Chapter 6
Foundation of the Programme: Engaging the Community

6.1 Perspective

The formal project on conservation of the Richmond birdwing programme began in 1992, and was progressively re-organised from 2001 to follow guidelines in the Recovery Plan (1996). Under different groups, coordination of the activities by widely distributed members of the community was needed, following the conclusion of the school-based Adopt-a-Caterpillar Scheme (p. 121). That project had received substantial funding from donors but members of the community wished to see other birdwing recovery actions coordinated by a community-based group, particularly cultivation, planting, monitoring and mapping the food plant vines, and longer-term plans to restore habitat corridors for the birdwing over a substantial area in south-eastern Queensland and north-eastern NSW. 'Recovery' activities by all groups, followed the basic objectives and criteria listed in the Draft Recovery Plan (1996), and these were used in many successful bids for external funds from government agencies and industries, with some of those bids including informal reviews of progress since 1996. The first substantive review of progress was made by Sands and Scott (2001), and later commentaries made by Sands (2008) and most recently by Valentine and Johnston (2012).

Many of the themes introduced in the Draft Recovery Plan have depended largely for their development on extensive inputs from the wider community, working with government agencies and interested scientists, with the various themes of conservation intertwined intricately. The encouragement and maintenance of community interests in the Richmond birdwing are discussed in the following two chapters. The early developments, involving engagement of young people and school programmes, and the progressive biological and restoration outcomes, are noted here (Fig. 6.1).

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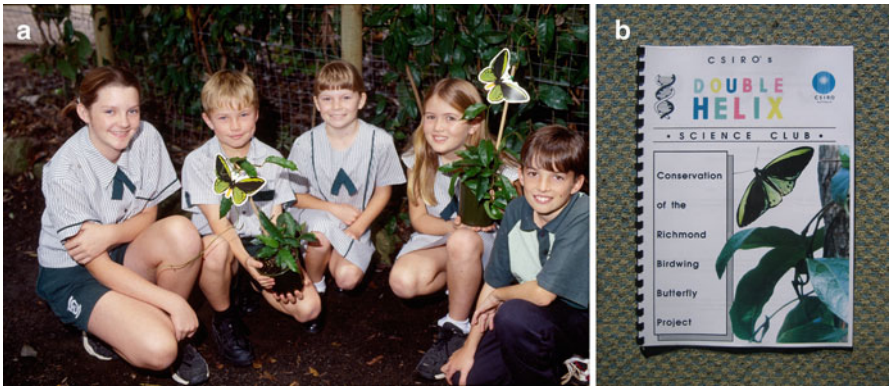

Fig. 6.1 School activities through the Double Helix Club: (**a**) group of school children (Sands and Scott 2002); (**b**) cover of instruction booklet

6.2 Education Programmes: School Involvement and Publicity

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's leading national research organisation, in which scientists and support staff are employed to address a range of research topics across the broad disciplines of agriculture, environment, forestry and industrial research. Scientists with the then Division of Entomology (now incorporated in the broader Division of Ecosystem Sciences) focus on solving arthropod pest and exotic weed problems, while CSIRO taxonomists work on Australia's unique arthropod biodiversity, and are responsible for the Australian National Insect Collection (ANIC), based in Canberra. As well as scientific Divisions, CSIRO hosts educational programmes, through which the Double Helix Science Club with science educational officers, helps teachers to organise science programmes for schools. Double Helix officers aim to make science attractive to school students and encourage them to appreciate the need for scientific research, and also encourage students to take up science as a profession. Double Helix officers visit schools and, at the CSIRO's Education Centres, introduce students to scientists to learn about their research projects. As opportunities arise, students are encouraged to contribute to 'hands on' research projects.

With growing impacts on biodiversity from urban development, mining and farming, many animal and plant taxonomists and ecologists in Australia have became concerned about losses of the non-marine invertebrate species, particularly insects of conservation concern and those that were becoming rare (Marks 1969). Many insects that are uniquely Australian have attracted interest in the past from taxonomists and members of the community (New 1991; Yen and Butcher 1997; Sands et al. 1997). Sands, a CSIRO scientist specialising in insect-plant interactions, in the 1990s became interested in finding ways to implement practical conservation activities by working with the community to advance understanding of the needs of the Richmond birdwing.

