



JAPAN SCICOM FORUM 2004
October 23, 2024 @Ito Campus, KU

From outreach to co-creation: lessons learned from science education programs for children in Fukuoka City Science Museum



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Welcome to Ito Campus, Kyushu U



Project Challenging No Net Loss

- No species loss
 - Preserving all species inhabiting the campus
- No forest loss
 - Maintaining the forest area without reduction

We focused on less mobile species

1 : Plants

2 : Aquatic animals

3 : Mammals



Forest relocation for no net loss



Forest 24 years after the relocation



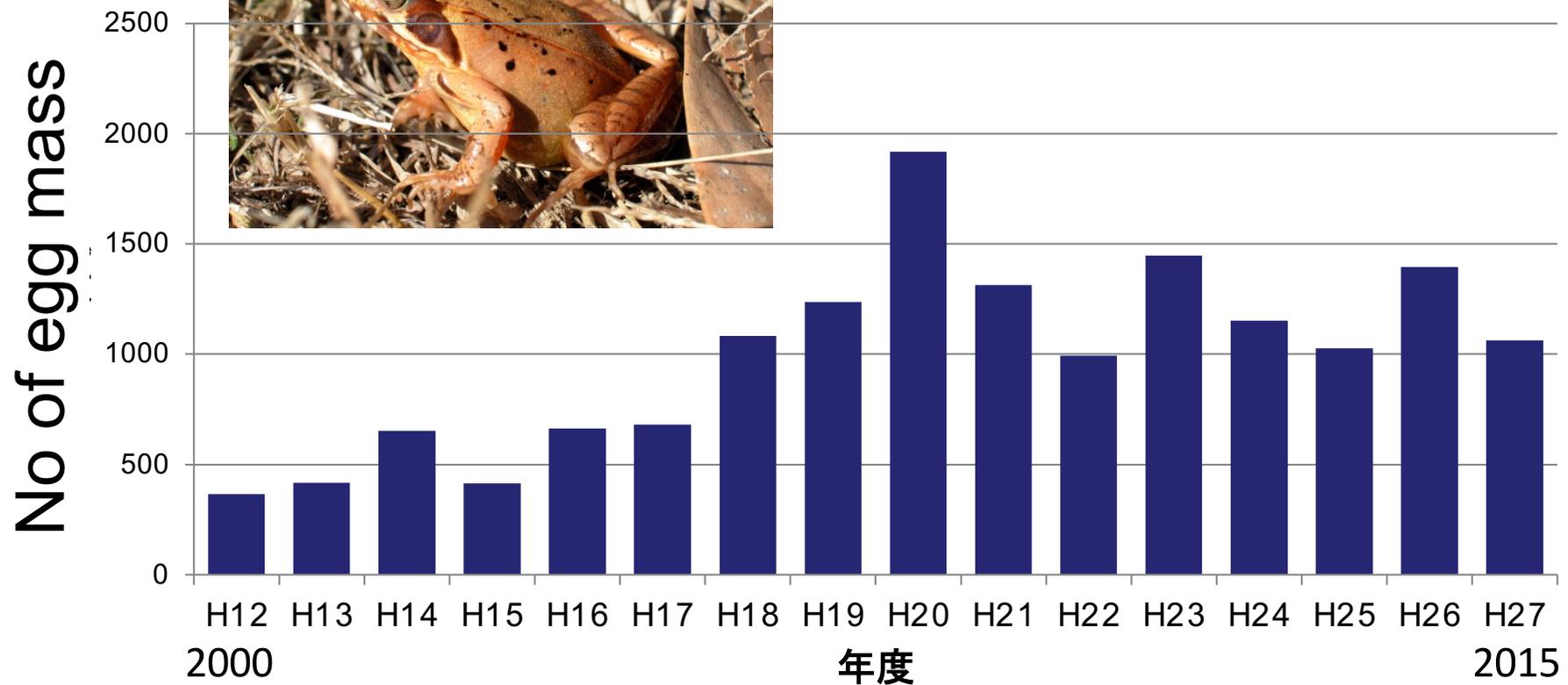
Pond relocation for no net loss

Along with the pond, we also moved the vegetation with *Typha* growing in the pond.





