

The Water Lily:

a flagship species for local to global conservation.

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The Water Lily (*Crinum thaianum*) is endemic to the rivers and canals of upper Phang-Nga and lower Ranong provinces in Thailand. Its exceptionally long leaves provide an ideal habitat and refuge for shrimp larvae and other juvenile fish species.

In the last decade, commercial collection of this plant increased, its beautiful pale pink flowers making it a popular aquarium ornamental. Commercial extraction has affected the natural stocks of this plant, in turn, affecting the nursery function of these habitats.

Local level conservation

With support from the local wildlife sanctuary, community based organisations — especially in Na Ca — actively

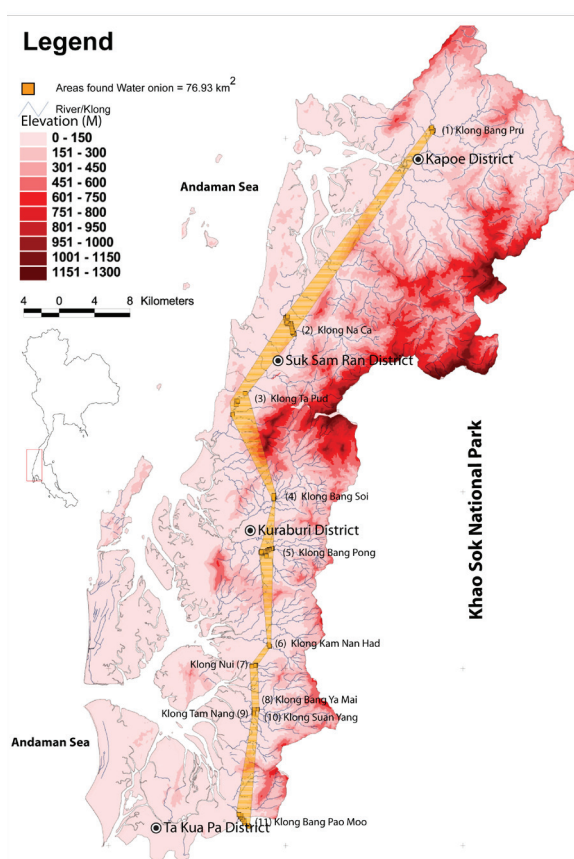
commenced ground level conservation efforts that focused on rehabilitation and ex-situ cultivation of commercially unacceptable and flood stranded bulbs. These conservation efforts have been ongoing for over a decade and have led to collection of substantial local knowledge on the species and its ecology.

Building on the local knowledge, the International Union for the Conservation of Nature (IUCN) in Thailand carried out scientific assessments of the range and extent of the distribution of this species to help assess its status. It surveyed 11 rivers and canals in the area and found that in total, this species extends over an extent of 770ha and ranges from Kao Poe District in Ranong Province to Ta Kua Pa, in Phang Nga Province. The Klong Na Ca river had the biggest population,

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of this species in Thailand. Other locations with significant water Lily populations include the Bang Pong River where 3,754m² of plants are distributed along a six kilometre stretch; the Klong Bang Pru canal where 1,484m² are distributed along a two kilometre stretch and the Klong Ta Pud canal where 873m² of plants are distributed along a 750m stretch of the river.

IUCN has also trained several youth groups in this area to monitor water quality and stream flow, as well as to monitor extent and distribution of Water Lily populations.



Moving from the local to a national arena

These assessment results and active local level conservation of the Water Lily shifted the conservation of this species from the local, ground level to a national level.

Initially invisible to the rest of the country, this species was highlighted as a species to see by the Tambon Administration Organisation (TAO) of Ranong to promote Thai tourists to visit the area. In Naca, this resulted in an increase of tourists (between October and December, during its spectacular flowering season) from 500 in 2007 to 1,700 in 2008. Revenues generated by tourism activities of the conservation group have partially supported local conservation

efforts and been used to leverage resources from IUCN small grant programme to support local conservation.