Early conservation work on the Richmond birdwing butterfly caught the attention of the Double Helix officers at the CSIRO Science Education Centre, at Indooroopilly, Brisbane, as a project where students could potentially contribute to conserving the butterfly, and learn about its interactions with its food plants. At about the same time in the 1990s, Arthur Powter, while living near Bellbird Creek at the base of Mount Mellum, Beerwah, met scientists from CSIRO to discuss ways he could enhance his habitat for the Richmond birdwing, and very soon afterwards, he become an ambassador for the Richmond Birdwing butterfly on the Sunshine Coast. After attending a talk some years earlier, Powter discovered he had the vines occurring naturally in his rainforest gully and began propagating vines to distribute to neighbours. He encouraged them to protect the vines growing on their properties and to help conserve the natural habitats for the birdwing, he and several of his neighbours registered their properties as Land for Wildlife conservation areas, while the Council began purchasing nearby areas of land supporting Richmond Birdwing colonies. The activities by the Caloundra Council (now Sunshine Coast Regional Council) helped to establish a corridor for the birdwings and their larval food plants in the area from north of the Glasshouse Mountains to the more intact habitats on the Blackall Ranges. Powter's experiences together with trials by Sands (p. 73) indicated several themes that could help engage the interest of young people in the conservation project.

Sue Scott, then Manager of the CSIRO Double Helix Science Club in Brisbane, began a new project for school students in 1992. Experiments concentrated on (i) leaf toughness measurements using a leaf penetrometer, (ii) determining the effects of age, light and nutrients on growth of *Pararistolochia praevenosa,* (iii) aseptic germination and production of seedlings in sealed plastic bags, (iv) seasonal flowering, growth of stems, internodes and leaves and (v) finding pollinators trapped in the flowers and examining them under the microscope. Several aspects of practical management and study were very suitable for school projects, with standard advice provided though Double Helix, who also coordinated the outcomes and provided feedback on the results. These themes included those discussed below, and the schools project was launched officially by the then Queensland Minister for Education in 1993. Within a year more than 130 schools had joined the conservation project and this rose to more than 420 participating schools by 1998, by which time more than 29,000 vines had been distributed.

6.2.1 Cultivation of Food Plants in School Grounds

The first experiments on the growth of *Pararistolochia praevenosa*, were based on measurements of plants within the school grounds and monitored and tended by the students. By 1996, schools such as Modanville Public School, in northern NSW, had begun campaigns to raise community awareness, using the Richmond

birdwing in concerts, with uniforms and dances by young students. Julie Short (Modanville Public School) and Karen Court released a CD of a song about the plight of the Richmond birdwing butterfly and in 1996, Modanville Public School won the Earthworms Environmental Award. In 1997, teacher Short received a BHP Science Teacher Award for efforts involving the school to promote the conservation of the Richmond Birdwing. As CSIRO's Double Helix Club expanded its activities involving the butterfly and its food plant in schools, an Advisory Committee was established to help with the designing the projects and later, the community projects.

At first referred to as 'Conservation of the Richmond Birdwing', within 12 months of its beginning more than 130 schools had joined the Project, covering an area from Grafton in NSW to Maryborough in Queensland – the full latitudinal range of the butterfly. Students at Holland Park State School, Brisbane for example, successfully raised seedlings from seeds from their own vines. The Ingleside State School in the Tallebudgera Valley (near the New South Wales border) began cultivating vines from local genetic stock to plant in areas where the birdwing butterfly had become rare. For many years teachers at Ingleside State School and the students have maintained an ongoing interest in the Richmond birdwing, and as recently as 2010, hosted their own workshop, and, with more than 90 local residents attending, discussed the needs, importance and progress towards recovery of the Richmond birdwing butterfly. The concept of school involvement with planting vines became popular in northern NSW and south-eastern Queenland, and to cope with the demand for school projects and presentations, Sue Scott was approached to coordinate the educational parts of the Project. Afterwards the school birdwing project extended the activities in Queensland and NSW. Among their major experiments students gathered valuable information about the seasonal growth of the vines (see Chap. 3). While many schools and members of the community found the vines unpredictable in their growing habits with some vines growing vigorously and others dying, many reports came in from the school and community surveys of successful vine cultivation. Ingleside School and Tweed River State High School both reported having birdwings visiting their vines and the students observed larvae developing on their vines.

