



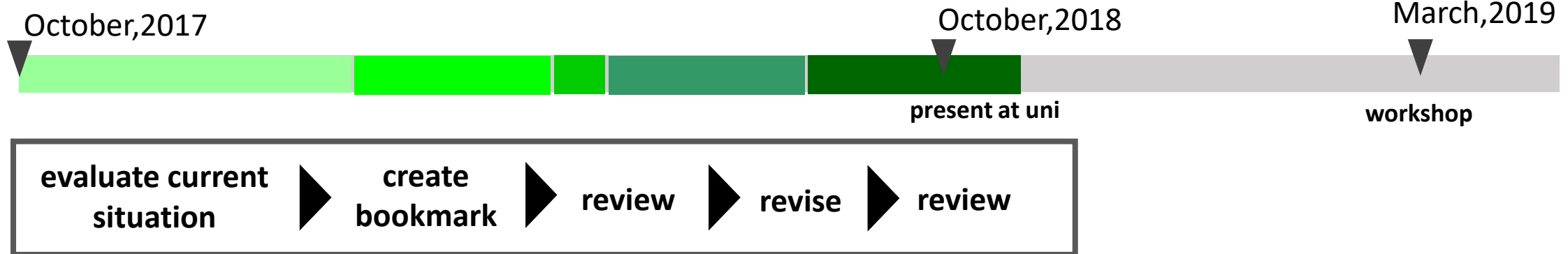
**LET'S PROTECT
OUR HOMETOWN!**

**A Fun Way to Learn About Lance-leaved
Tickseed (*Coreopsis Lanceolata*), an
Invasive Alien Species**

Outline

- ① About Oki High School
- ② Collaboration with the Geopark
- ③ Inspiration and Background for Our Research Project
- ④ Extermination Efforts up to Now
- ⑤ Learn While Having Fun: Bookmark Idea
- ⑥ Project Outcomes
- ⑦ Future plans

Project Timeline



Oki Islands UGGp, Japan





Oki High School



- General curriculum and business curriculum
- Train human resources to support Oki in the present and future through geopark education



▲ Geopark Study(year 1 and 2)

Close Cooperation with the Geopark Promotion Committee



- **Cooperation with teachers**

- Explain the goals and initiatives of Geopark to teachers
- Discuss the structure and content of courses
- Offer ways the geopark can be utilized in other subjects



- **Cooperation with students**

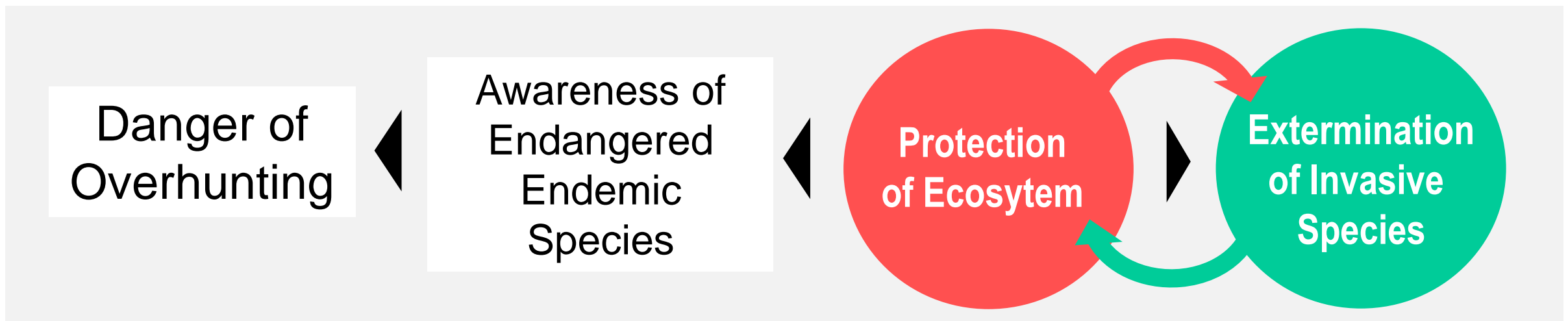
- Support and advise students along with teachers as staff
- Supply materials
- Dispatch guides

