

Conservation and Climate Action: Bridging the Gap (and breaching the boundaries)

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Outline

- ▶ Becoming comfortable beyond our boundaries
 - Conservation strategy as a guiding principle
- ▶ Integrative, habitat-based conservation in an urban context
- ▶ Example from an international context SAFE Red Panda Discussion questions
- ▶ Group discussion

A legacy of working within boundaries

New
Phytologist

Review



Tansley review

The growing and vital role of botanical gardens
in climate change research

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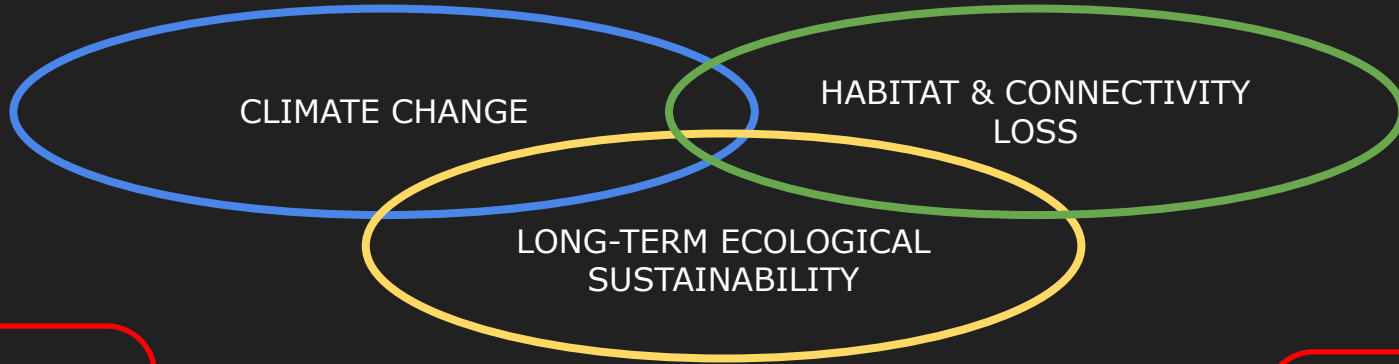
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From Living Collections to Living Landscapes?

From education to conservation action?

From within the boundaries to outside?

FOCAL CONSERVATION CHALLENGES



ENVIRONMENTAL
EQUITY &
INCLUSION

COLLABORATION

COMMUNICATION

EVIDENCE-BASED
CONSERVATION

Core operational values that drive PZA conservation programs (i.e. how we are going about addressing the focal areas)

Example: an urban biodiversity conservation program of Pittsburgh Zoo & Aquarium

Native tree or plant species can support biodiversity.

In addition:



Tree planting as a
land management
solution

Tree Pittsburgh



Tree planting for
revitalizing
community spaces

Tree Pittsburgh



Planted
spaces as
learning and
community
activation
spaces

Kitoko Chargois

Hill District Community Space, Pittsburgh

- GRAVEL (see map for the wetland)
- WOODCHIPS
- WILD GRASS
- LAWN GRASS
- PRIVATELY OWNED PROPERTY

