces

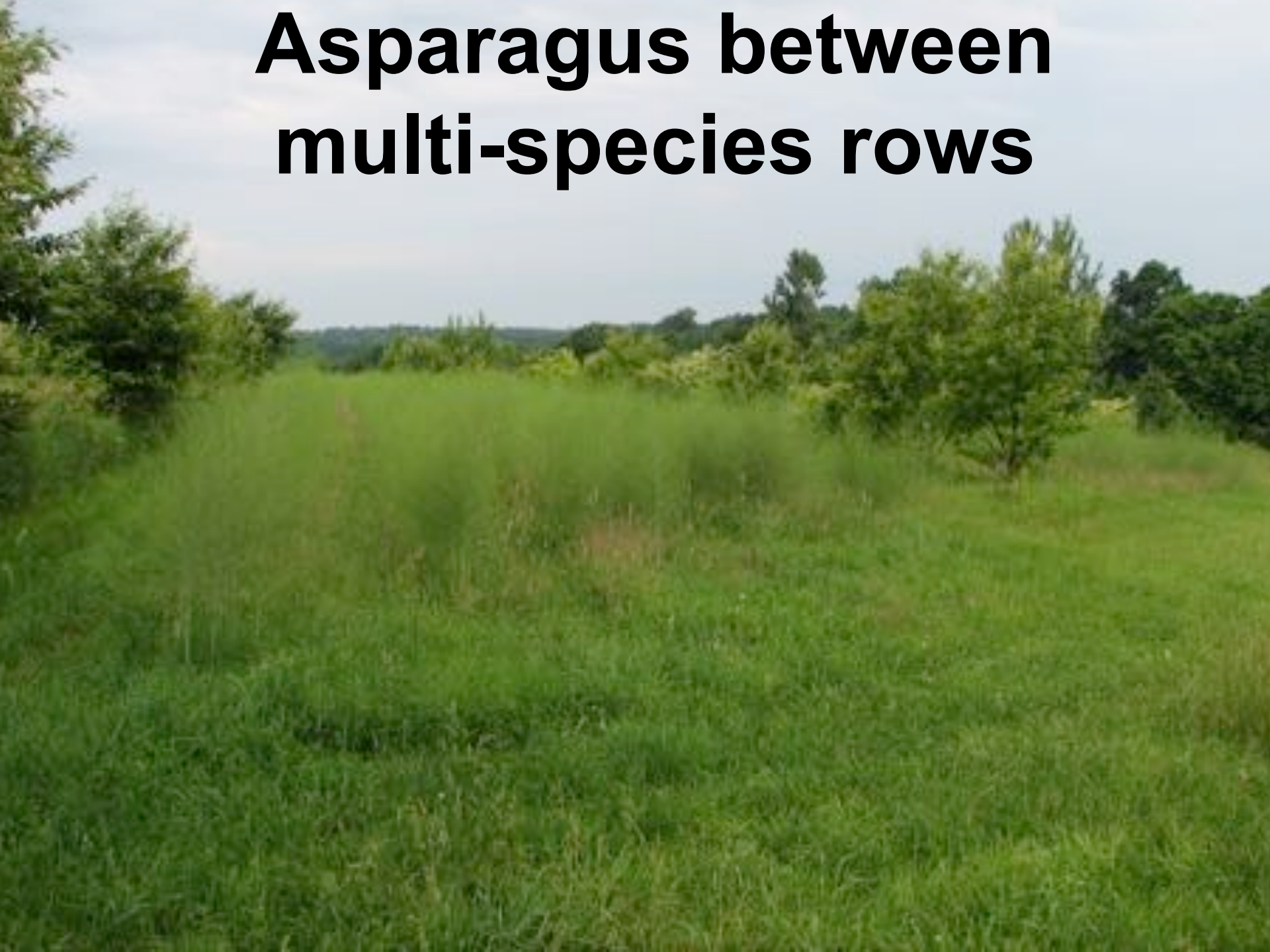

Carbon sequestration?

