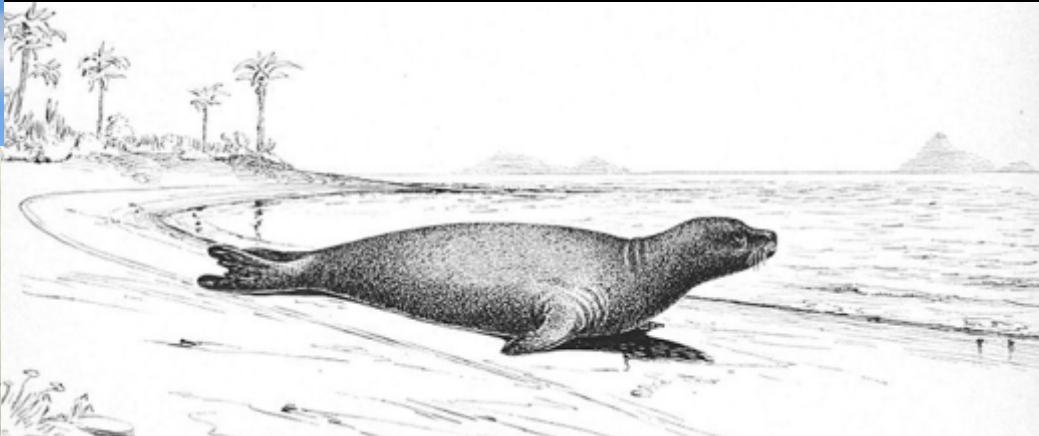


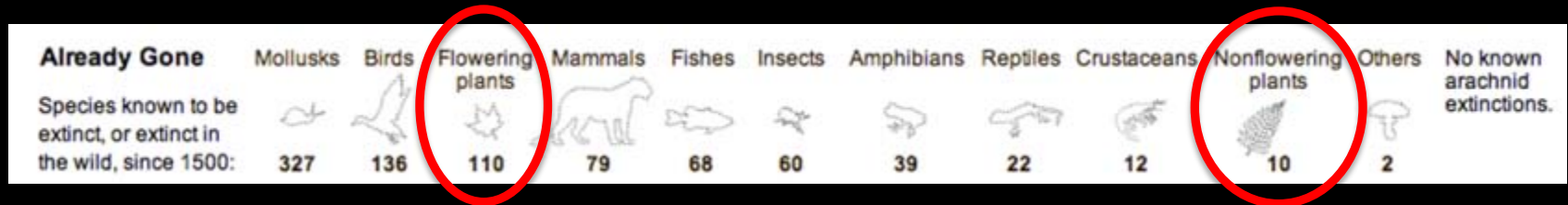
Eradication 101



Presented by:
John Knapp
California Islands Ecologist
The Nature Conservancy



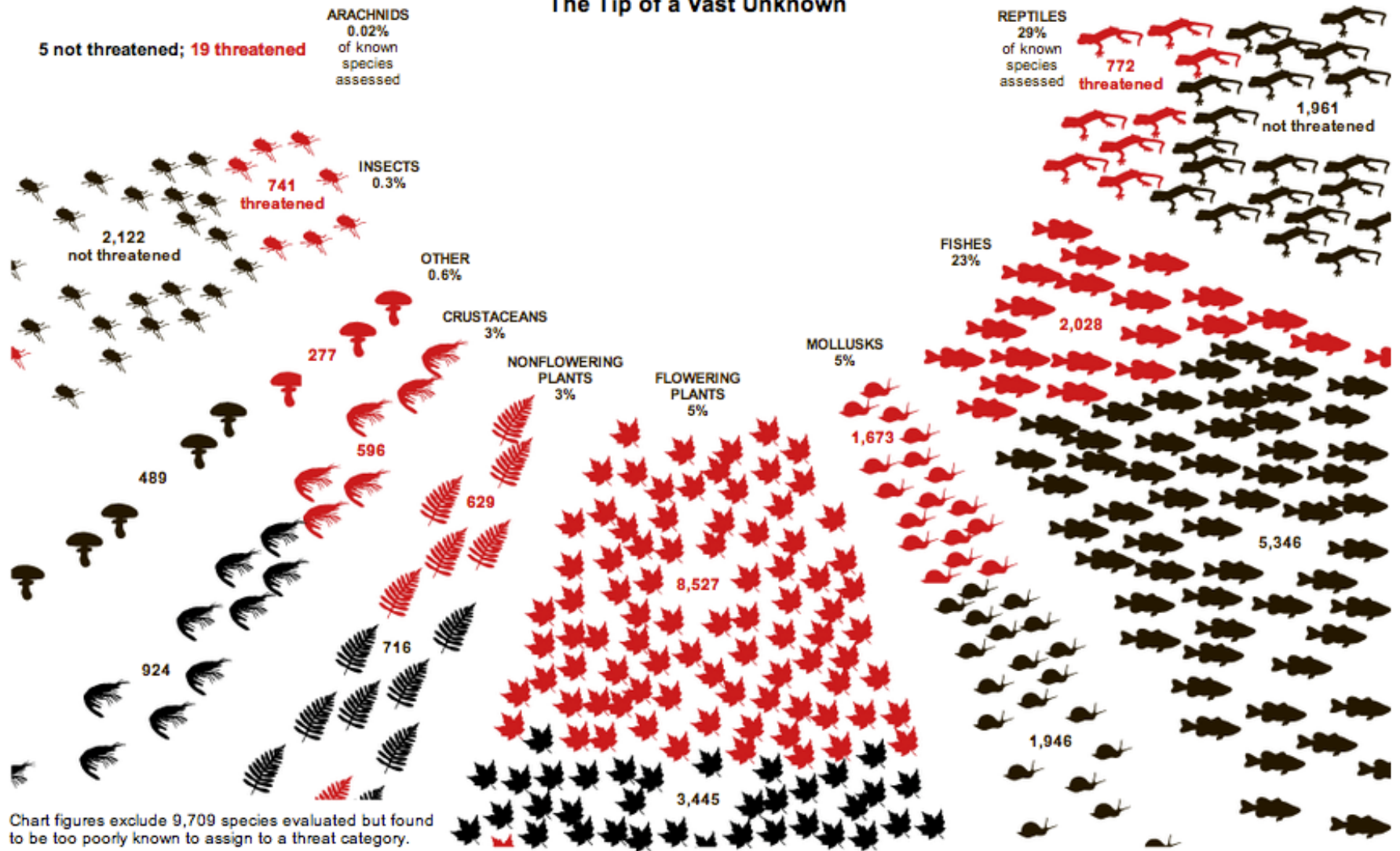
Eradication is in your blood





THE SIXTH EXTINCTION

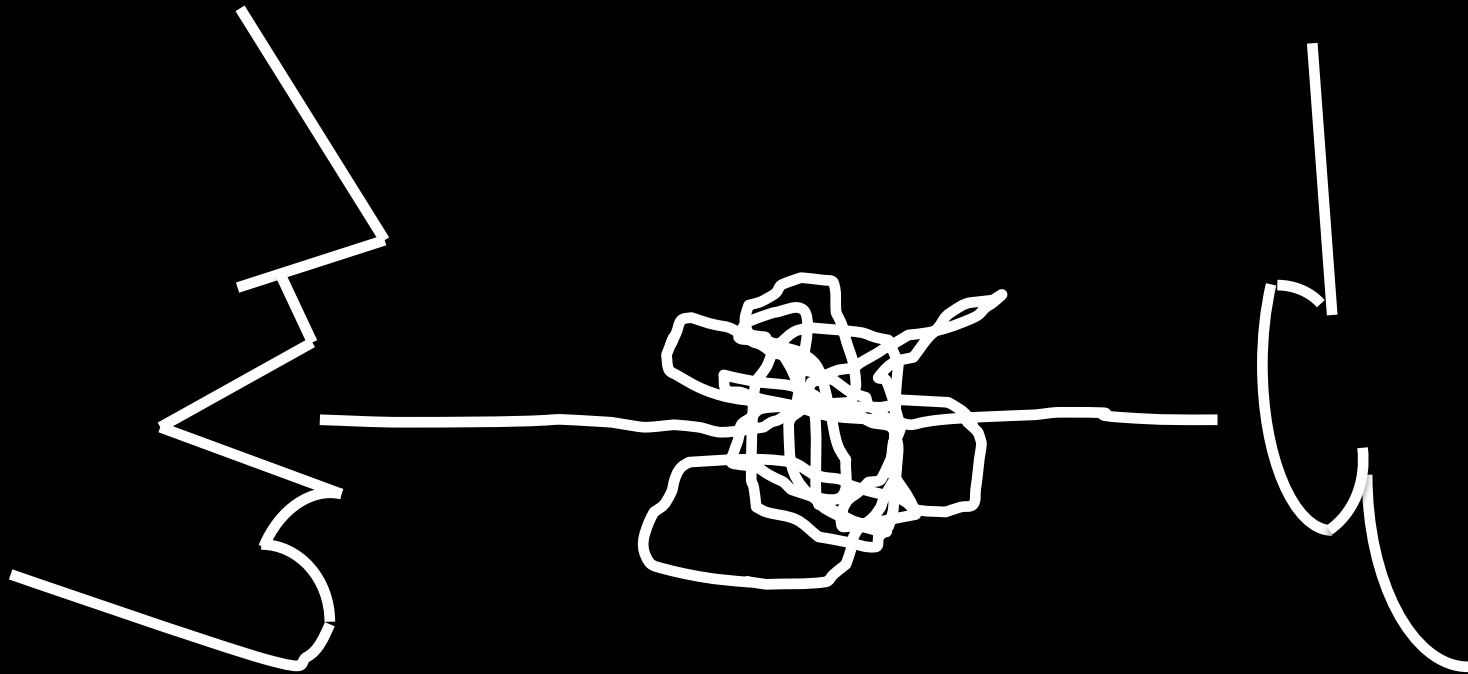
Other Threatened Life: The Tip of a Vast Unknown



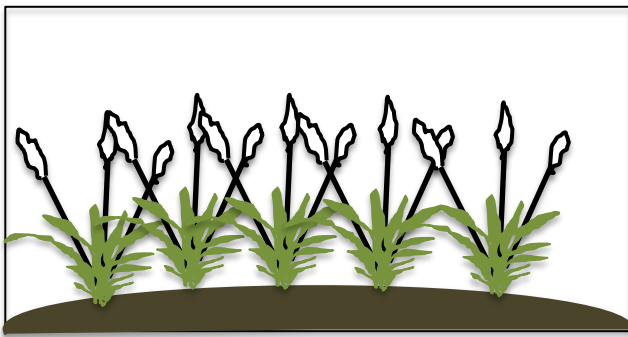
A word cloud featuring various pest control and eradication terms. The words are arranged in a roughly triangular shape, pointing towards the top right. The colors used are teal, orange, yellow, and brown. The words are: REDUCTION, ERADICATION, SLAUGHTER, ZERO-DENSITY, CONTROL, PRAY-N-SPRAY, MANAGEMENT, DIE, KILL-EM, POP-POP-MOFO, TREATMENT, DISPATCH, and DECLINE.

REDUCTION
ERADICATION
SLAUGHTER ZERO-DENSITY
CONTROL PRAY-N-SPRAY
MANAGEMENT DIE
KILL-EM POP-POP-MOFO
TREATMENT DISPATCH
DECLINE