Rana japonica



Monitoring eggs of an endangered frog

Forest restoration activities by citizens



2007年11月23日(第9回秋のどんぐり拾い)

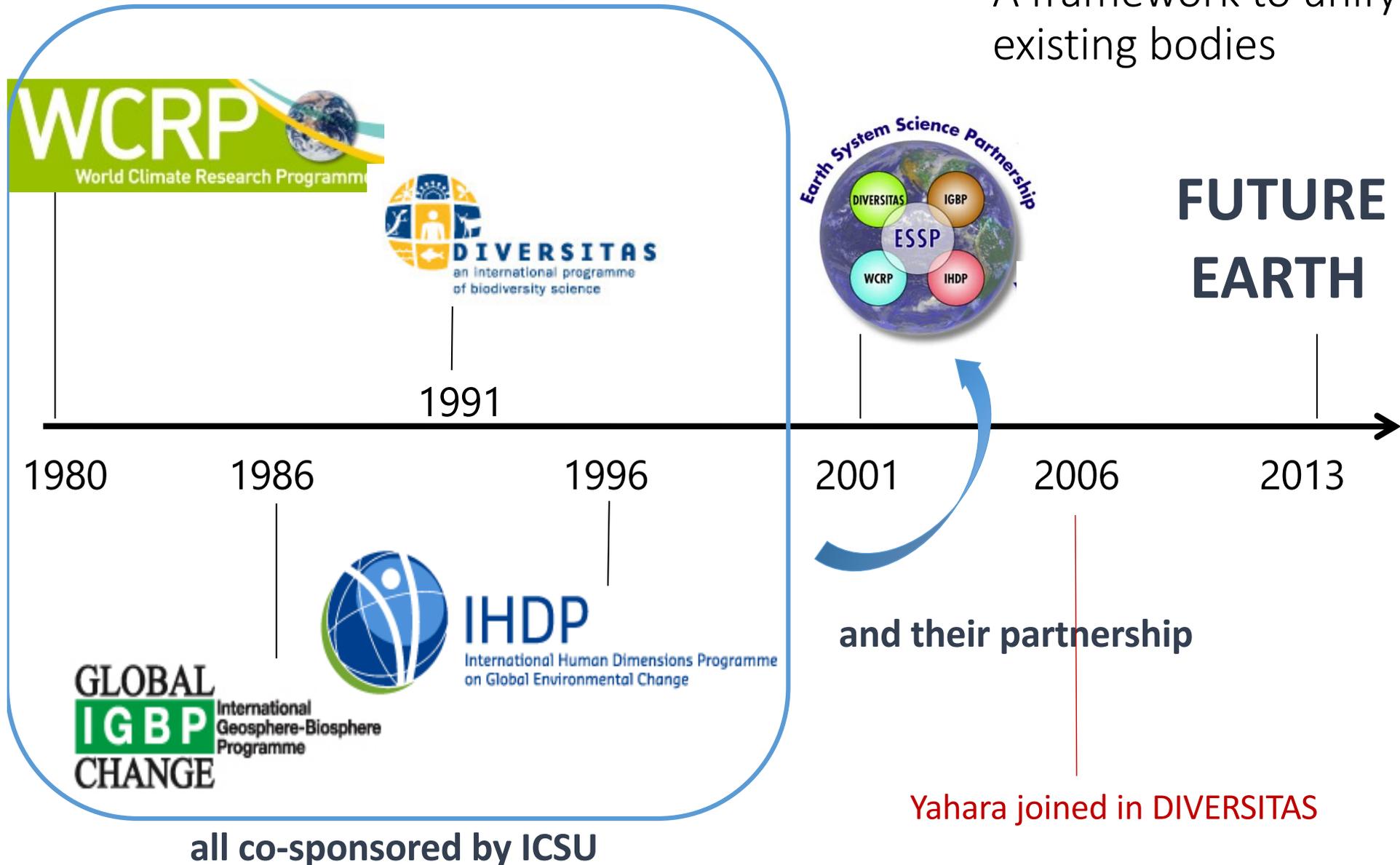


2005年(第3回春の植樹祭)