3) Establish woody polycultures using Agroforestry practices

Silvoarable – Alley Cropping

Acorn Squash alleys between Hazelnut rows

Asparagus between multi-species rows

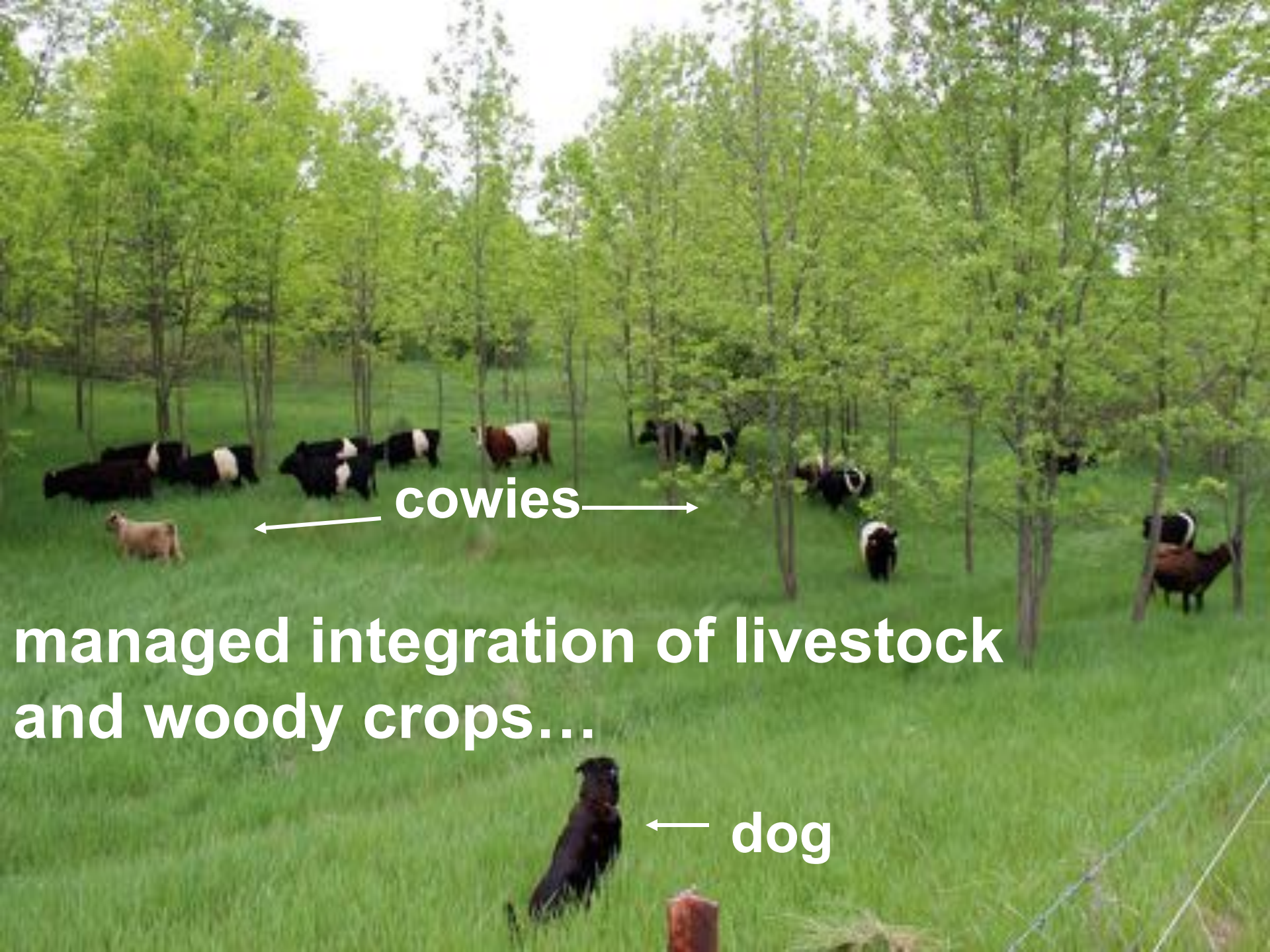



Sunflowers for fuel between
multi-species tree rows

The “disturbed” apple orchard:

Grapes on Chestnut over Hazelnut next to Rose behind Apple over Daffodil, Iris and Comfrey and more…


Silvopasture
Walnut, mulberry, cherry
cattle, hogs & more


cowies
managed integration of livestock and woody crops…
dog

4) Manage for complexity

Is this applicable in Europe?

Fagacea:

Oak,Chestnut, Beech

Apples

Hazelnut

Prunus:

plum, cherry, peach

Raspberry

Grape

Currant

Forage

Animals

Fungi

Juglandaceae Family

Pinus Family

Silvoarable “Standard”

13 immediately harvestable crops

Restoration Agriculture:

Ecological & Economic Solutions
of
Global Significance

The "Primate Conservation & Food Sovereignty through Restoration Agriculture" Project

the Jane Goodall Institute

May 20, 2016

Mark Shepard
Restoration Agriculture

Dear Mark:

I am writing to follow-up on my conversation with [redacted] and on the synopsis of work prepared by [redacted] entitled "Primate Conservation and Food Sovereignty through Restoration Agriculture in Western Uganda."