Nomenclature

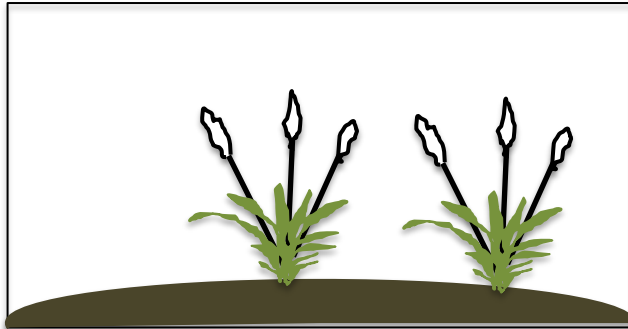


1

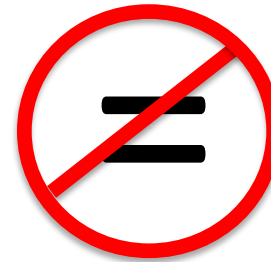


= No Treatment

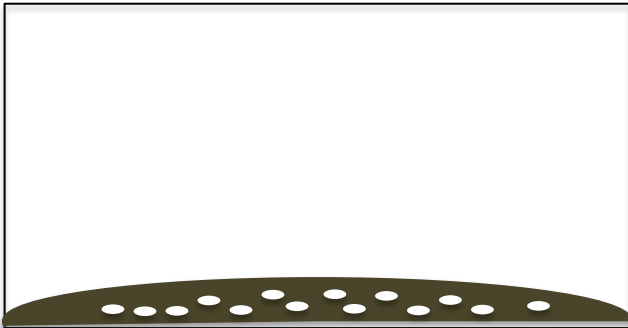
2



= Control



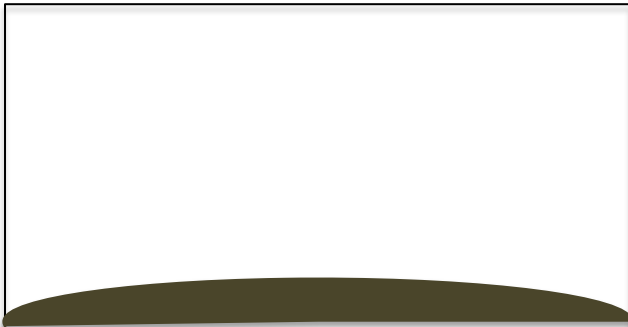
3



= Control-to-zero density

← Seedbank present

4



= Eradication

← Seedbank depleted

Eradication vs Control



Eradication vs Control

Eradication

- Target eliminated

Control

- Target reduced



Eradication vs Control

Eradication

- Target eliminated
- Finite

Control

- Target reduced
- On-going



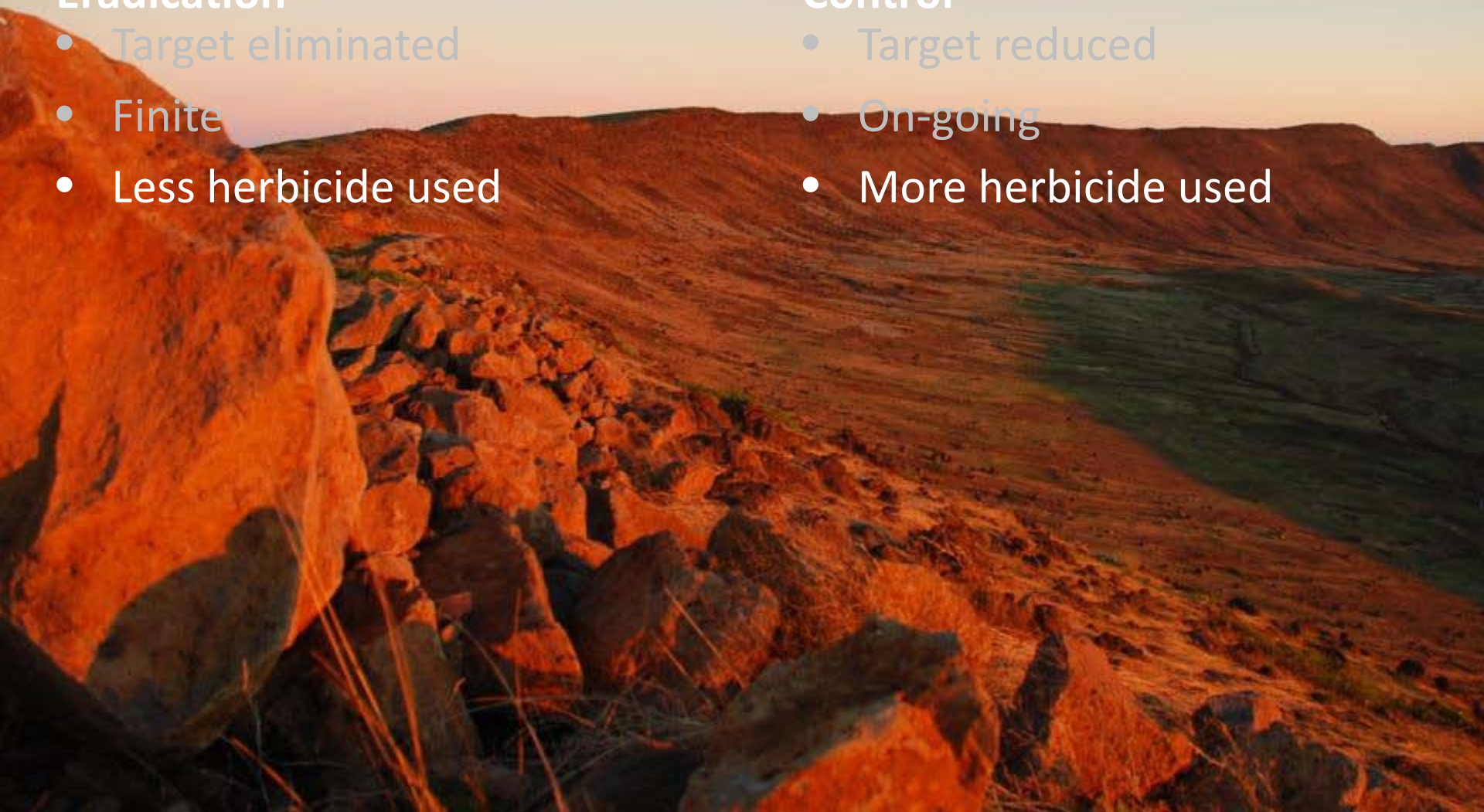
Eradication vs Control

Eradication

- Target eliminated
- Finite
- Less herbicide used

Control

- Target reduced
- On-going
- More herbicide used



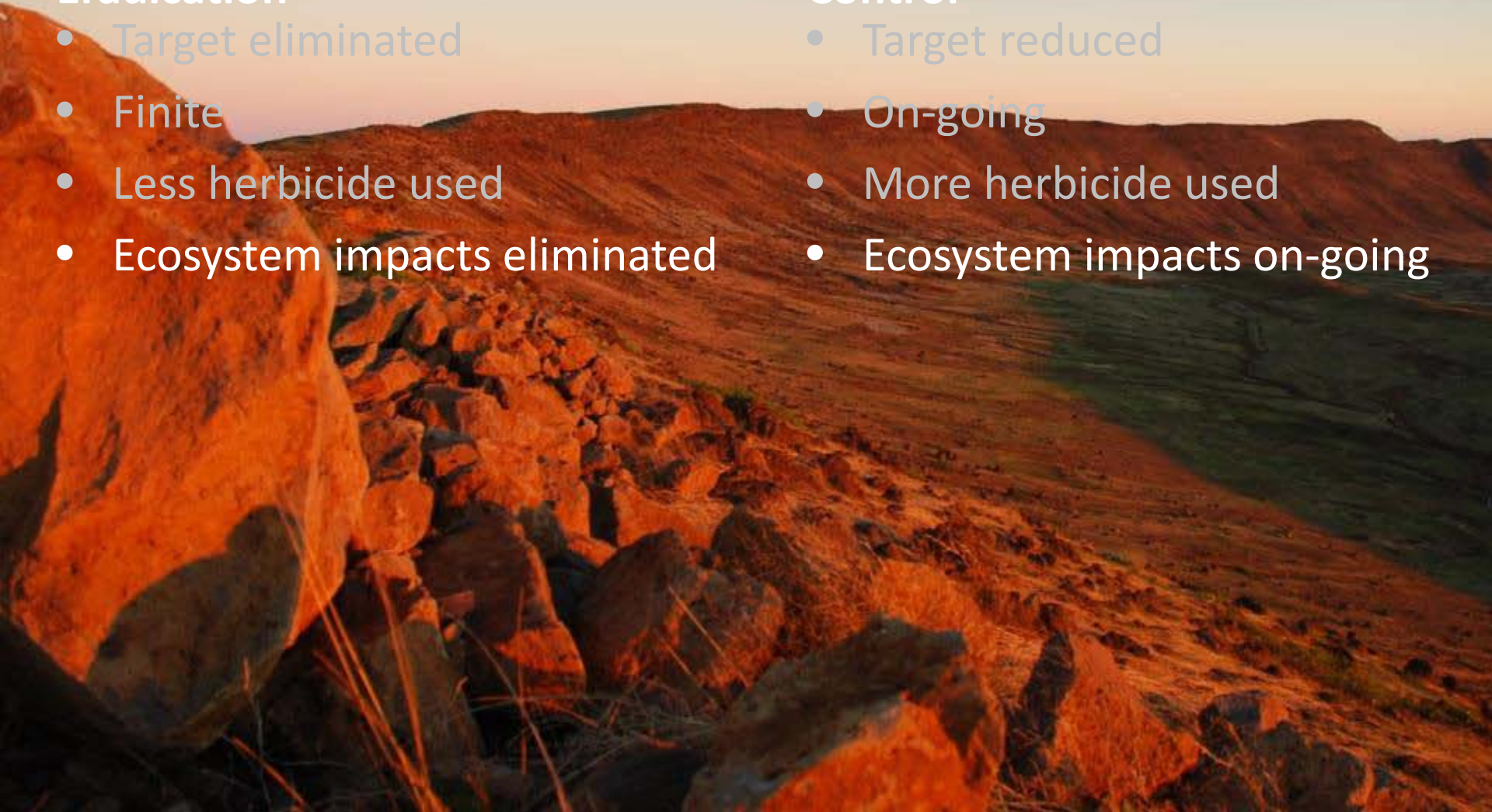
Eradication vs Control

Eradication

