

Ecological Resilience, Adaptation & Emergency Preparedness: the Need for Seed



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Panelists

- **Bruce Stein**, Assoc. Vice President, National Wildlife Federation
- **Linda Langston**, National Association of Counties & FEMA Advisory Board
- **Iain Hyde**, Deputy Director, Colorado Office of Resiliency & Recovery
- **Rachel Wieder**, Governor Andrew M. Cuomo's Office of Storm Recovery
- **Dwayne Estes**, Austin Peay State University

Extreme Weather Events

World Economic Forum lists extreme weather, water shortages, natural disasters and a failure to prepare for climate change as four of the greatest perils in terms of impact in its *Global Risks Report* for 2017 – only surpassed by weapons of mass destruction.

Extreme weather events

From 1980 to 2012:

- Worldwide disaster related losses caused by extreme weather – US\$ 2,800 billion
- Global loss of lives caused by extreme weather – 1.4 million

World Bank, 2013

Extreme weather events in the US

Since 1980 there have been 188 weather and climate disasters in which overall damages/costs were \$1 billion or over.

- <http://www.ncdc.noaa.gov/billions>

Wildfires

- Since 2000 nine forest fires in the US have caused at least \$1 billion in damages each



- <http://www.c2es.org/science-impacts/extreme-weather/wildfires>

Hurricanes

8 out of 10 of the most costly hurricanes in the US have occurred since 2004

Katrina \$125 billion

Sandy \$65 billion

[Http://www.c2es.org/science-impacts/extreme-weather/hurricanes](http://www.c2es.org/science-impacts/extreme-weather/hurricanes)



Flooding

From 1980 to 2013, flooding caused more than \$260 billion in damage in the U.S., making it the costliest and fastest-growing disaster threat in the nation.



<http://www.pewtrusts.org/en/projects/flood-prepared-communities>

Seed is a Critical Natural Resource

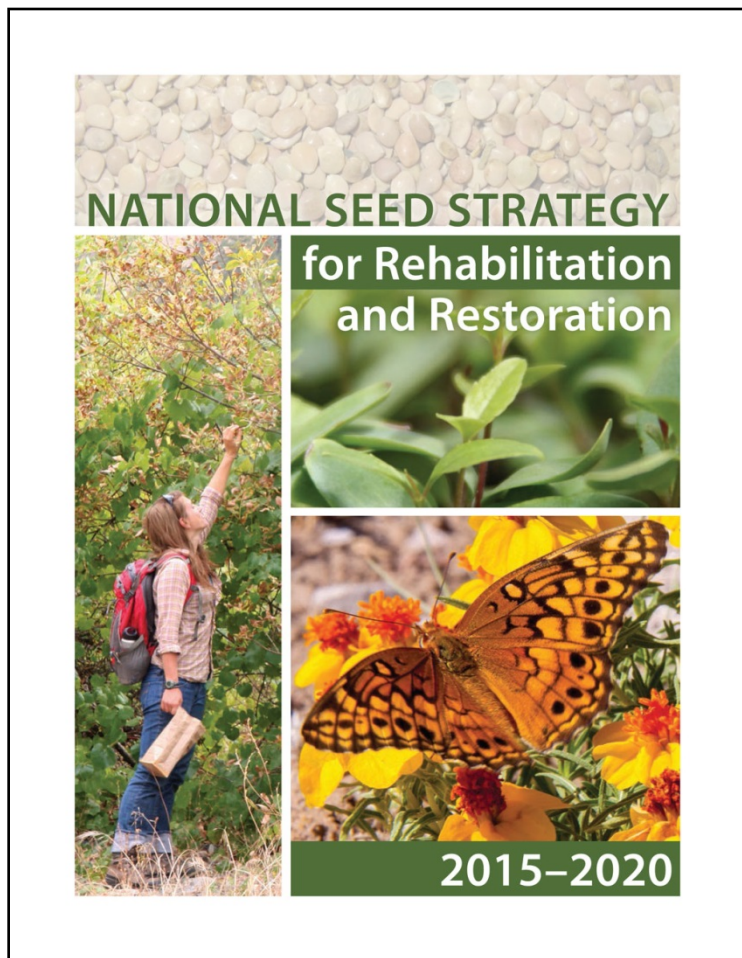
Seed is a critical natural resource that has been largely unrecognized, unprotected, and undermanaged.

Locally adapted seed sources are critical for restoration and management because they do not pose a genetic risk to surrounding native populations.

However, our nation's seed resources are in danger not only from extirpation but also from misuse.

As such our nation's seed resources are in need of the same kind of forward-thinking management we demand for other natural resources such as timber and oil.

US National Seed Strategy



- Unprecedented national initiative
- Involving 12 federal agencies and > 300 other partners
- Four goals with associated objectives
 - Seed needs assessment
 - Research to improve supply
 - Decision Making Tools
 - Communication

Focus for panel discussion

- Form new strategic partnerships?
- Reach new audiences?
- How can we implement the Strategy to address the urgent, unexpected events ?
- Secure the resources we need?
- Ensure innovative thinking?



The preceding presentation was delivered at the

2017 National Native Seed Conference

Washington, D.C. February 13-16, 2017

This and additional presentations available at <http://nativeseed.info>