Inspiration and Background for the Project

- **A treasure we want to protect: Oki's unique ecosystem**
 - A mysterious natural environment made up of a mix of northern, southern, continental, and sub-alpine plants
- **What can we do to protect this ecosystem**
 - Stay informed, inform others
 - Butterfly story



▲ Oki dandelion (endemic species)

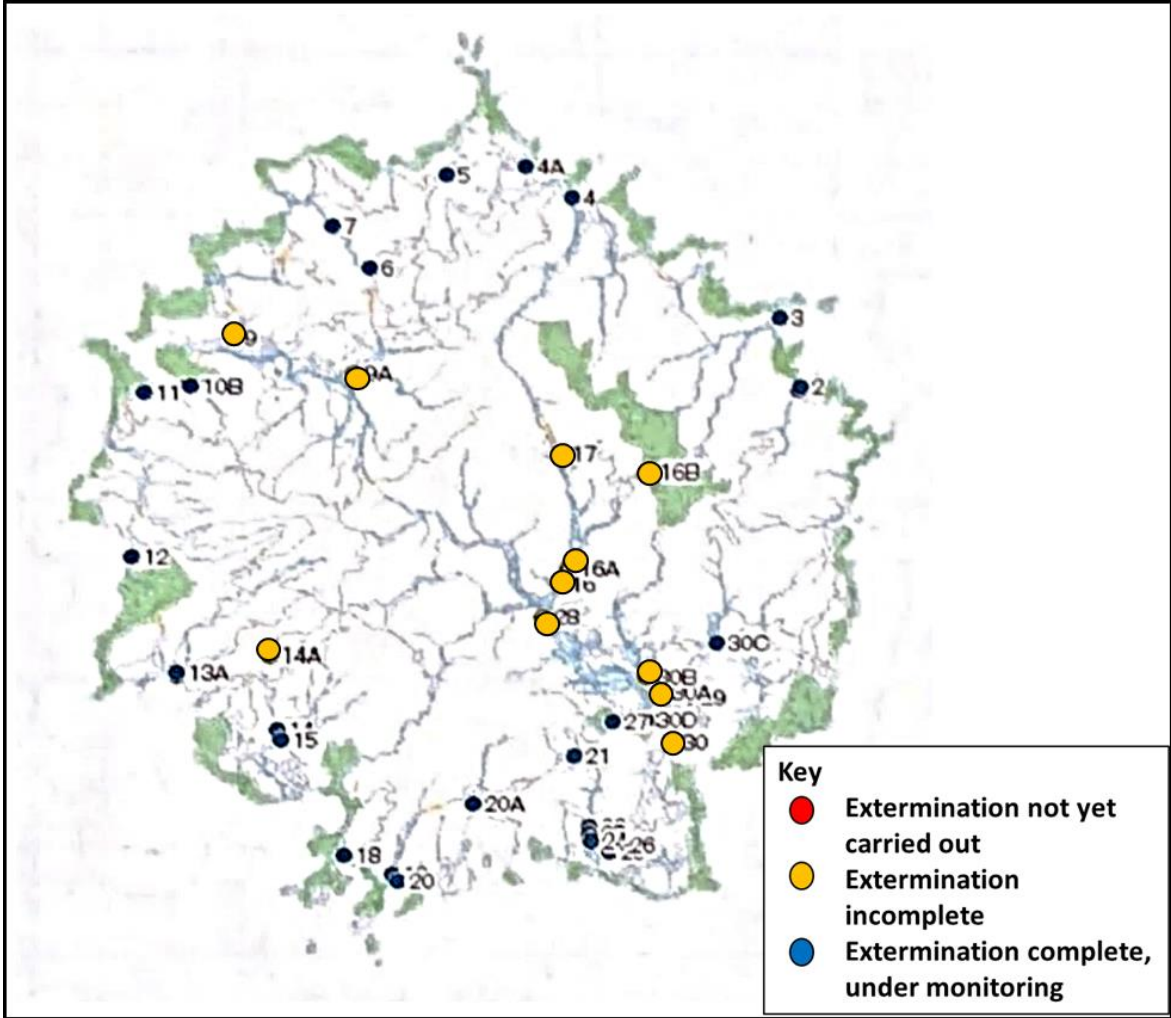


Lance-leaved Tickseed (*Coreopsis Lanceolata*) an Invasive Alien Species (IAS)