[redacted] discovered during your visit with Dr. Peter Appel of our Uganda office, the Jane Goodall Institute (JGI) is keenly interested in exploring how we might work together to protect the vital habitats of the Albertine Rift. JGI works with a range of partners in the region and there is great potential to leverage those relationships with this approach to create near-term and long-term systems of sustainability for the people who call the region home.

Specifically, we are interested in exploring work that:

1. Improves and restores important habitat
2. Improves livelihoods
3. Lessens human and wildlife conflict
4. Uses agroforestry to create corridors for chimpanzees and other primates
5. Buttresses small-holder farming
6. Models sustainability and conservation approaches that may be replicated in other landscapes and with other species
7. Demonstrates the power of people working together

I look forward to our continued exploration of and planning for this work. It has the potential to move the bar on our conservation work across all the critical chimpanzee corridors we seek to protect.

Best regards,

Anna Gibson

Anna Gibson
Vice President
The Jane Goodall Institute

1595 Spring Hill Road, Suite 550, Vienna, VA 22182
Tel: 703 682-9220 Fax: 703-682-9312
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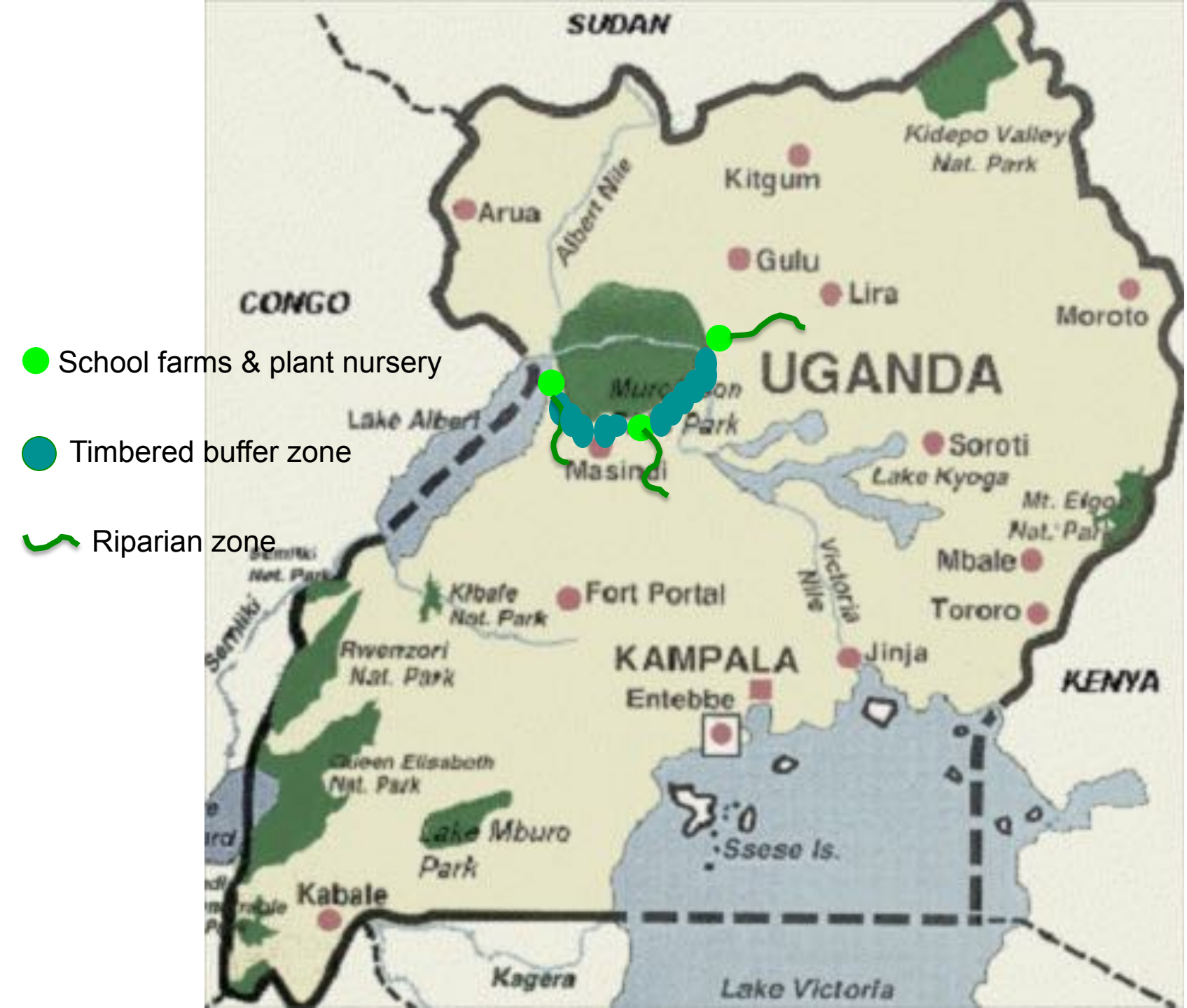
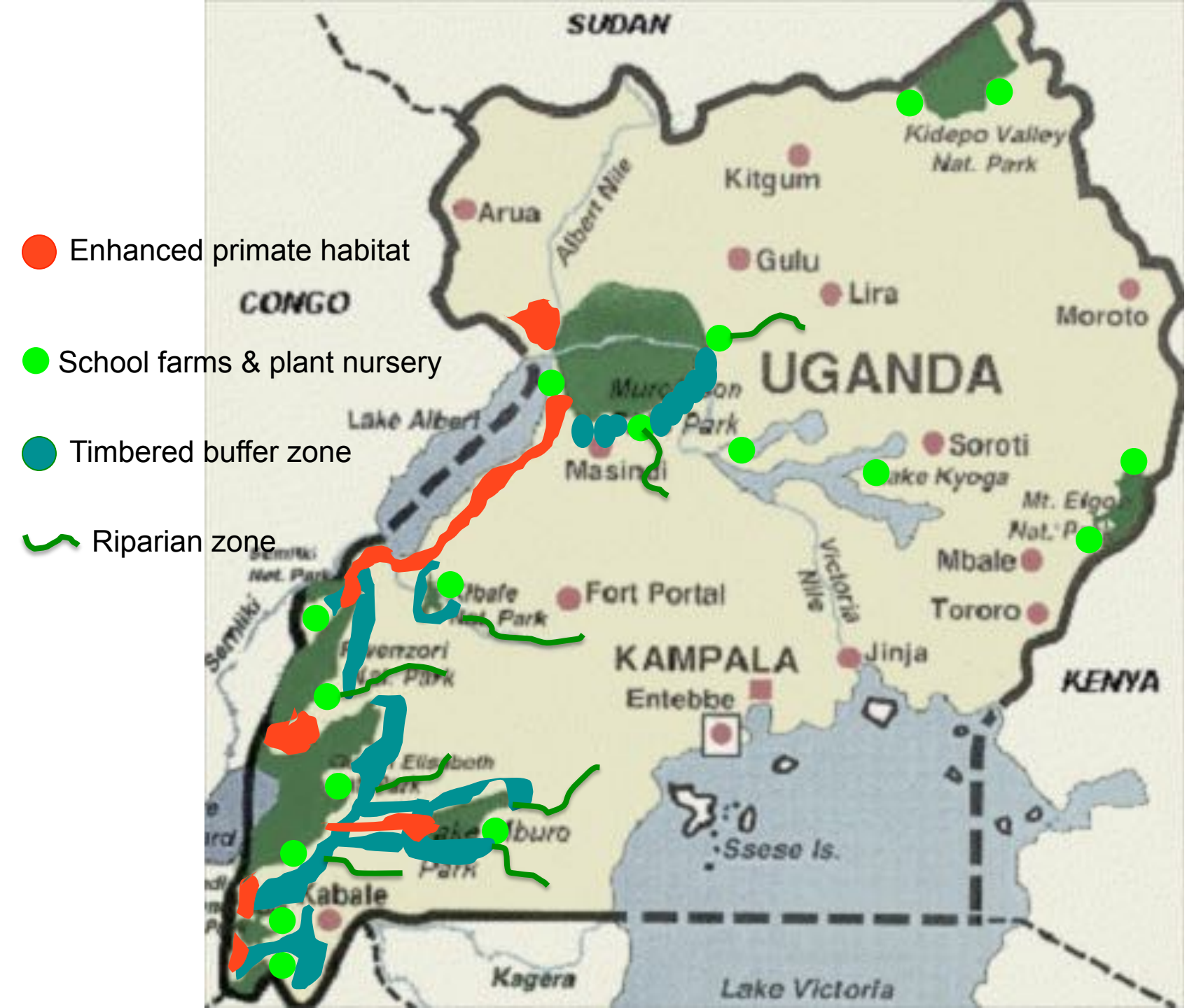