WYLIE AVENUE



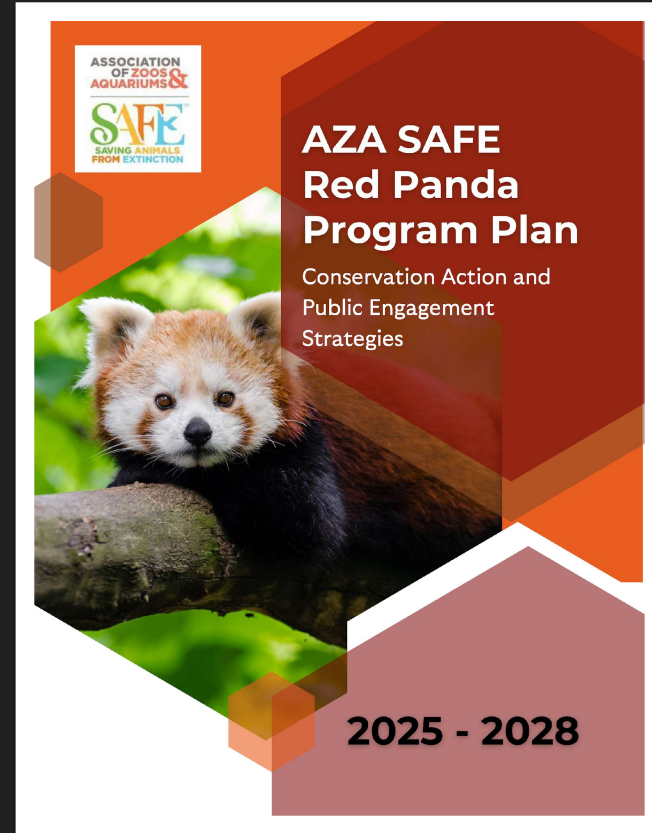
CENTRE AVENUE

ELMORE STREET

SAFE Red Panda: Cross-institutional Collaboration

Conservation Action Workgroup

- Habitat Restoration, Community-based Conservation
- Connectivity & Conservation Planning
- One Health



Small Group Discussion Questions

What:

What are some of the pressing climate change challenges in your region?

- Think mitigation, adaptation, and also resilience

Which of these challenges are of prime interest to your organization?

- Think physical spaces, actions, projects etc

Small Group Discussion Questions

How do we:

Motivate collective/participatory action?

Work beyond the physical boundaries of institutions?

Please share:

Barriers and creative solutions to these barriers

Internal and external opportunities

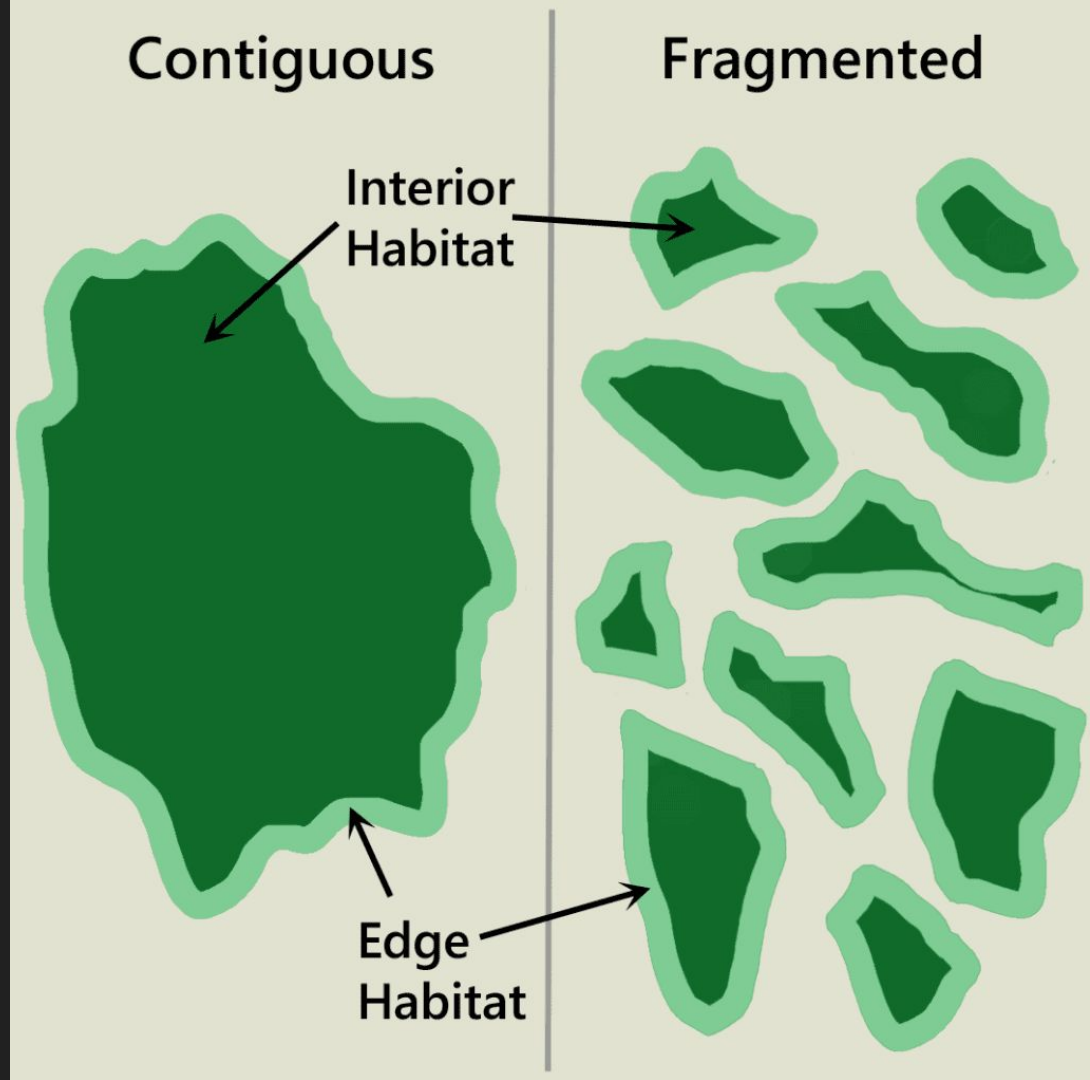
Successful models or programs

Historic focus on ex-situ conservation efforts

- Collections of rare plants or assurance populations in zoo settings
- Somewhat parallel development in the industry as science education organizations
- How do we successfully transition as Conservation organizations?
- How do we integrate climate change action
 - Motivate collective action

Habitat Loss, fragmentation, and degradation is the leading cause of terrestrial biodiversity loss.

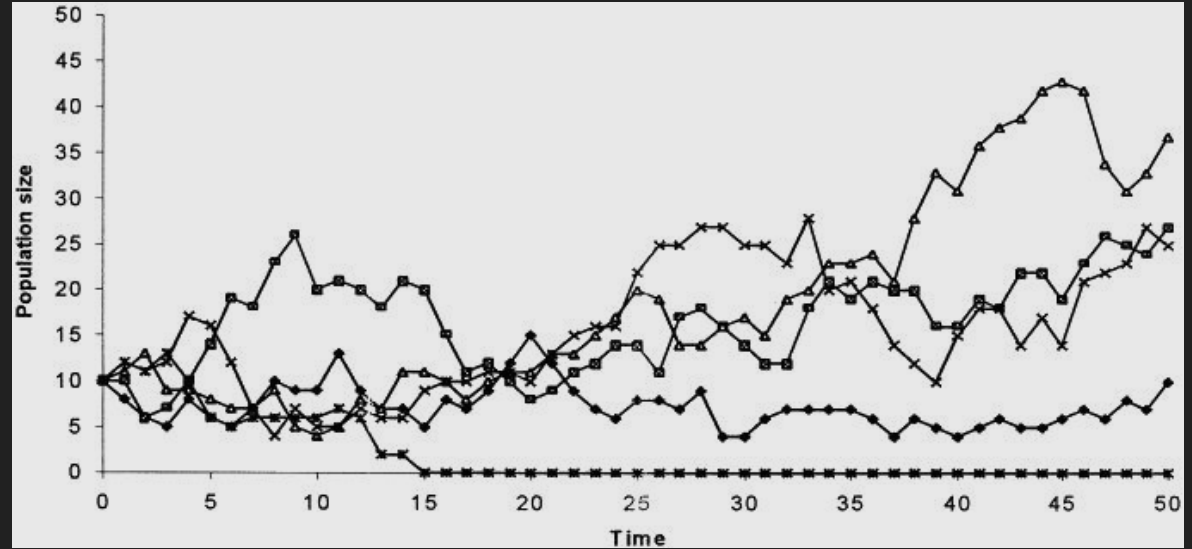
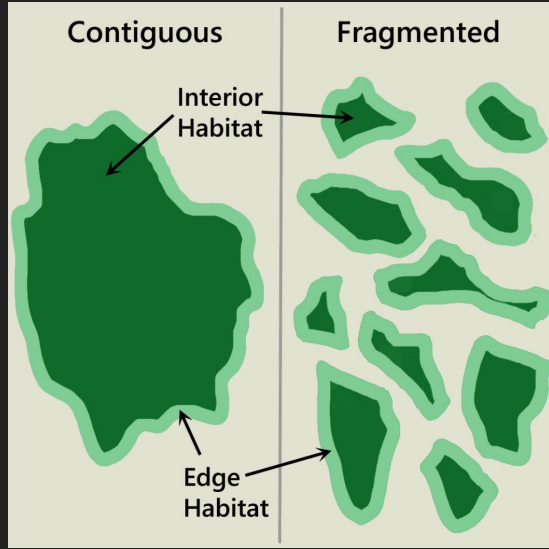
Jaureguiberry et al., Sci. Adv. 8, (2022)



Benefits we didn't set out for:

Reputation: seen as a champion of biodiversity
by regional colleagues

Revenue: conference hosting– incidental, but
appreciated!



Fragmented habitats have small populations.

Small populations have high variability and higher chance of local extinction.

Preventing and reversing habitat loss, increasing connectivity between patches are the primary solutions to the biodiversity crisis.