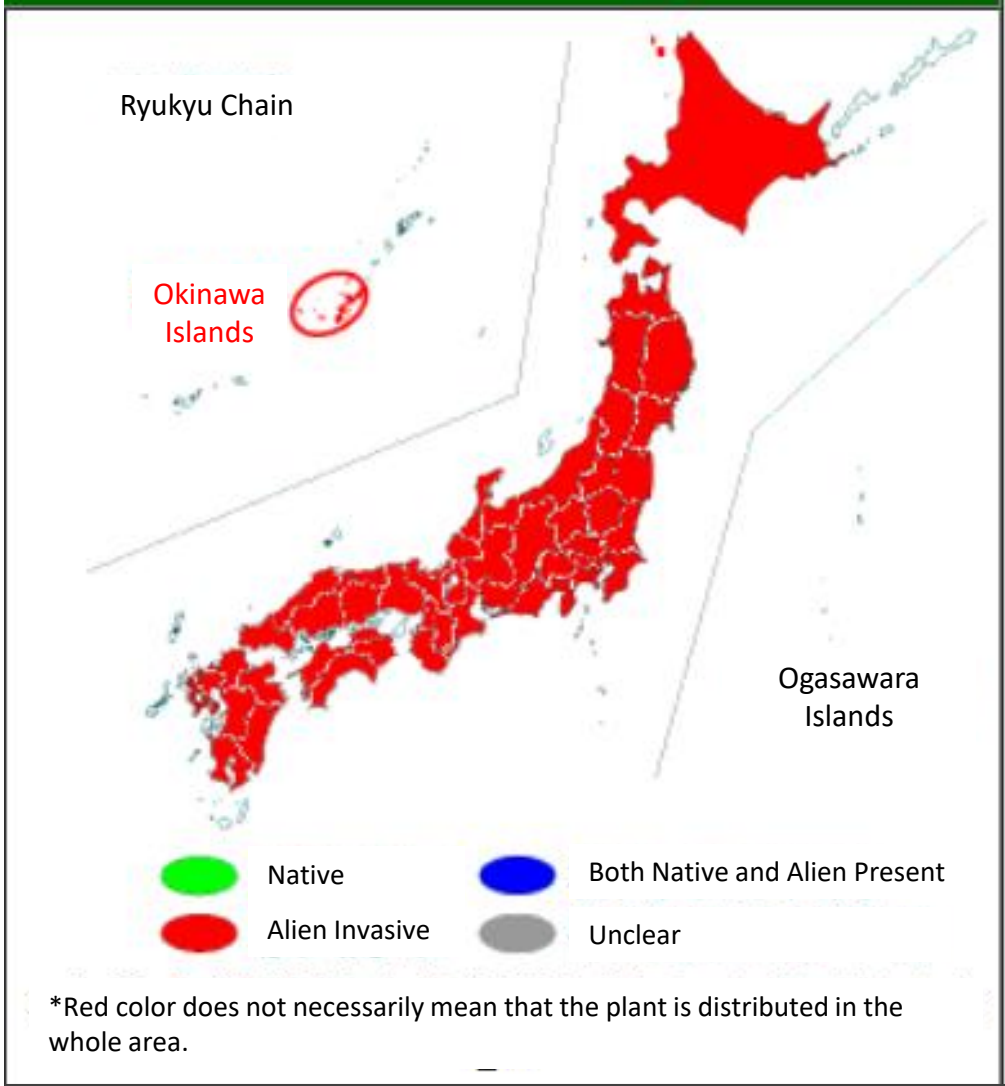


- Invasive Alien Species Act: 2006 legislation banning the breeding, cultivation, and transport of classified invasive alien species
- Introduction to Japan: first brought in as decorative plants and landscape scenery in 1880
- High reproduction rate, **threatens the habitats of native species**
- Extermination/removal method: pull out from the roots, dry out in sealed garbage bag

■ Distribution Map – It's Everywhere!