School farms & plant nursery
Timbered buffer zone
Riparian zone
SUDAN
CONGO
KENYA
UGANDA
Kidepo Valley Nat. Park
Kitgum
Arua
Albert Nile
Gulu
Lira
Moroto
Lake Albert
Soroti
Lake Kyoga
Mt. Elgon Nat. Park
Mbale
Tororo
Fort Portal
Kibale Nat. Park
Rwenzori Nat. Park
Victoria Nile
Jinja
KAMPALA
Entebbe
Queen Elisabeth Nat. Park
Lake Mburo Park
Ssese Is.
Kabale
Kagera
Lake Victoria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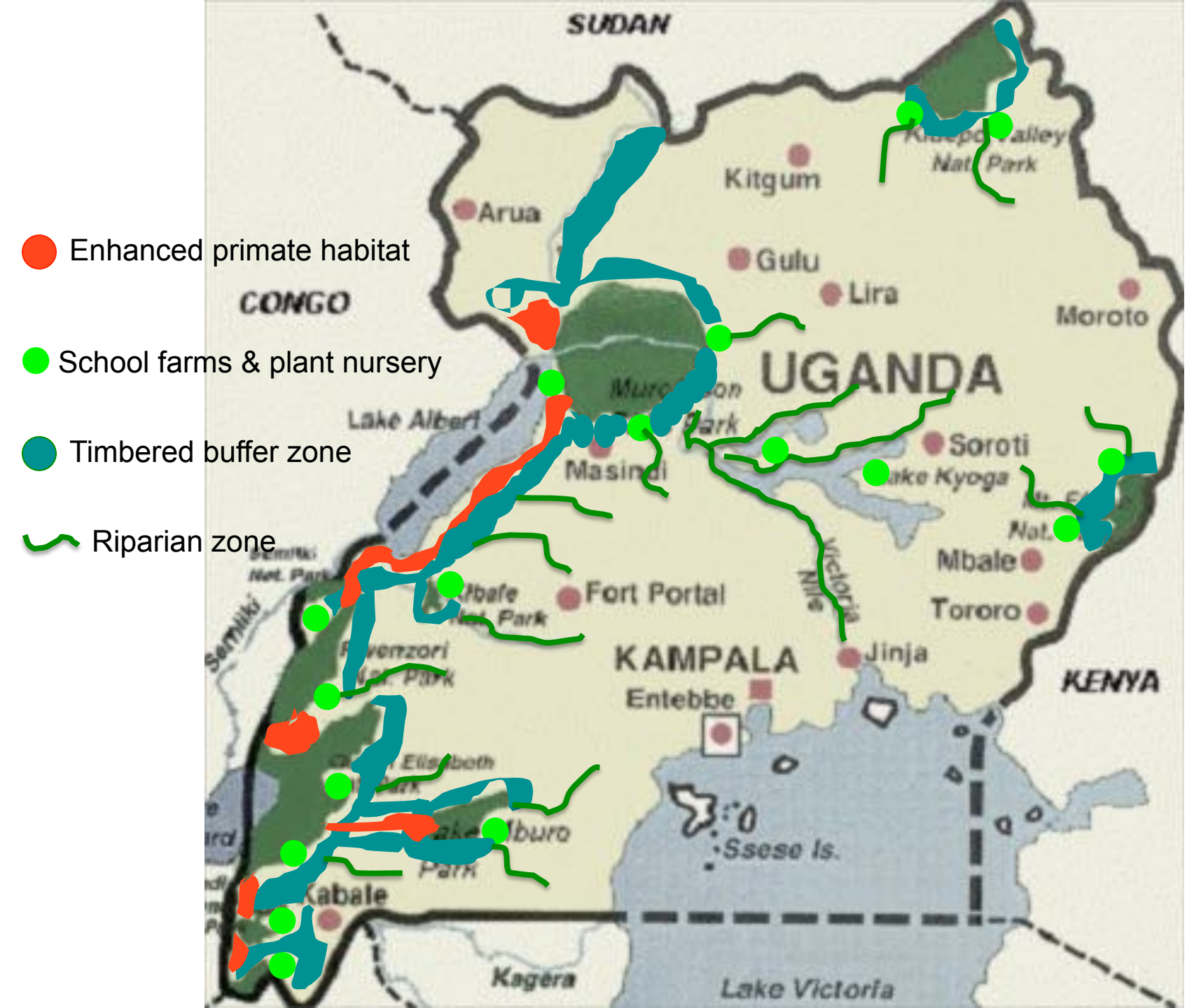
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Entebbe
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Kabale
Kagera
Lake Victoria
Victoria Nile

Start with schools:

- Education
- Healthy food
- Nodes of diffusion

Jane Goodall Institute has over 130,000
Roots and Shoots school programs worldwide


Establishment
Year


Year 3

Year 5
Food Security


Year 5
Nutritional
Diversity


Year 5
Economic
Surplus

Year 5 Carbon Sequestration?

RESTORATION

AGRICULTURE

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