NEW YORK TIMES BESTSELLER

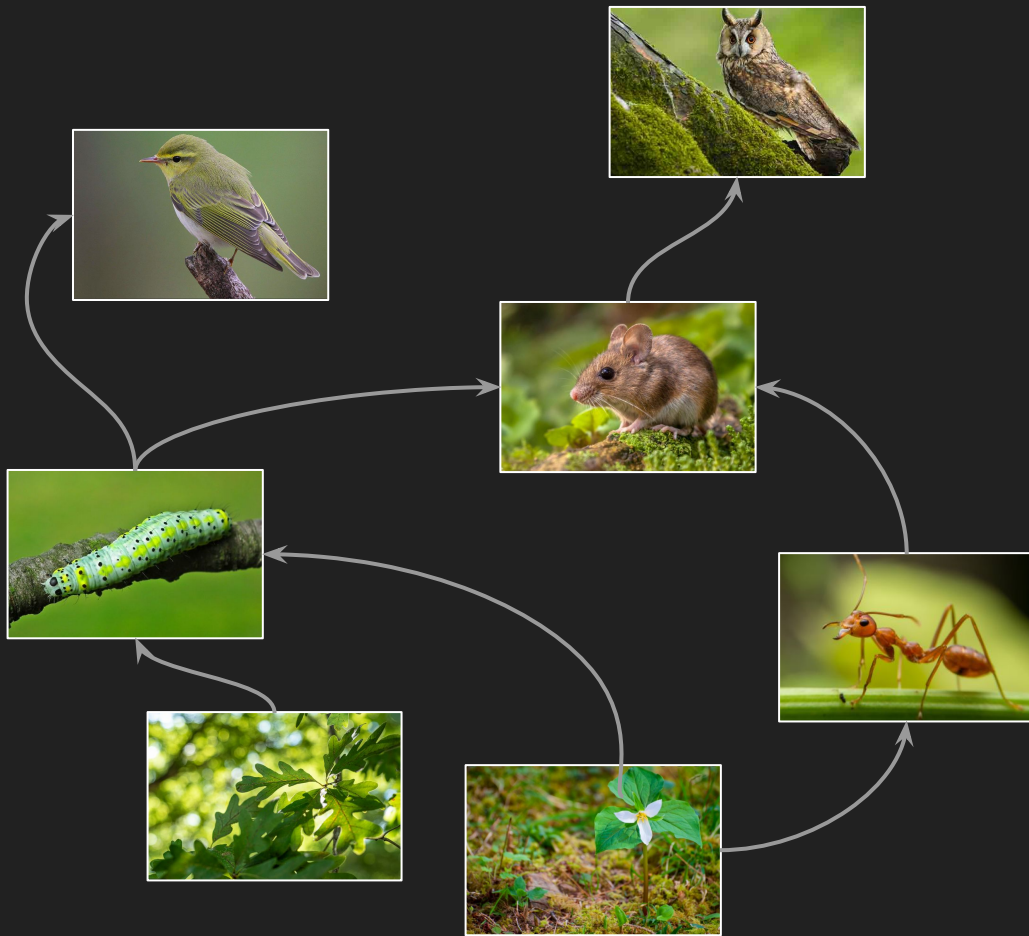


NATURE'S BEST HOPE

**A New Approach
to Conservation That
Starts in Your Yard**

DOUGLAS W. TALLAMY

Author of Bringing Nature Home



NEW YORK TIMES BESTSELLER

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Local needs integrate with conservation efforts

- ▶ City landscapes for biodiversity
 - Need for participatory conservation efforts
 - Detroit as an example
- ▶ Opportunities to connect to neighborhood revitalization and green infrastructure



Needs expressed by municipal leaders in SE MI offer conservation opportunities:

- ▶ Increase utilization and acceptance of Green Infrastructure (=biodiversity-friendly solutions)
- ▶ Translating scientific information into applied understanding that inform landscape practices
- ▶ Lowering barriers for adopting biodiversity friendly practices (availability of native plant and other resources)