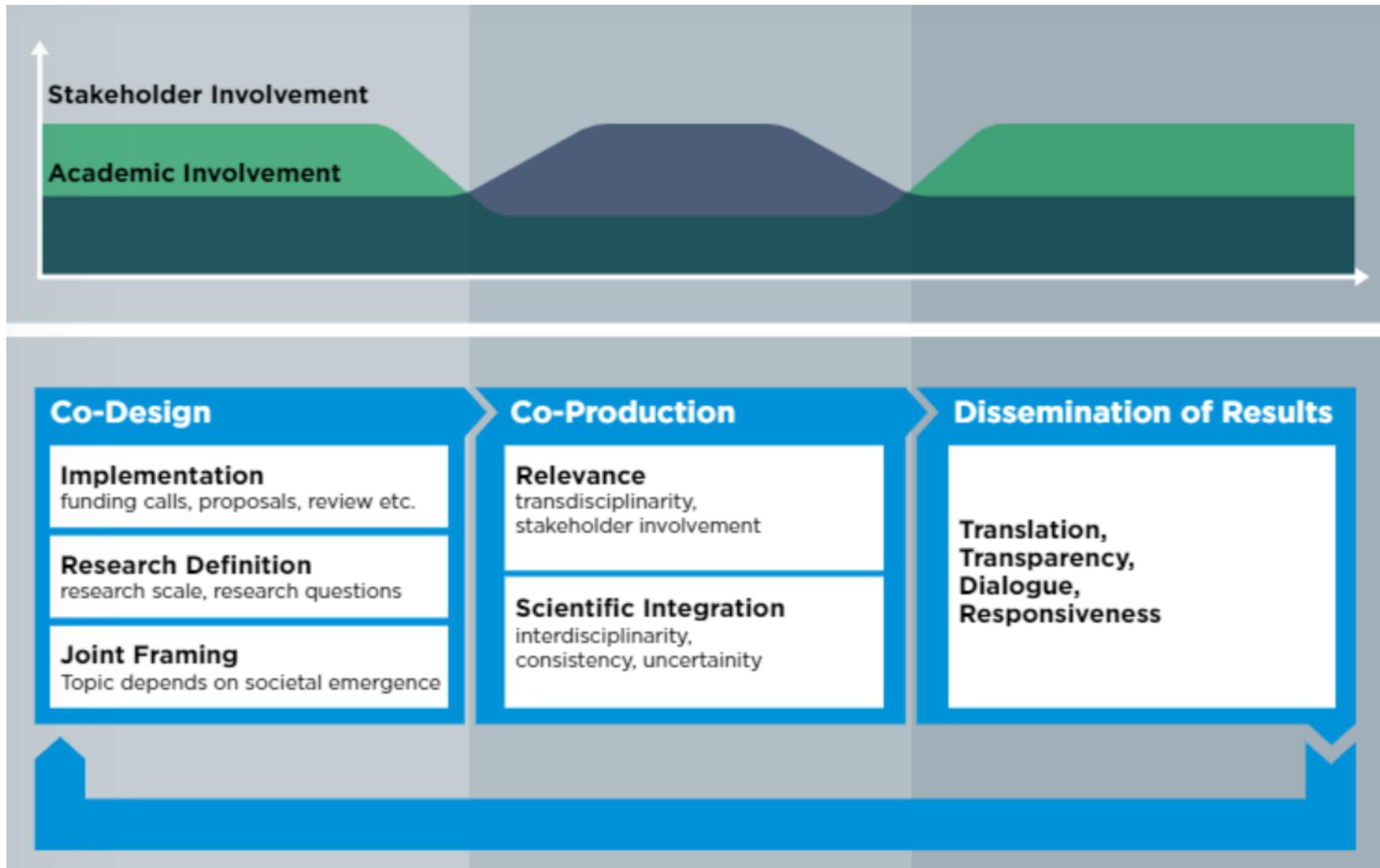
Contribution to Future Earth

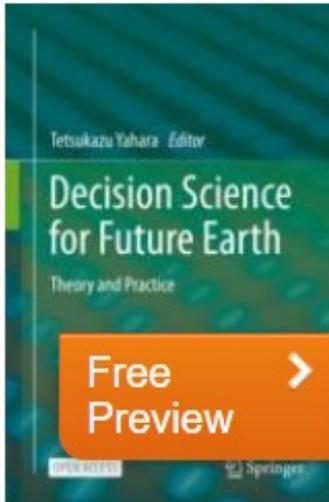
four Global Environmental Change Programmes

A framework to unify
existing bodies



Co-Design and Co-Production





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Open Access

Decision Science for Future Earth

Theory and Practice

Editors: **Yahara**, Tetsukazu (Ed.)