- Target eliminated
- Finite
- Less herbicide used
- Ecosystem impacts eliminated

Control

- Target reduced
- On-going
- More herbicide used
- Ecosystem impacts on-going



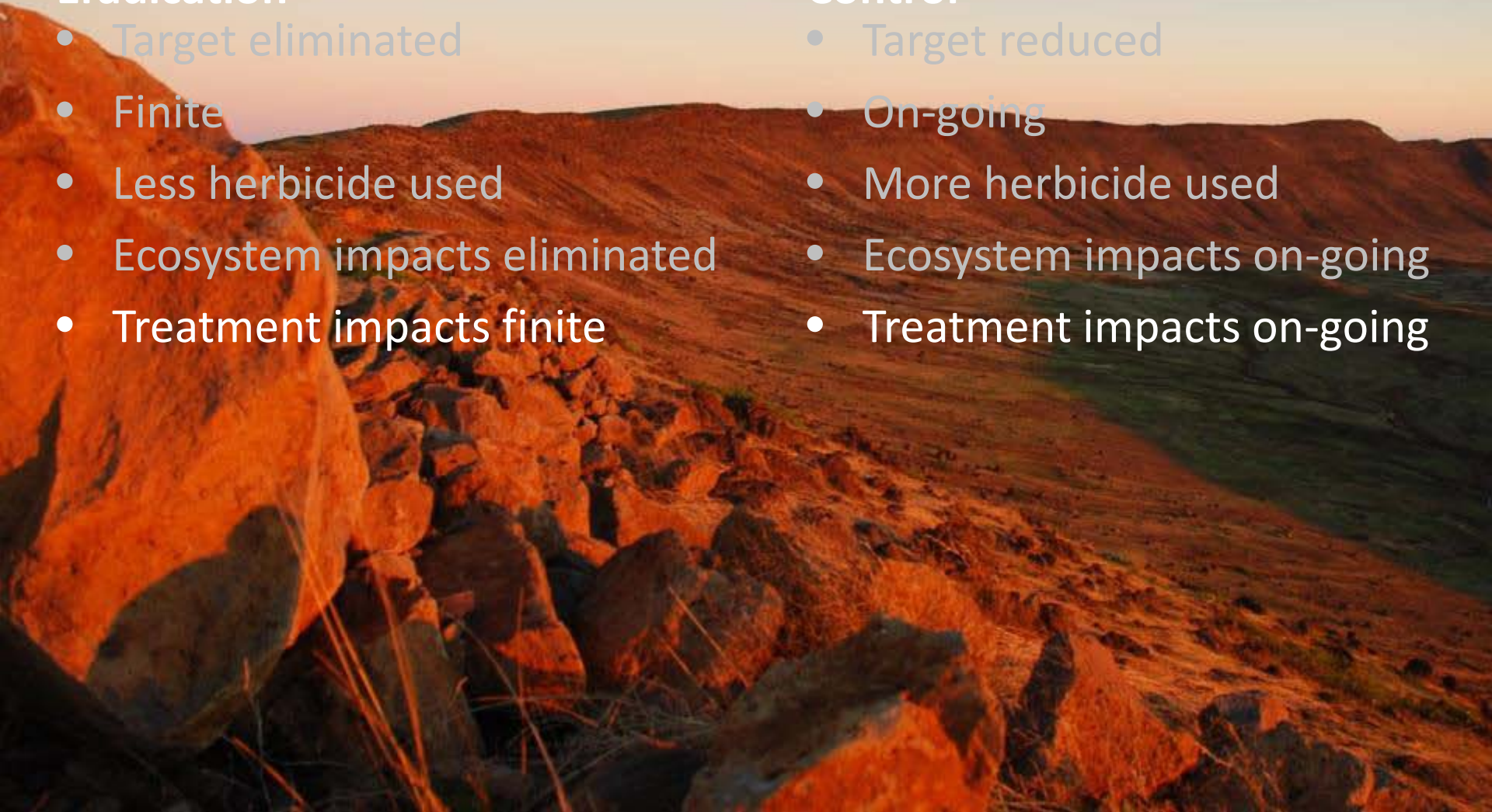
Eradication vs Control

Eradication

- Target eliminated
- Finite
- Less herbicide used
- Ecosystem impacts eliminated
- Treatment impacts finite

Control

- Target reduced
- On-going
- More herbicide used
- Ecosystem impacts on-going
- Treatment impacts on-going



Eradication vs Control

Eradication

- Target eliminated
- Finite
- Less herbicide used
- Ecosystem impacts eliminated
- Treatment impacts finite
- High initial costs

Control

- Target reduced
- On-going
- More herbicide used
- Ecosystem impacts on-going
- Treatment impacts on-going
- High long-term costs