6.2.2 Recognising the Poisonous Dutchman's Pipe Vine

Early in the programme, Double Helix officers introduced school students to the South American Dutchman's Pipe Vine (*Aristolochia elegans*), providing information on its toxicity, how to distinguish it from other (native) vines, and how to remove this introduced weed from gardens and bushland. Students found this part of the programme quite difficult as the vine was then widely grown on fences for its large and spectacular flowers. The nursery trade subsequently outlawed culture of the vine to protect the birdwing and later the vine was listed by Federal agencies as a serious weed, not for cultivation.

6.2.3 Seed Germination and Propagation of the Birdwing Butterfly Vine

Simple experiments were designed for young students to find out the best and quickest way to germinate the seeds of *P. praevenosa*, how to use different soil mixes for potting up the seedlings and how to measure the growth rate of vines. *P. praevenosa* vines were easily propagated from seeds but were not so easily grown from cuttings. Sometimes seedlings were relatively slow in growth, sensitive to damping off and fungus attack, and potted plants were very prone to desiccation after planting out, especially if the roots of young vines (<2 years old) were not well developed. Experiments undertaken with potted plants evaluated outcomes from using different soil mixtures, soil pH and buffers, fertilisers, light regimes, pruning and stakes. Many results from these experiments were of interest and of considerable value for future commercial propagation, including the way seeds could be first germinated aseptically in plastic bags to encourage rapid growth, before the seedlings were potted up. The rate of growth of the vines was measured according to light and (variable) temperature regimes, and the length of internodes and leaf size was also compared with seasonal growth. Seedlings were shown to dampen off unless containers were kept moist, but not wet. Seed trays and potted vines required adequate drainage, but once placed on a bench, potted vines required protection from air rising through the slatted benches and burning the roots. This was easily overcome, for example by placing a plastic sheet or stiff board under the pots and over the benches, methods since adopted for general use by all nurseries. Indeed, many of the details included in Appendix 1 as 'best practice' had their gestation in the Double Helix programme.

Vines grown in pots were later used by students for various experiments, for example to study the influence of climatic variation on various growth parameters, and in particular leaf toughness, which was found to be a critical survival factor for newly-eclosed and young (to 3rd instar) larvae. The major factors influencing leaf toughness of plants were found to be temperature, rate of growth, moisture available via roots, soil nutrients and exposure to light. Higher temperatures (between 22°C and 27°C) accelerated growth but only when soils were very moist, not saturated and well drained.

6.2.4 Leaf Toughness and Survival of Larvae

The effects of climate on growth of the food plants of Lepidoptera and the flow-on effects on immature development are well known, for example, tough leaves of food plants affect the survival of larvae of fruit-piercing moths (*Eudocima* spp.) when they attempt to feed on them. In some plants the leaves do not vary greatly with toughness but in certain species, toughness develops rapidly with aging, imparting resistance to feeding by young larvae when they have small and weakly developed mandibles. The toughness of the *P. praevenosa* leaves increases with age, and the effects on larvae of the Richmond birdwing when they feed are important

interactions that influence the populations of the butterfly. For example, starvation in newly-eclosed larvae was often observed to be associated with absence of soft leaves of the food plant during periods of drought or low rainfall.

During the Double Helix Science Club school programs on birdwing food plants, a leaf penetrometer was developed to quantify leaf toughness and relate it to the feeding capabilities of first instar larvae, using leaves of differing toughness. External funds were used when CSIRO designed a basic mechanical leaf penetrometer that used a simple probe. Once the toughness was measured, groups of freshly-eclosed larvae were held in small gauze bags on individual leaves of potted plants of *P. praevenosa* with varying toughness until larvae commenced feeding or died. Using the leaf penetrometer measurements in the field, the range of toughness of leaves acceptable for feeding could then be related in the field to (i) abundance of 'soft' leaves on each vine, (ii) survival of larvae and (iii) the relationship between moist weather conditions and (iv) predictions for populations of birdwings developing in each area. More experiments for students involved testing the toughness of leaves of potted *P. praevenosa* to quantify the limits of acceptable toughness for the first instar butterfly larvae. The first instrument used was one described by Sands and Brancatini (1991), a very simple unit that was made from a gram dial tension gauge, to measure leaf resistance to penetration by a probe linked by compression and expansion tension springs. Later, a more complex device with a pistol-grip, based on the same principle, was developed by Peter Bakker (Fig. 6.2). Students were also encouraged to look for natural enemies of the immature stages of the Richmond Birdwing and to report details of the localities where birds, ants or predatory bugs had been seen feeding on larvae, or to take photographs of the incidents.