Is the first book to conceptualize Decision Science in relation to sustainability and Future Earth

» see more benefits

 Decision science for future earth|

 Decision science for future earth - Google 検索

open access, so
please feel free to
download and use it.

<https://www.springer.com/gp/book/9789811586316>

How to transform our society?



Chapter 1.: Decision science for Future Earth: A conceptual framework
Sect. 5: How can we transform our society toward a sustainable future?

We proposed five principles based on integration of lessons learned from past failures (Sect. 3) and successes (Sect. 4)

1. Promoting participatory process
2. Reducing conflicts among groups with different value systems
3. Improvement of institutions
4. Strengthening education and adaptive learning
5. Acting based on hope rather than fear for a sustainable future

Director since 2020



Fukuoka City Science Museum



5 million visitors over the last 5 years



Fukuoka City Science Museum exterior



Key Concepts

Fukuoka City Science Museum – Science & Creativity



5000 activities every year focused on **interactive communication**



Fukuoka City Science Museum – People oriented



Strong ties with the community



Nurtures the curiosity and sensitivity of people, especially children



Design of Darwin Course

A program for children aspiring to become future scientists.



Forest

River

City

Food

People

Human History

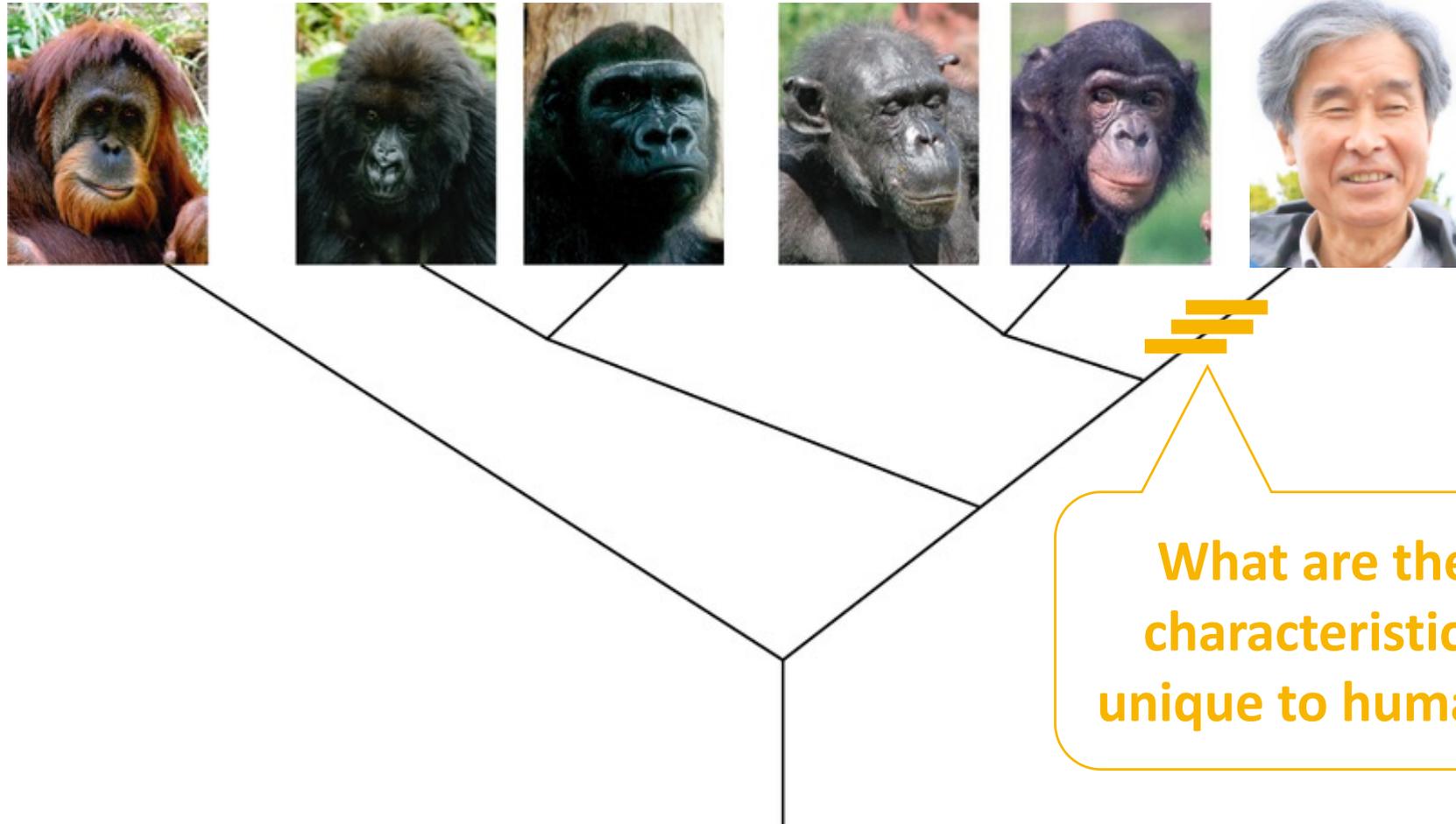
Visit Forest in Ito Campus



1.九州大学生物多様性保全ゾーン。撮影者不明 2.シロアリぐるぐるの実験(失敗)。田中弘士郎さん撮影 3.ドングリを炒って食べた。増井萌桃さん撮影

九州大学
伊都キャンパス

Tracing Human Evolution



What is unique to human?



The photo captures at least five features that are unique to humans.

Why do we enjoy fishing?



Humans can run for long periods of time



Collaborative work that enhances empathy

The children engage in expressive activities



Rather than simply providing the correct answers, we offer opportunities for learning through experience, fostering discovery and questioning.

By engaging in activities that express what they have learned, we allow children to enjoy the process of understanding. The excitement of 'I got it!' comes from making connections between pieces of knowledge, and it's perfectly fine if that understanding involves making mistakes.

Collaborative research with children

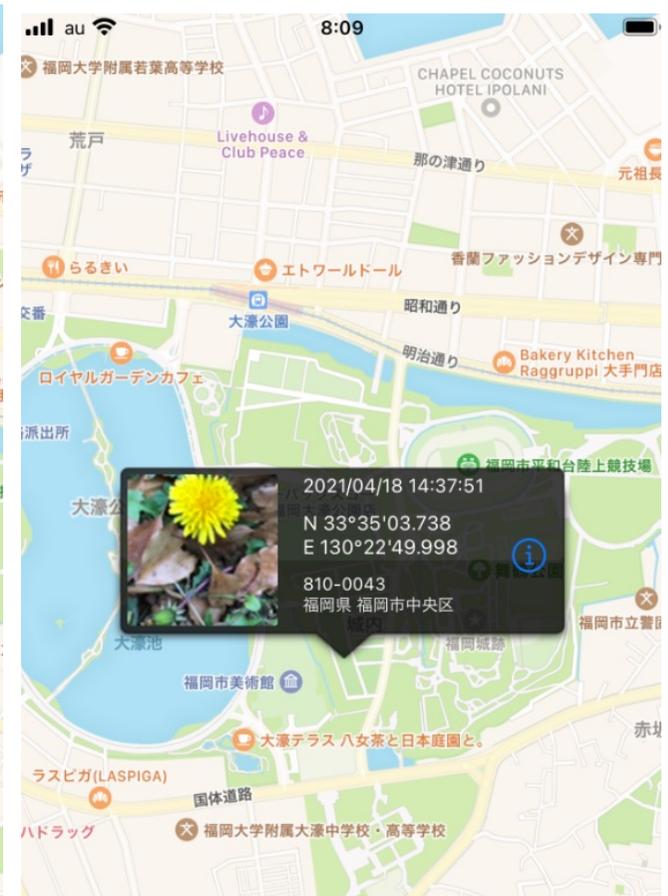
Mapping the distribution of native and alien dandelions