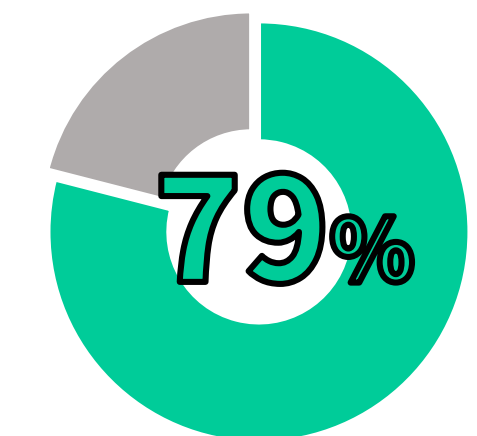
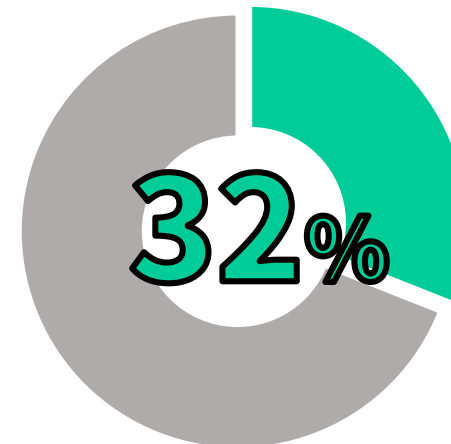


▲ Distribution of lance-leaved tickseed, Dogo Island



Lance-leaved Tickseed Extermination Efforts Up Until Now

- Public awareness campaigns to help extermination efforts (Flyers, leaflets, posters, etc.)
- **Evaluation of current situation**
 - Lance-leaved tickseed picking activities led by the Ministry of Environment
- Survey on the awareness of Oki High School Students
 - Q1 Do you know about Lance-leaved tickseed?
 - Q2 Do you know about Oki's endemic species?



■ How does it grow?

Learning how to identify lance-leaved tickseed by its **leaves** can help us remove it more effectively



■ Problems with Methods Until Now

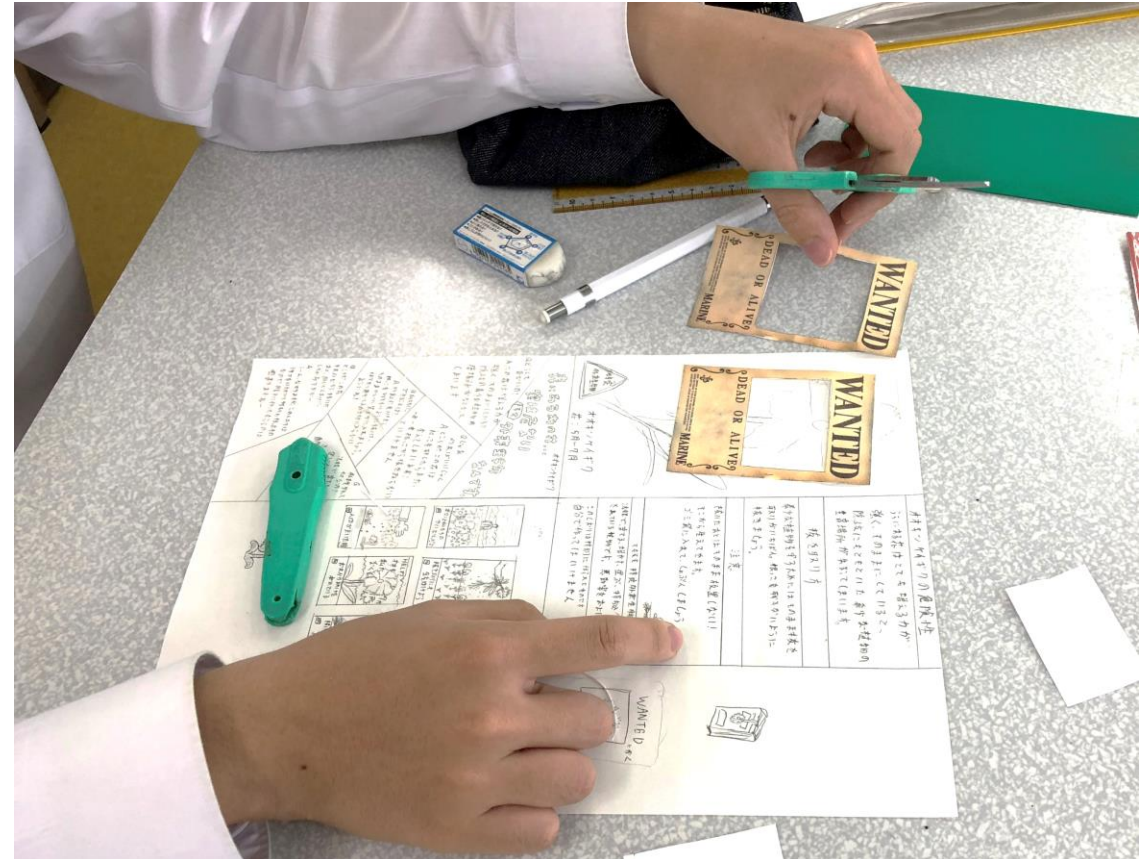
- **Methods were disconnected from the ordinary person's life**
 - Information not available in mediums familiar to middle school students
 - Information doesn't reach people who aren't already interested
- **Failure to elicit action (extermination, removal)**
 - Lack of simple information on how to remove lance-leaved tickseed
 - Lack of information on how to identify the plant by its leaves
 - Little effort to make removal fun or interesting

