Eradication is in your blood

<table>
<thead>
<tr>
<th>Already Gone</th>
<th>Mollusks</th>
<th>Birds</th>
<th>Flowering plants</th>
<th>Mammals</th>
<th>Fishes</th>
<th>Insects</th>
<th>Amphibians</th>
<th>Reptiles</th>
<th>Crustaceans</th>
<th>Nonflowering plants</th>
<th>Others</th>
<th>No known arachnid extinctions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species known to be</td>
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<tr>
<td>extinct, or extinct</td>
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<tr>
<td>in the wild, since</td>
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<td>327</td>
<td>136</td>
<td>110</td>
<td>79</td>
<td>68</td>
<td>60</td>
<td>39</td>
<td>22</td>
<td>12</td>
<td>10</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
THE SIXTH EXTINCTION
Other Threatened Life:
The Tip of a Vast Unknown

5 not threatened; 19 threatened
ARACHNIDS 0.02% of known species assessed
INSECTS 0.3%

2,122 threatened

741 threatened

469
277
596
629

2,028
1,673
1,946

772 threatened

Chart figures exclude 9,709 species evaluated but found to be too poorly known to assign to a threat category.
Nomenclature
1. No Treatment

2. Control

3. Control-to-zero density

4. Eradication

Seedbank present

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
Eradication Criteria
1) Detect all targets
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
4) Commit to completion
# of invasive plants removed/miles of creek cleared of IP says nothing about your work
Poliovirus cases: 1995-2012

In Millions

- USAID
- CDC

<table>
<thead>
<tr>
<th>Year</th>
<th>USAID</th>
<th>CDC</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>2009</td>
<td>$32</td>
<td>$102</td>
<td>$134</td>
</tr>
<tr>
<td>2010</td>
<td>$34</td>
<td>$102</td>
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</tr>
<tr>
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<tr>
<td>2016 Request</td>
<td>$50</td>
<td>$169</td>
<td>$219</td>
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</tbody>
</table>
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
Questions?