Alien dandelion



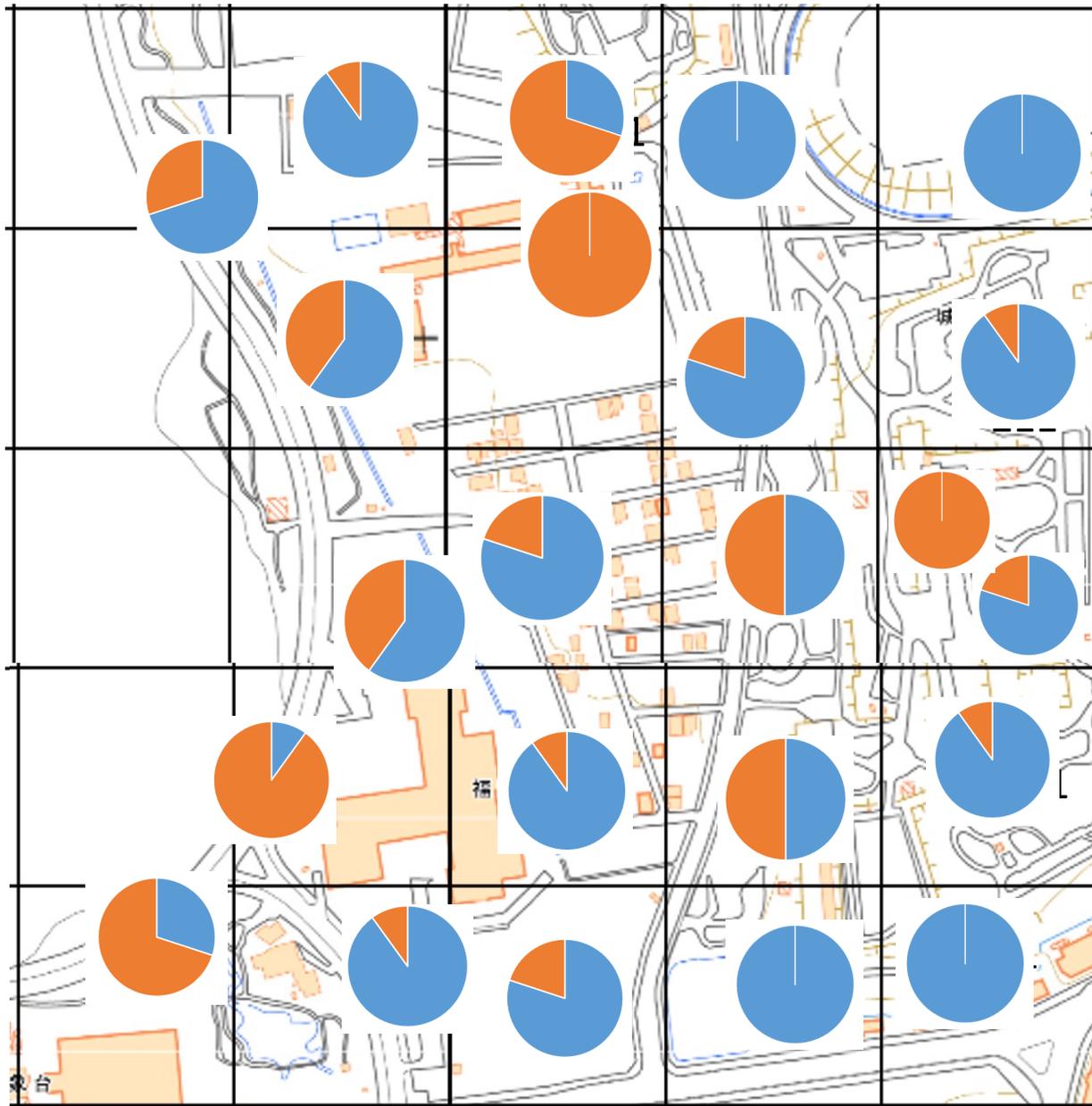
Native dandelion



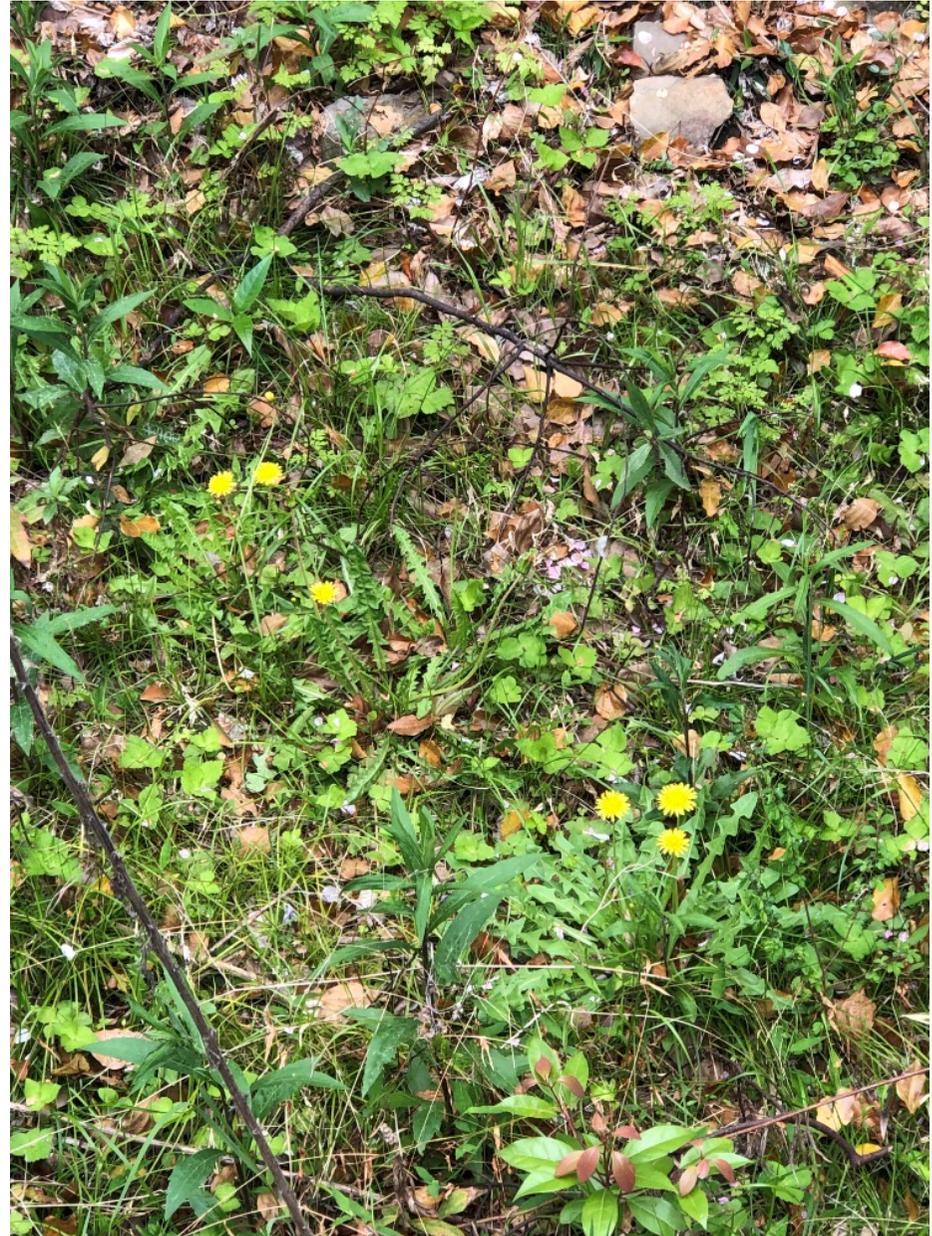
Native dandelion

The result of mapping survey in 2022

● Native ● Alien



The habitat of native dandelions



The habitat of alien dandelions



Differences in habitats between native and alien dandelions

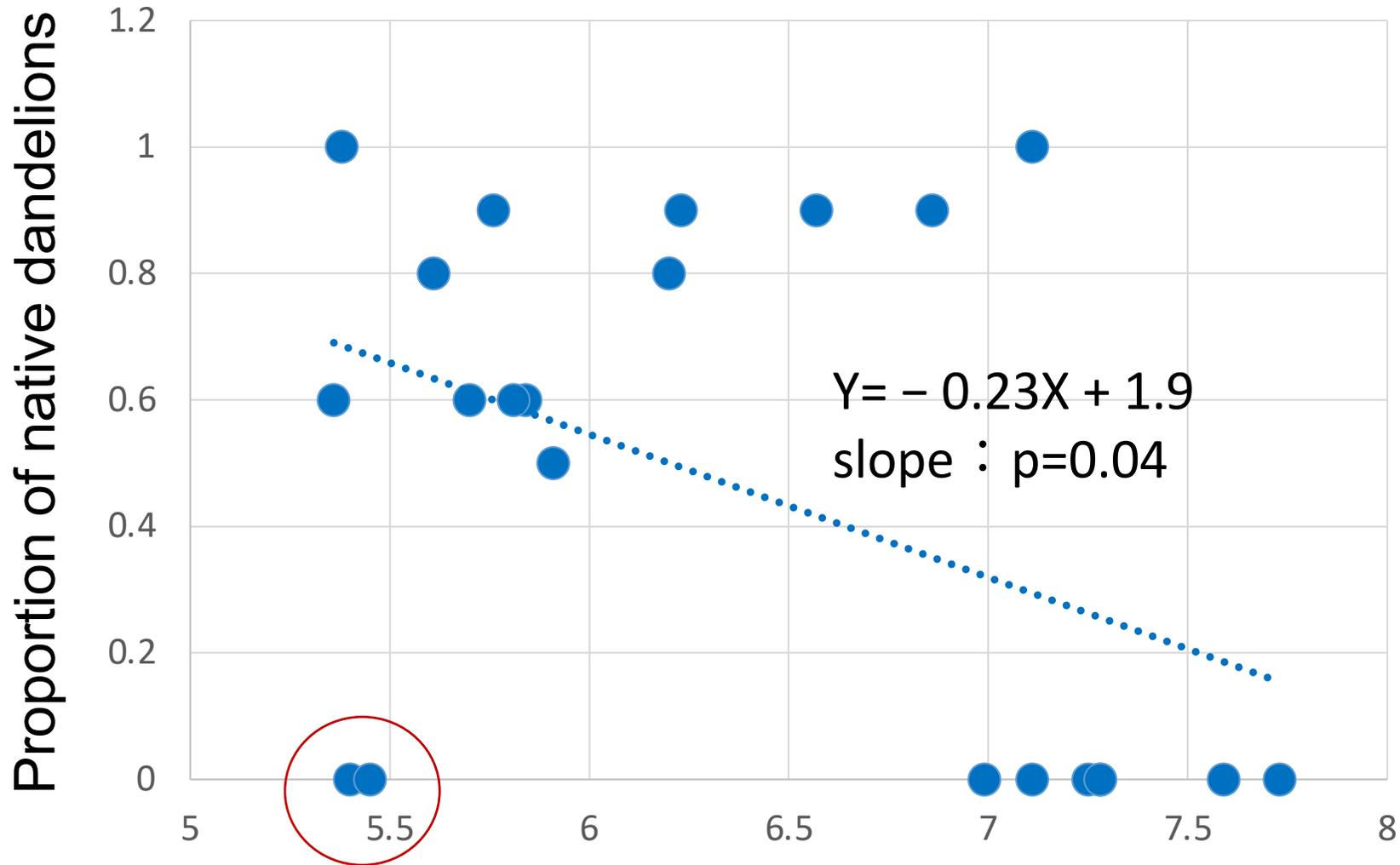
● Native ● Alien



Influenced by the soil ?



Influence of soil pH



Influenced by other factors Soil pH

Lessons learned from science education programs

It is important to recognize that children and their parents are partners in learning, not just recipients of instruction.

Discovering actively is more enjoyable than learning passively.

Integrating scientific inquiry with artistic expression broadens and deepens children's scientific understanding.

Scientists and science communicators certainly possess richer scientific knowledge than children and their parents, but it is the role of formal school education to teach that knowledge as the correct answer. In science communication at places like science museums, it is important not to approach from a position of authority, but to interact with children as equals, valuing their curiosity and creativity.

Thank you for your attention.