How can we make the ordinary, everyday person want to learn more and help out?

A Fun Way Of Learning

About Lance-leaved Tickseed (IAS)

- Learning while having fun?
 - Learn outside of the classroom
 - Use medium you will see regularly
 - Interesting design that will draw interest



A Fun Way Of Learning About Lance-leaved Tickseed (IAS)

- **Bookmark that shows how to identify lance-leaved tickseed**
 - Teaches about distinguishing characteristics of **leaves**
 - Includes **useful information** for removal activities



These **two small leaves** are the key to distinguishing lance-leaved tickseed from other plants!

■ Evaluating Effectiveness



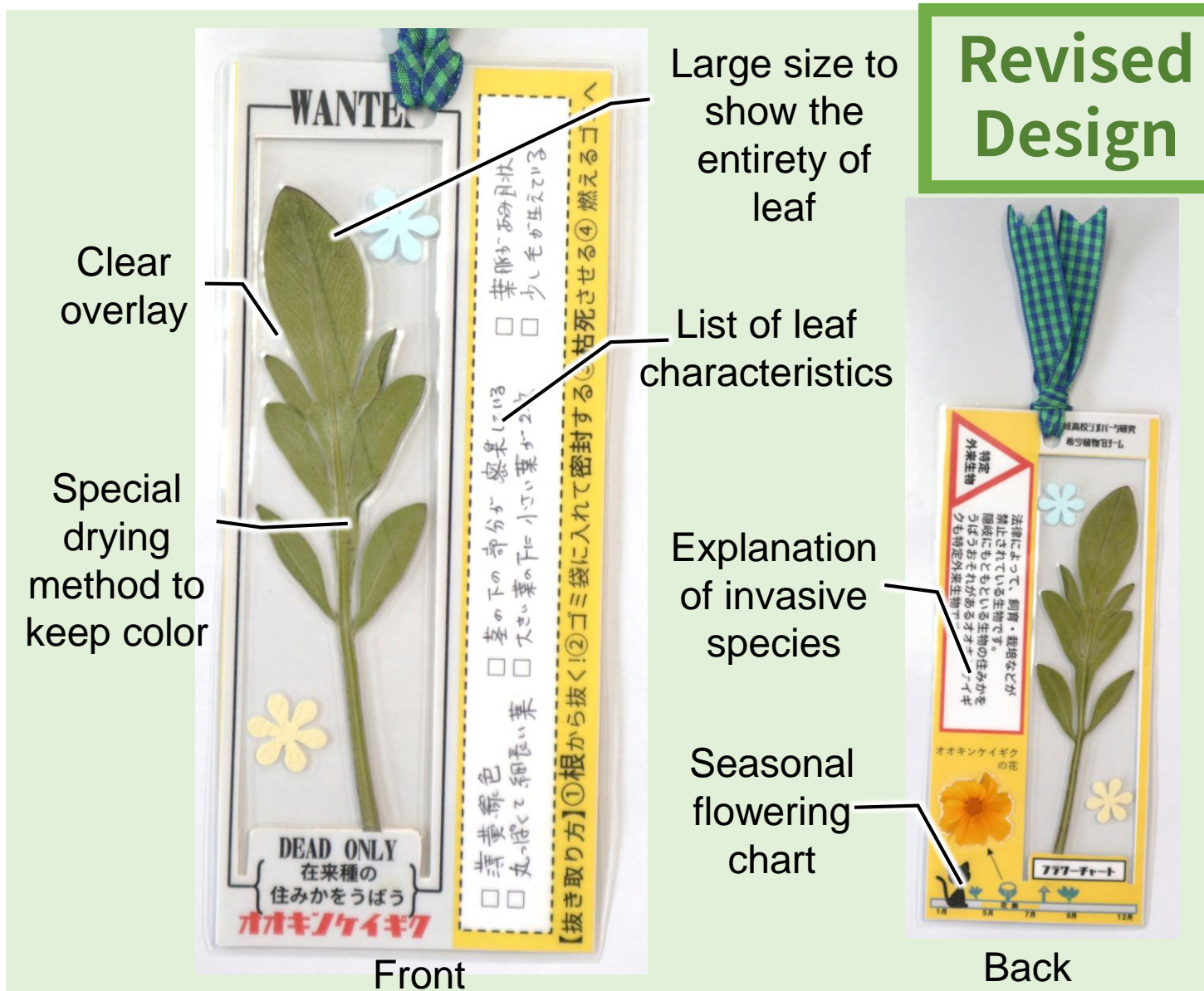
- Put on display at the local library and the Geopark Visitor Center
 - **Feedback:** more concise description of risks/damage, characteristics, extermination methods
 - We simplified the wording and design of the bookmark