At the national level, multiple national institutions have jurisdiction over the species and IUCN has facilitated engagement with them to support a national dialogue on mechanisms to support their increased engagement. As a result, the Office of Natural Resource and Environmental Policy Planning (ONEP) of the Royal Thai Government has agreed to support national dialogue to identify mechanisms to improve the status of the species through the National Environmental Board.



Going global

'IUCN's Redlist of the Threatened species is recognised widely as the most comprehensive and objective global approach for evaluating the conservation status of organisms. It plays an important role in guiding conservation activities and decision-making' (IUCN, 2009).

Red-listing or listing a species as being globally threatened involves a rigorous process of assessment, submission and evaluation.

IUCN Thailand has submitted the assessment and necessary documentation about the Water Lily for evaluation of at a global level for inclusion in the global Redlist. Awareness about this Water Lily species has now been moved into the global arena.

New threats negating conservation efforts

When local conservation of these Water Lily populations commenced, the major threat to their growth and distribution was over-exploitation (commercial level collection).

More recently, a new and more serious threat to the species survival has emerged. As a result of recent flooding, which have been the worst in 20 years, provincial authorities have commenced mass scale river and canal dredging. This river dredging is being carried out by provincial and national



authorities as a means of reducing flooding. However, the process conducted under emergency flood prevention regulations has not involved local stakeholders and as a result, caused damage not only to the species but also to key infrastructure. Coupled with likely impacts of climate change, this process has resulted in many detrimental changes, including greatly increased erosion, to the extent that a bridge on Nan Yan River collapsed in 2008. Repairing this bridge cost the Provincial Government 2-3 million Thai baht. In April 2009, river dredging was carried out again, and the bridge collapsed yet again and had to be rebuilt again.

In addition to increased erosion, river dredging appears to have altered the patterns of flow in many of the rivers and canals with disastrous consequences for the Water Lily. All but one population has become extinct. Only the Na Ca population of lilies currently remains. The increased water flow now washes away replanted bulbs.

Local and national efforts have been negated by external forces at a regional level. The fate of this species of Water Lily in Thailand – and for the rest of the world – is now pivoted on the Na Ca population.

A draft law on water resources proposes to decentralise authority for river basins to a river basin committee and local authorities, but a suite of conflicting regulations that give jurisdiction to numerous agencies could also have the potential to be a rubber stamp for unplanned development.

What now?

At a national level IUCN will work through the Mangroves for the Future (MFF) - a unique partner-led initiative that promotes investment in coastal ecosystem conservation for sustainable development. Each member country of MFF has a National Coordinating Body (NCB). IUCN proposes to use this NCB to influence policy at the national level to ensure prevention of habitat degradation and conservation of this flagship species.

Advocacy is needed badly at the National level. IUCN is working with a suit of partners that include both key government institutions such as the Department of Agriculture, non-governmental organizations and the media – to stimulate change at the Tambon level. It has already used media to alert the governor of Phang-Na to the extinction of these Water Lilies. The importance of taking into account environmental and social safeguards when considering dredging on Thailand's rivers has been brought to attention nationally as a result of recent actions in Takupa, Phang Nga where the National Human Rights Commission has had to intervene to stop dredging 40 km of sand from progressing. The lessons from Ranong and Phang Nga can serve as a mechanism to support a dialogue on best practices that take into account Thailand's natural heritage.

The conservation of the Water Lily is only a part of a wider programme in which IUCN has engaged communities and strengthened community based organisations to engage actively in conservation.

This empowerment of local communities with knowledge is proving to be the strongest tool of advocacy for the conservation of the Water Lily. Community based organisations are now lobbying provincial councils to cease river dredging and to protect this flagship species, demonstrating that it is ultimately the communities who live in a particular landscape who value it most and will invest the most effort to conserve its services.

Photocredits: Cover: Water Lilies in bloom in Naca © Minna Epps/MFF; Page 2 left: Map of the extent of occurrence of Water Lily in Thailand; right: Youth group member examining water lilies in Naca © S. Soonthornnawaphat; Page 3: Severe erosion in Ban Soi village, Kuraburi © Janaka de Silva