Fig. 6.2 The leaf penetrometer designed for use by school groups

6.2.5 The Richmond Birdwing 'Adopt-a-Caterpillar' Scheme

This Project was established, with funding support from Bayer Australia, where students at selected schools were provided with birdwing larvae to determine if they could be successfully hand-reared, with the biology of the butterfly and growth of the vines the main focus. The programme was launched in April 1999 at Tingalpa State School, Brisbane, with the judging of a national 'Butterfly Detectives' poster competition (coordinated by CSIRO and Bayer) that attracted more than 400 entries. A second event was a Masquerade Picnic at the Brisbane Botanic Gardens, which attracted more than 600 school children wearing home-made insect masks.

The aims of the scheme were:

1. To actively involve students and community members in a practical conservation project and stimulate interaction between schools and their local communities through joint participation in saving a local threatened species.
2. For school children and community participants to gain valuable experience in handling the immature stages of the Richmond birdwing and, through gaining understanding and appreciation of insect life cycles and biology, learn the importance of scientific research in conservation projects and in finding solutions for environmental problems.
3. To enable participants to gain an awareness of historically uncontrolled habitat destruction and its consequences on Australian flora and fauna.

From September 1999 through to April 2000, six schools were selected to hand-rear Richmond Birdwing larvae in their classrooms. The larvae were supplied by CSIRO (under the requisite permit) and the students enjoyed adoption ceremonies when the larvae were delivered to the schools. The schools in Queensland involved were St Francis College, Crestmead; Jindalee State School; Chapel Hill State School; Mount Crosby State School; Springwood Central State School; and Sunnybank Hills State School. Ingleside State School, in the Tallebudgera Valley, also participated by studying larvae as they developed after hatching from eggs laid on the vines in their school grounds.

Modanville Public School in northern New South Wales reared larvae from the garden of a teacher who regularly had birdwings visiting and depositing eggs on planted vines. There was always excitement when the birdwings successfully emerged from pupae and flew around the school gardens – much to the delight of the children and relief of the teachers! The students discovered that the Richmond Birdwing larvae are quite difficult to rear as they have specialised requirements in relation to the toughness of their food plant leaves. As one young student from St Francis College observed – '"Spike" walks up and down the stem, testing the leaves until he finds the right one to eat'. Also, the children found it quite a challenge to keep the larvae away from one another in order to prevent cannibalism. They were

amazed by how many leaves each caterpillar ate. Teachers involved commented on the valuable learning experience that raising the larvae was for their students and the school community.

The information contributed to estimates of food consumption, and led to a generalisation that each larva needs about a square metre of foliage to complete its development; this has since been reevaluated to suggest that up to two square metres may be required, depending on the condition of the plants (Sands and Grimshaw 2013). This earlier estimate had wide value in estimating needs for planting in the field and of predicting carrying capacity of a site.

6.3 The Birdwing Propagation House

The 'Birdwing Butterfly House' at the CSIRO laboratories sponsored by Bayer Australia was used for growing *P. praevenosa* in pots and on stakes until they were about 50 cm high, and fertilised until they had sufficient new growth for supporting young birdwing larvae. For the Adopt-a-Caterpillar Scheme, eggs of the birdwing were held in containers until they hatched and the larvae were transferred to the potted plants where they were held while they fed until they were large enough for students to look after. The greenhouse was later used for experiments on potted vines and the information on light, watering and drainage requirements was later used by most commercial nurseries.

6.4 Increasing Awareness

After Moffatt began his active campaign in New South Wales for the growing of vines by the community and removal of *Aristolochia elegans* in the late 1980s, he encouraged local governments to feature prominent signage throughout north-eastern NSW to increase community awareness. Moffatt initiated a signage system to protect remnant patches of vegetation containing *P. praevenosa* vines on both private land and reserves. Since then publicity signage has been used widely in this project (Fig. 6.3). Community awareness attracted substantial media coverage, first in relation to the poisonous *A. elegans* that has led to its removal from suburban gardens and local group efforts to eradicate it from reserves. The removal of a substantial *A. elegans* infestation at Burleigh Heads National Park on the Gold Coast, Queensland, an operation led by ranger Peter Chapman, led to lower mortality of larvae in the park, and birdwing populations soon responded very well to this treatment.