Eradication vs Control

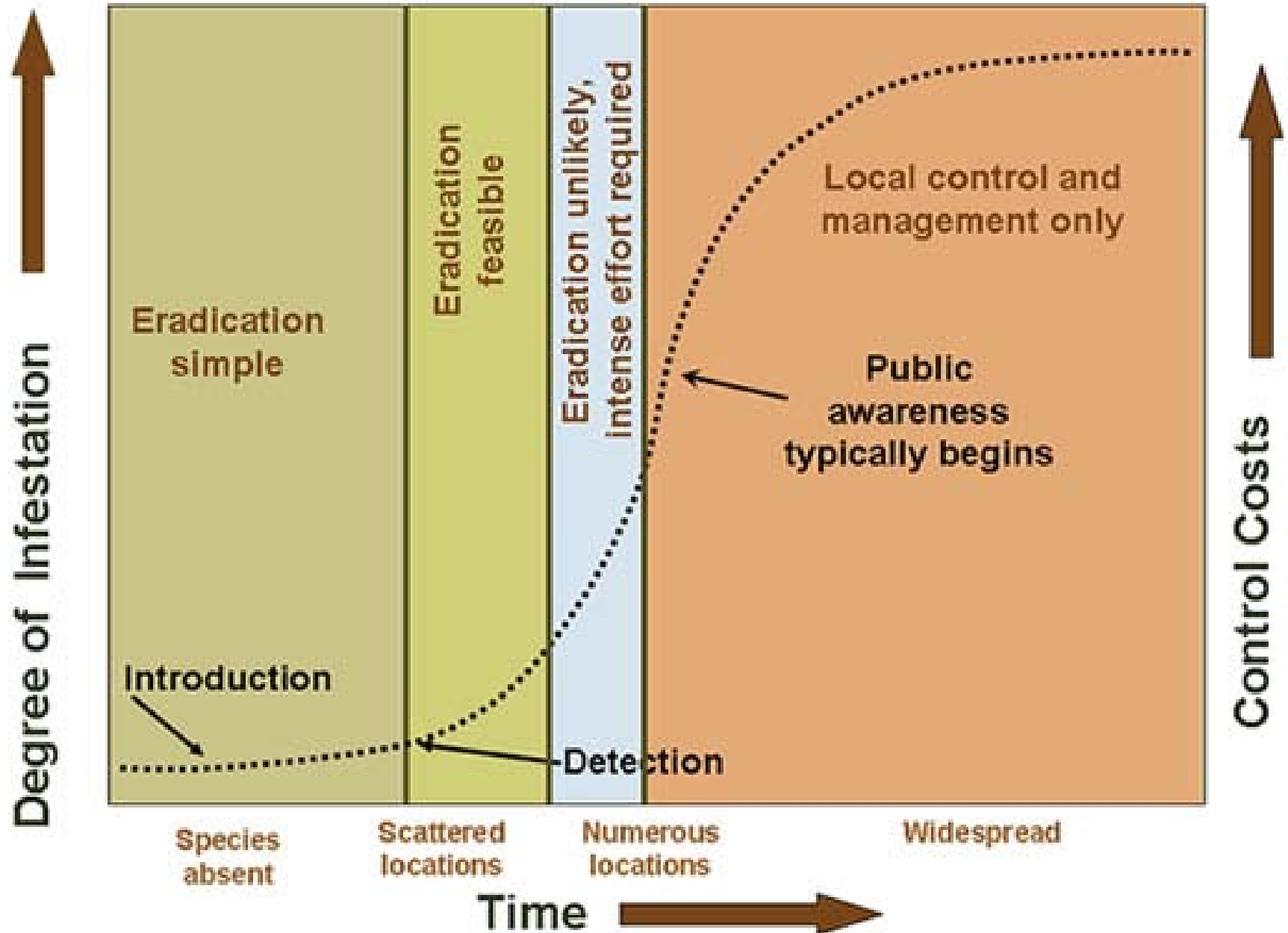
Eradication

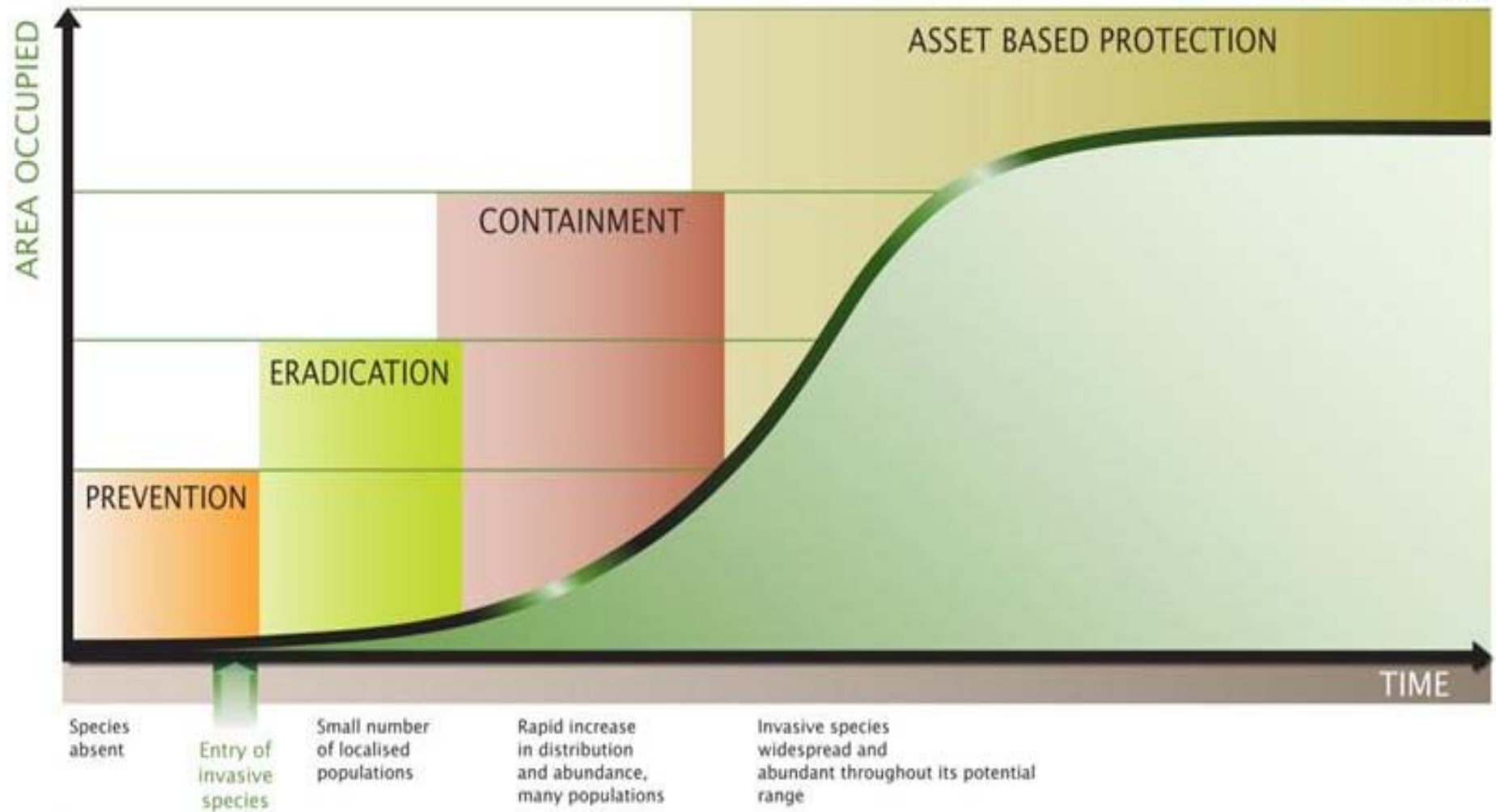
- Target eliminated
- Finite
- Less herbicide used
- Ecosystem impacts eliminated
- Treatment impacts finite
- High initial costs
- Complex