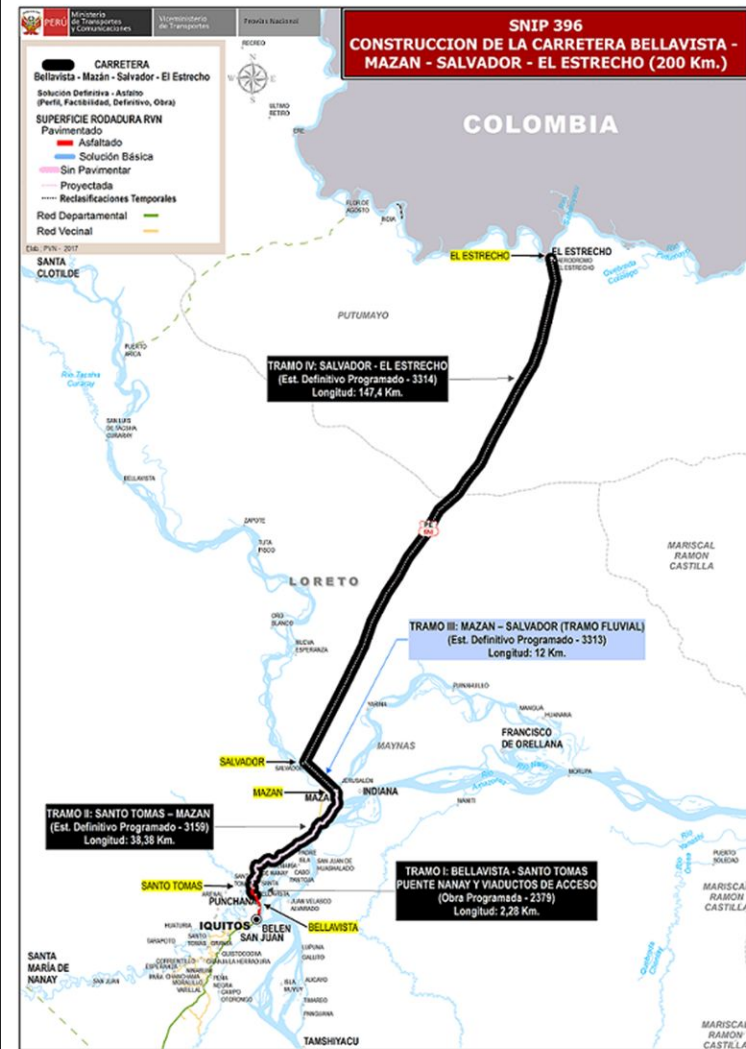
Case for integrative, habitat-based biodiversity solutions

- ▶ Drivers acting on different than species scales dominate biodiversity loss.
- ▶ Synergistic effects between drivers of biodiversity loss require integrative conservation action.
- ▶ Wildlife population management programs act when population sizes have become small, instead of preventative conservation action.
- ▶ Connectivity based approaches, either preventing or mitigating habitat fragmentation, maintain the integrity of the whole ecosystem, including species that live there.

Conservation in NORTHERN PERU

A proposed 200 KM road with 50 KM of oil palm plantation along the road threatens the ecological integrity of this vast region.

Maijuna-Kichwa Indigenous Federation is against the road, protecting 1500 sq. miles of rainforest.



Engaging the COMMUNITIES through partnerships

- Engaging 45+ communities through conservation workshops; identifying community leaders and goals
- Engaging the Maijuna Federation and allies in creating and implementing a comprehensive plan
- Outcomes include community-based conservation plans and a common conservation platform

Key ideas:

- ▶ Habitat loss and fragmentation is the leading cause of biodiversity loss.
- ▶ Conservation efforts need to take an integrative approach for addressing the biodiversity crisis.
- ▶ Solutions to conservation problems will include working with and responding to community needs.

Case for integrating and addressing local community needs

- a strong connection to Kayla's talk, Of course reckoning with post George Floyd and post-decolonizing conservation self-examinations. But more so:

- making sense of global changes at a local level – climate change action, or Nature Based Solutions

- Dean Watanabe's quotes:

“Cultural attractions will have to be closer and more reflective of their communities, and that may mean sacrificing some power to the community to some degree. This must be more than outreach and must include determining how to give communities a voice and how to involve them in actual decision-making.”

–Habitat degradation/fragmentation/loss leads to small population sizes, leading to local extinctions. One of the solutions is to have a more participatory, community-driven approach to habitat conservation with a focus on connectivity between larger habitat patches.

Highlight the tree planting

Highlight the ideas municipal leaders are expressing

Local connections/community needs

For ecological connectivity through participatory methods– habitat restoration and conservation for biodiversity}

For addressing broad conservation threats to biodiversity – this is where I insert the slide of biodiversity threats

Conservation in NORTHERN PERU

20+ years of collaboration with
CONAPAC

Important conservation education
work through Whatsapp group and
Amphibian Protector's Club

Amphibian surveys for understanding
rainforest biodiversity