- Importance of knowing how to identify by leaves
 - Remaining plants have time to grow strong and healthy
 - Removing the plant early makes the extermination process easier/faster

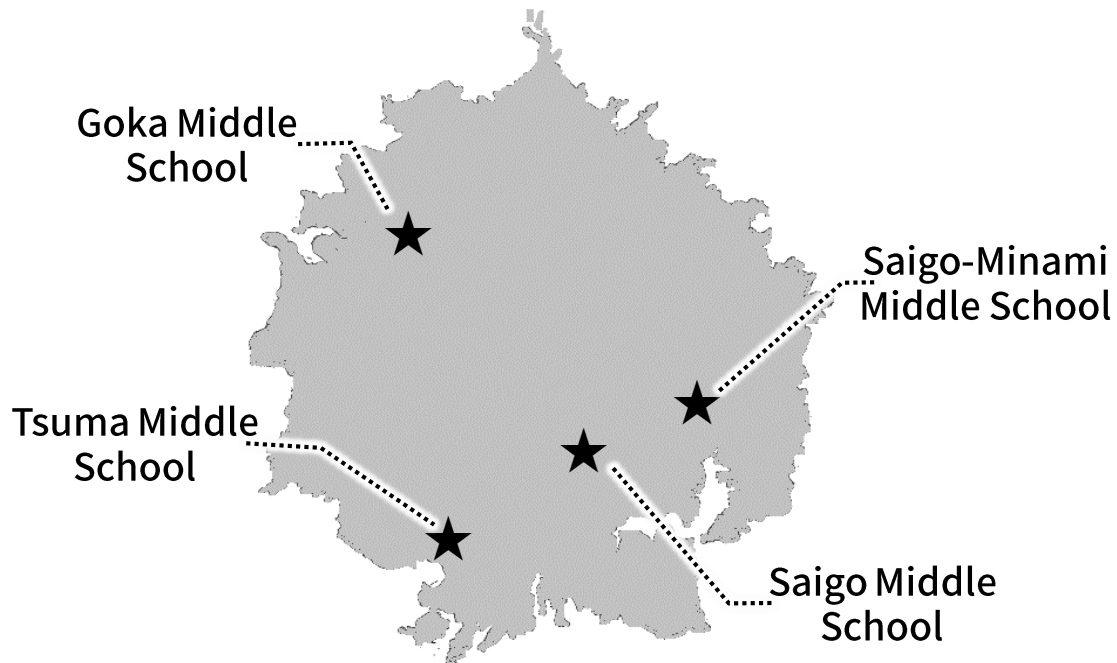
Bookmark with useful information and a leaf sample

The design places emphasis on the detailed leaf sample in order to make identification easier!