Control

- Target reduced
- On-going
- More herbicide used
- Ecosystem impacts on-going
- Treatment impacts on-going
- High long-term costs
- Simple

Invasion Stages Through Time





ECONOMIC RETURNS (INDICATIVE ONLY)



Eradication Criteria

1) Detect all targets







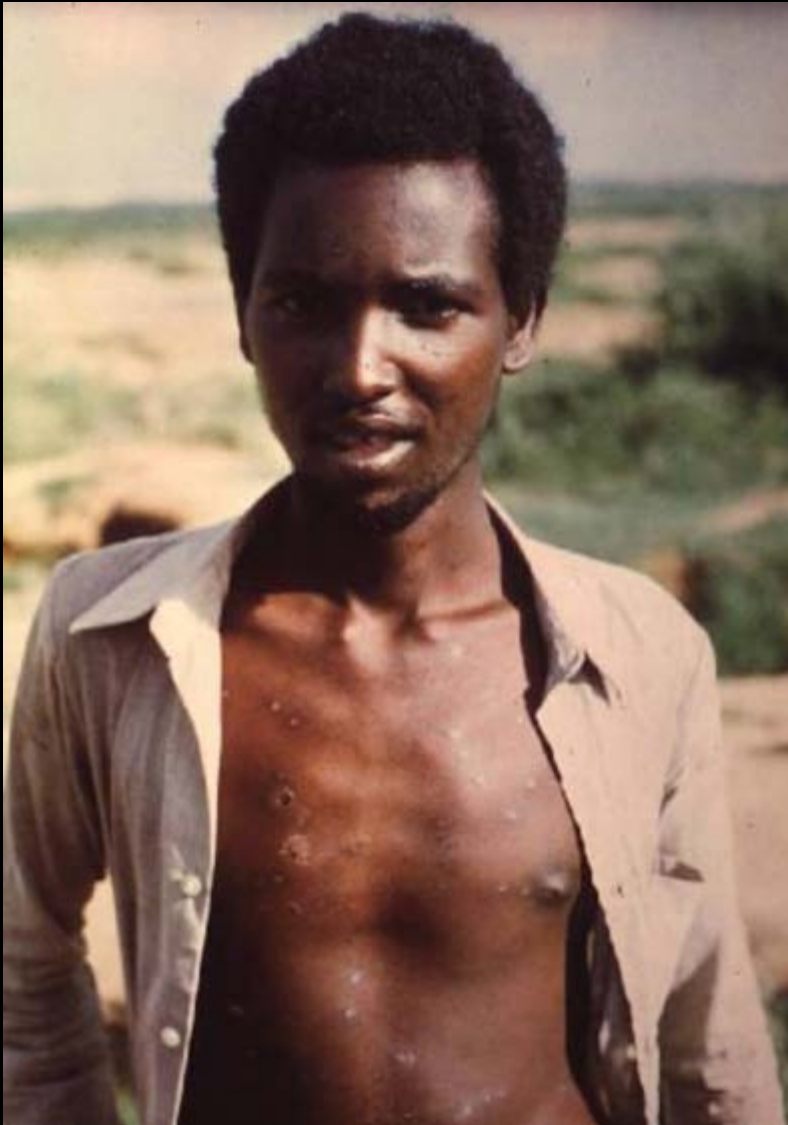
Courtesy of TNC- M. Ball





2) Remove all targets

Last victim with small pox on Earth



WHY DOES POLIO ERADICATION MATTER?

REDUCED BY

99%

Polio has been
reduced by 99% and
we are closer than
ever to ending it.



No child anywhere in the world will have to suffer from this crippling disease.



Reaching all children with the polio vaccine leads the way to reaching them with other life-saving resources.



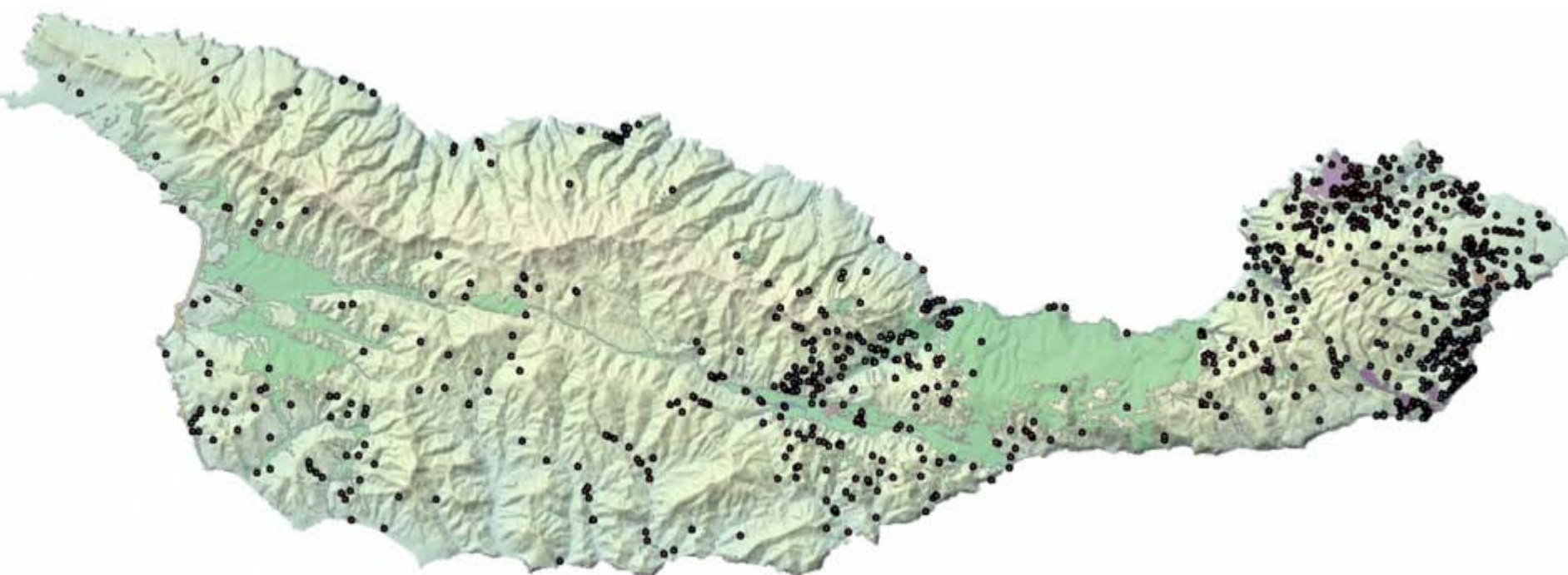
Until polio is stopped, children everywhere are at risk.



