

Script for Budai Community Development Plan: An Ecotourism Model

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We are here to present a project being designed jointly by the University of California, Berkeley, National Taiwan University, and local NGOs for a wildlife preserve and eco-tourism program on abandoned salt flats in Budai, Taiwan. This project is part of SAVE International's plan for spoonbill recovery through community development.

As you know, the East Asian-Australasian Flyway creates a critical connection between Taiwan and Korea, as both provide important stopping places for the black-faced spoonbill and many other migratory birds.

The government of Taiwan has committed to protecting habitat for the spoonbill and other birds. They designated by law a National Scenic Area to expand spoonbill habitat and promote local tourism. The need for more spoonbill habitat became evident after a botulism outbreak killed nearly 10% of the population in a matter of weeks in Chiku.

In response SAVE identified an area of spoonbill habitat extending along the coast, comprised of individual, overlapping "stepping stones." Each of these stepping stones consists of a 9 to 14 kilometer radius foraging area radiating from a central roosting site. This is the plan that the National Scenic Area of Taiwan adopted, and so far it has been extremely successful in helping the spoonbill's population to increase. All of the stepping stones currently support black-faced spoonbills, and the local villages have benefited from increased tourism as well.

Today we will focus on the Budai stepping stone. This aerial image shows the town and a large, adjacent area of ponds and levees. These ponds were used for Budai's major industry, salt production, until 2002. This site provides the ideal conditions and sufficient area to support black-faced spoonbills. Indeed, over 100 spoonbills roosted there this winter.

Budai faces many of the same problems as other low-lying coastal areas around the world. Industry and development have altered the area's natural coastline over the course of the last century. Where once there were wetlands and estuaries, there are now industrial fishponds, shown in light blue.

Taking into consideration these issues, as well as the site's critical importance to the recovery of the black-faced spoonbill, our team has proposed a plan for Budai that integrates habitat for spoonbills and other local birds along with local history, ecotourism, and economic development opportunities. The plan is based on working with nature and natural tide changes rather than fighting them.

The major premise of the design is to allow tidal influence to return to the site and encourage a natural gradation of habitats to take form. This will result in a much

richer ecology, supporting a broader diversity of flora and fauna.

Dendritic forms take shape organically in salt ponds and other low lying, flat areas when tides are allowed to enter. This image shows previous salt flats where tidal influence has been introduced through restoration or neglect in the San Francisco Bay Area. The historic rational grid the of the salt ponds would be retained or broken at strategic points. As these diagram illustrate, the introduction of the tidal cycle will cause the water levels to naturally fluctuate twice daily on the site, introducing a dynamic ecosystem into a formerly static site.

The plan shows how this will work at Budai, with the dendritic forms shifting and changing subtly over time as the complexity of the ecosystems increases. The design provides two major areas of spoonbill habitat. The piece of tidal flat on the southern half of the site would support spoonbills most of the time, while the vegetated island on the northern portion of the site would support light tourism activities and serve as a refuge for spoonbills during an extreme high tide or storm event.

These cross sections show the interaction of the tides with the central habitat area. As you can see, the mounded form of this “spoonbill island” allows sufficient space for the birds as the tides fluctuate throughout the day, providing a consistent 5 to 20 centimeter water depth to allow the birds to forage for food.

Multiple goals shape the organization of the site. First is to provide a great variety of habitats. This diagram shows the diverse ecologies that we propose to incorporate, including tidal flat, mangrove forest, and saltwater marsh. These ecotones are all highly productive and support a variety of flora and fauna. In addition to these new habitat areas, portions of the original levees are retained to serve as habitat for stilts and other ground-nesting birds.

This diagram shows the gradient of intensity of human use across the site, with the majority of program concentrated along the northern and southern urban edges. Major tourist development occurs near the existing villages to encourage economic development there. The central area is restricted, with no human use. With only passive use along the edges, we can ensure that black-faced spoonbills would have the “scare buffer” they require to comfortably roost. By providing microhabitats for wildlife in restricted areas, this strategy will encourage biodiversity and thereby facilitate a richer experience for the tourist.

The network of paths includes paths of different widths to support different intensities and types of use. Again, human interaction is concentrated around the periphery of the site, to prevent disturbance of wildlife in the center of the site. In addition, some of the paths would connect to existing tourist destinations within Budai, including the Fish Market, Port, and Salt Mountain. In this way, the plan links the downtown commercial zones and the new ecotourism park. This strategy has worked successfully at other spoonbill sites in Taiwan to encourage job

development. Most recently the restored habitat area south of Peimen has led to revitalized tourist economies. One family that moved back to their ancestral home opened a restaurant and bed and breakfast that features the whiskered tern. They now serve 1000 meals each weekend and have created over two dozen jobs.

Here you can see the variety of programs that could be incorporated into the site. The design would expand the town's economic potential by providing a more diverse set of options to the tourist, including a visitor's center, an eco-interpretive center providing educational opportunities in conjunction with Xin Cen elementary school, bike rental, restaurants, lodging opportunities, and bird-watching and marsh tours. The principal of the elementary school plans to use his classroom for special year-round courses related to ecology, technical issues of wetland restoration and tourism for people of all ages.

These perspectives show some of the ways we imagine people interacting with the site, such as taking a walk through a mangrove forest, to see birds, crabs and system functions of one of the most important marine ecosystems. Here, people observe wildlife through a bird blind. Here is one of the lodging opportunities that we envision for the site, near the elementary school: cabins on stilts that allow visitors to experience the vastness of the site within a unique setting. Here, people look out at flocks of birds from the visitor's center, showing some of the amenities that would bring tourists as close to the wildlife as possible while still protecting the birds.

As you can see, this design strives to incorporate the latest thinking about tidal flat restoration, while integrating opportunities for multiple bird habitats, local cultural heritage and expanded economic opportunity. Through projects like the Budai Community Development Plan, SAVE is actively working with local groups to ensure that the spoonbill's habitat in Taiwan continues to allow the bird's population to increase. Over the last twenty years the citizens of Taiwan have dramatically changed their attitude about the spoonbill. It is now a source of pride and economic development. Local people in southwest Taiwan have benefited greatly from this, and many local groups now support preservation of bird habitat. But this may not last unless Korea makes a similar commitment.

With the wintering end of the flyway protected, and the spoonbill population on the rise, Taiwan is contributing to an economic opportunity for Korea. But it is crucial that the entire range of the flyway accommodate the needs of these birds, or Taiwan's investment in the spoonbill will be wasted. By preserving its tidal flats and other habitat areas, Korea can capitalize on the increasing spoonbill population through tourism and economic development, and truly become a partner in flyway protection.

SAVE supports both countries in ensuring that the entirety of the East Asian-Australasian Flyway provides diverse, productive and sufficient habitat for the black-faced spoonbill and other species.