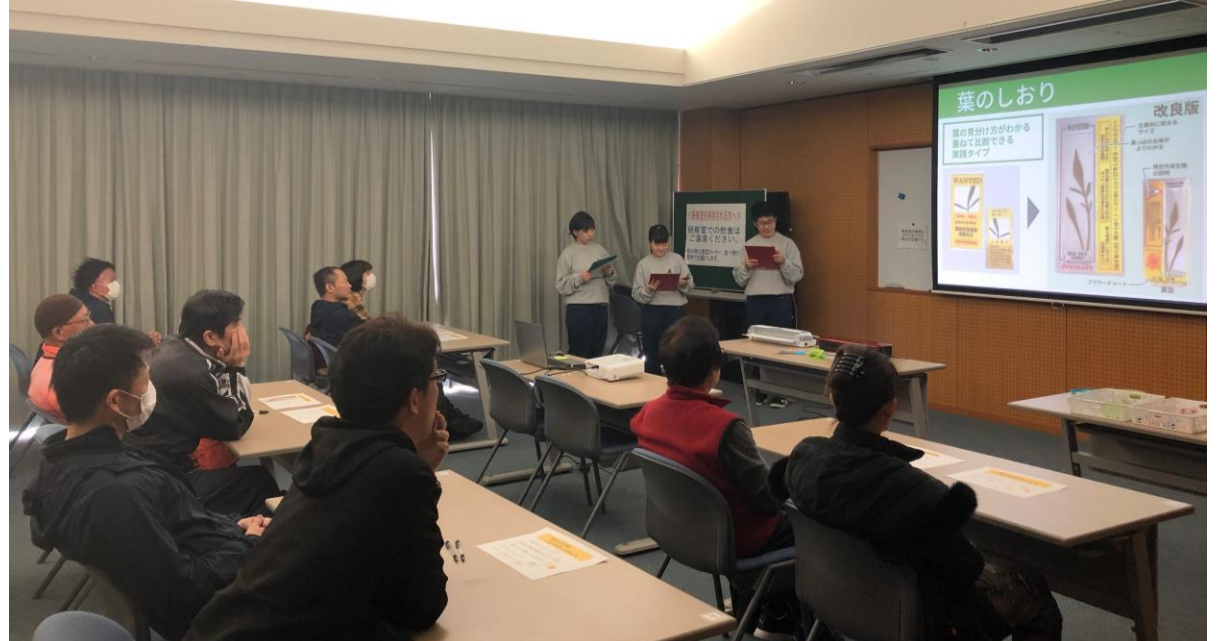
Evaluating Effectiveness

- **Distribution at middle schools**
 - The revised bookmark was distributed at **all middle schools** on Dogo Island



■ Evaluating Effectiveness

- Winter workshop
 - Bookmark-making **workshop** and lance-leaved tickseed picking activity
 - **Test** whether lance-leaved tickseed can be identified by its leaves in winter



Outcomes

- **Response to the bookmark from middle school students**
 - 'Trying it out was fun'
 - 'It is easy to understand, with a cute design'
 - 'With the bookmark we could recognize the plant'
- **Workshop Participants**
 - 'We had fun while learning, and were able to identify lance-leaved tickseed by its leaves'



Outcomes

- **Response to our project**

- Residents noticed our efforts and we had a meeting with the Ministry of Environment
- We received requests for presentations on extermination activities
- The awareness level of lance-leaved tickseed rose among high school students



Future Plans

- Continue this project as 3rd year students and plan to tackle other problems related to this issue
- Organize lance-leaved tickseed extermination **lectures** targeting high school students
- Lance-leaved tickseed **compost** (currently underway)



Thank you for your attention!



Lance-leaved Tickseed Picking

■ Activity scale

- Duration: 1 hour
- # of Participants: about 20 people
- Type of Participants: beginner-experienced
- Amount Removed: 2 90-liter bags