Achieving a polio-free world will prove what's possible when the global community comes together to improve children's lives.

JOIN IN. Share your voice and donate. Let's make history together. Endpolionow.org





3) Outpace reproduction of targets

STAR TREK

THE TROUBLE WITH TRIBBLES

44

CAPTAIN JAMES T. KIRK

WILLIAM SHATNER

MR. SPOCK

LEONARD NIMOY

DR. LEONARD MCCOY

DeFOREST KELLEY



WILLIAM SHATNER AS CAPTAIN JAMES T. KIRK, LEONARD NIMOY AS MR. SPOCK, DEFOREST KELLEY AS DR. LEONARD MCCOY, JAMES DOOHAN AS NICHOLLE NICHOLS, WALTER KOENIG AS STANLEY ADAMS, WILLIAM SCHALLERT AS WILLIAM CAMPBELL, JOSEPH PEVNEY AS DAVID GERROLD, GENE RODDENBERRY AS JERRY FIELDING





Customized by DAVE DARTING on DeviantART.com Customized by DAVE DARTING on DeviantART.com Customized by DAVE DARTING on DeviantART.com



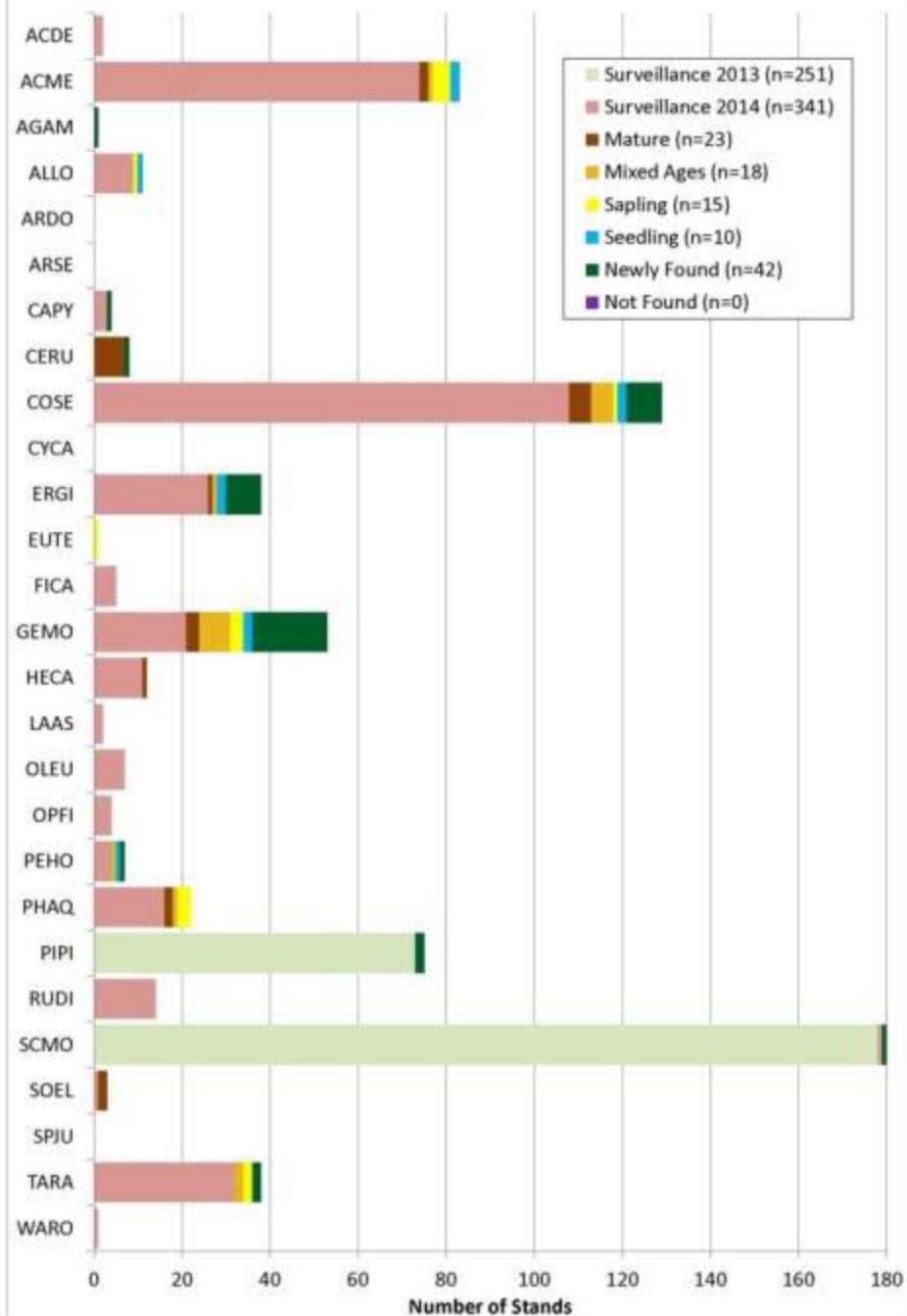
4) Commit to completion

MISSION ACCOMPLISHED

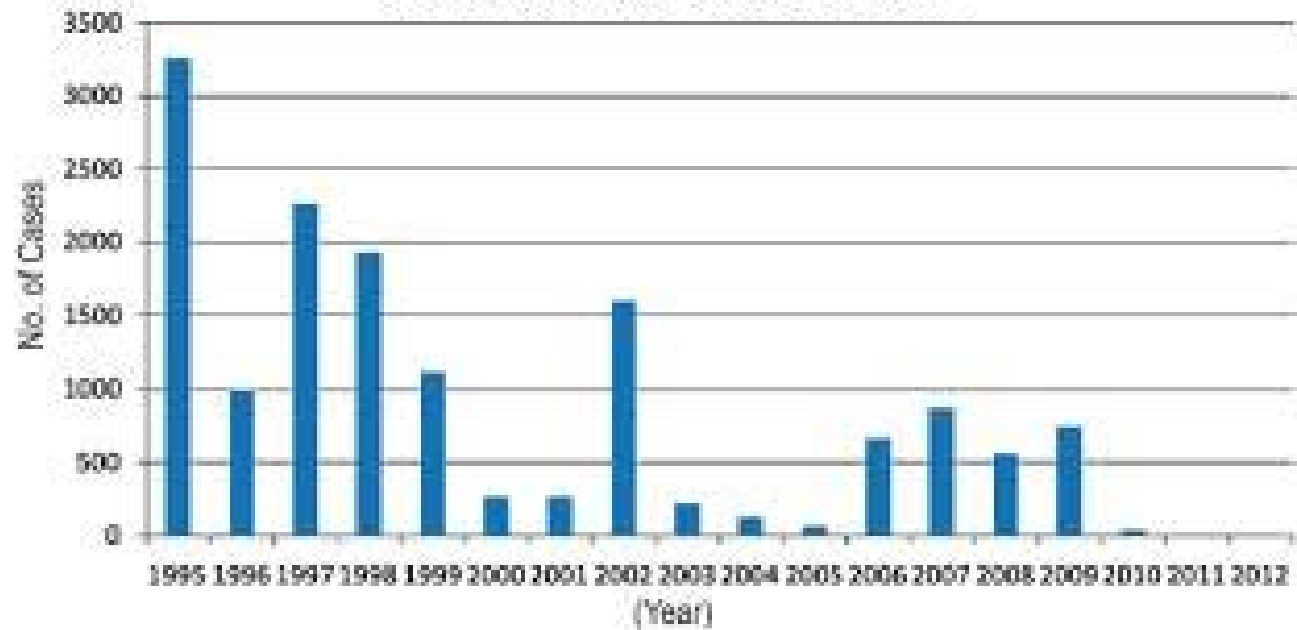


of invasive plants removed/miles of creek
cleared of IP says nothing about your work

TNC Santa Cruz Island Remote Treatment Status 2014



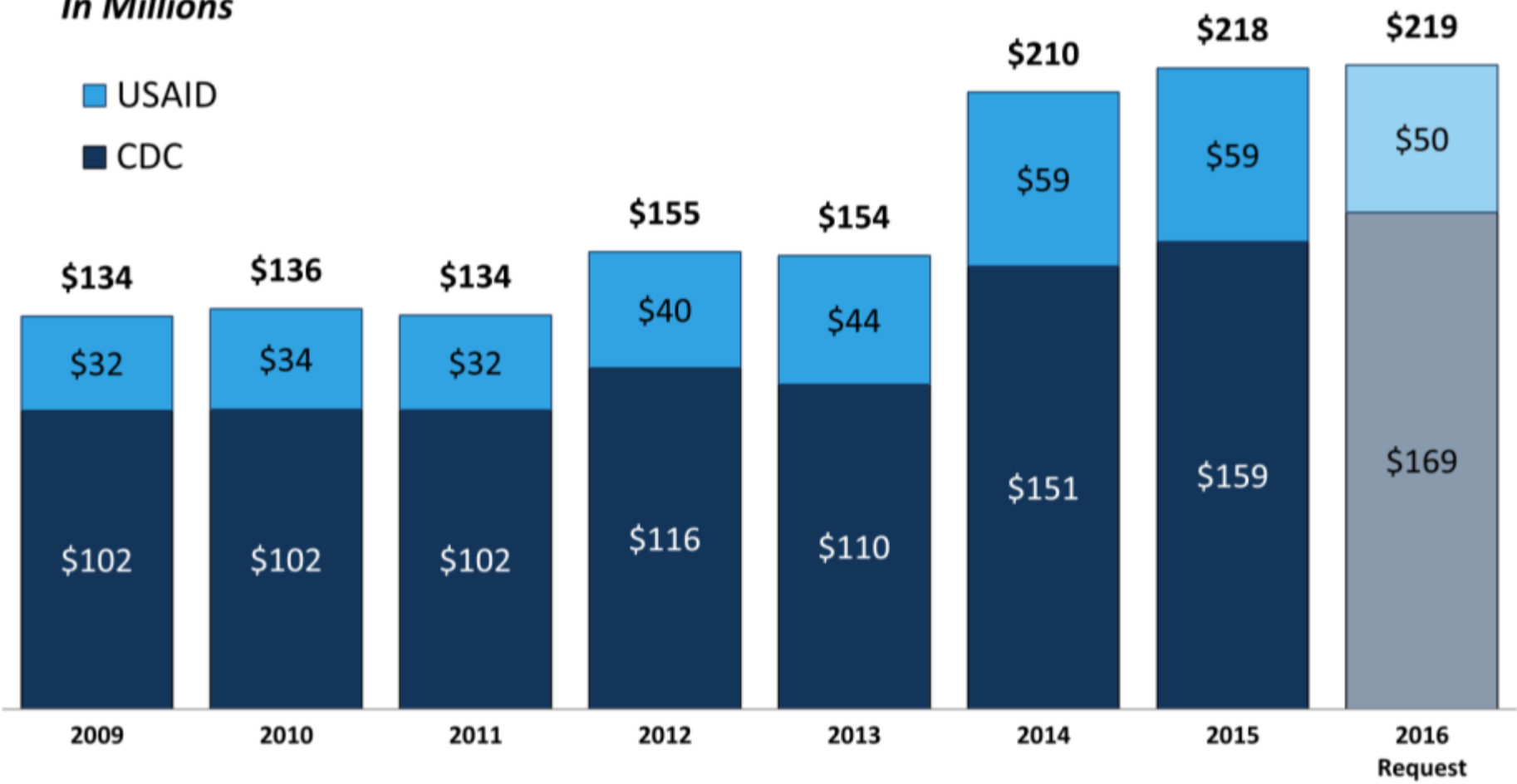
Poliovirus cases: 1995-2012



Global Polio, by Agency, FY 2009-FY 2016

In Millions

■ USAID
■ CDC







How do you know when you are done?

X years after zero density is achieved

Soil seed-bank viability



Take Home Message

- Talk the talk

Take Home Message

- Talk the talk
- Eradication is possible

Take Home Message

- Talk the talk
- Eradication is possible
- Assess and prioritize threats

Take Home Message

- Talk the talk
- Eradication is possible
- Assess and prioritize threats
- Design program to meet eradication criteria

Take Home Message

- Talk the talk
- Eradication is possible
- Assess and prioritize threats
- Design program to meet eradication criteria
- Flexibility in all programmatic aspects is key

A scenic photograph of a sunset over the ocean. The sun is a bright orange disk on the horizon, casting a warm glow across the sky. The sky transitions from a deep orange near the horizon to a pale yellow at the top. The ocean is a dark blue-grey, with gentle waves visible. In the foreground, the dark silhouettes of hills or dunes are visible, adding depth to the scene.

Questions?