Fig. 6.3 Examples of the publicity signage deployed for the Richmond birdwing (**a**) permanent installation at the Brisbane Botanic Gardens, Mt Coot-tha; (**b**) larger information board at Mary Cairncross Scenic Reserve; (**c**) collapsible notice board, as used at field days and workshops

A notable publicity highlight occurred at the 2000 Olympic Games in Sydney, where a presentation was made to the visiting media by CSIRO scientists, about the community and school involvement in the project. The Richmond birdwing project was chosen as one of two science and education projects that had become popular with the national and international press. Demonstrations included a live display of the birdwings, with one of them emerging from a pupa attracting a lot of interest and publicity, as well as the wide range of activities showing how members of the community were involved in recovering the threatened butterfly.

The most significant publicity for the various stages of the Richmond birdwing conservation project came through the wide range of Newsletters circulated by local Catchment and Community groups, including those of the Noosa and District Landcare Group, Mary River Catchments Coordinating Committee, Moggill Creek Catchment Group, The Hut Environmental and Community Association and the Land for Wildlife Program South East Queensland, supported by South East Queensland Catchments.

6.5 The Environmental Caretaker Network for the Richmond Birdwing Butterfly (1999–2000)

The Environmental Caretaker Network for the Richmond Birdwing Butterfly developed as a cooperative venture between the CSIRO Science Education Centre at Indooroopilly, and The Hut Environmental and Community Association (THECA), based at Chapel Hill, Brisbane. The Network gained support and funds from CSIRO, and a Threatened Species Network/World Wide Fund for Nature Community Grant, from the Federal Government's Natural Heritage Trust.

The Caretaker Network began with its objectives based on the Draft Recovery Plan (1996, p. 112), and the activities were summarised as:

- Identify and find ways to protect natural habitats for *O. richmondia*, including investigating conservation management agreements for private properties and acquisition of land by local governments.
- Map and record natural sites for breeding by *O. richmondia* and its food plants.
- Replant the Birdwing butterfly vine (*Pararistolochia praevenosa*) to enrich the values of rehabilitated plant communities,
- Map and establish corridors between existing breeding sites, and develop plans to extend the existing habitats towards the limits of the original range.
- Create signage for prominent vine sites, to raise awareness and properly protect the sites.
- Identify the plants and plant communities associated with *P. praevenosa*.

The concept of running workshops, and how to introduce uninformed members of the public to information about conserving the Richmond birdwing, was initiated in the late 1990s at two workshops held at Currumbin Wildlife Sanctuary on the Gold Coast, and at the Australia Zoo on the Sunshine Coast and one in 2005, at the Brisbane Forest Park Headquarters, The Gap in Brisbane. Five coloured display boards describing the biology and with images of the Richmond Birdwing Butterfly were erected at sites at the Stanley River, Mary Cairncross Park, Maleny, THECA, Chapel Hill, Canungra Land Warfare Training Centre, and near Alstonville, New South Wales. Two Facts Sheets were

compiled by the Double Helix Club and published in 1999. The first two 'How to identify the Richmond Birdwing Butterfly' and 'How your garden can help save the birdwing Butterfly' were published and distributed to schools that were involved in the Project.

6.6 Overseas Collaboration

Links were established with overseas groups working in countries on other birdwing projects, for example in 1996, CSIRO hosted members of the Oro Conservation Project – an AusAID funded project on Queen Alexandra's birdwing, *O. alexandrae* (Chap. 1), which is confined to small areas of the Oro Province in Papua New Guinea. Sands was the CSIRO consultant for developing a research schedule for the research project and worked closely with the research team based in Oro Province. In September 1998 Dr Yaw-Long Yang visited Brisbane from the Taiwan Endemic Species Research Institute where they are investigating the biology of *Troides magellanus* (Chap. 1) and developing methods for its rehabilitation.

6.7 The Roles of Government Agencies and Local Community Groups

Support for the Richmond birdwing project by local government Councils in south-eastern Queensland has been remarkable by providing funds through the community groups, or in the case of the Sunshine Coast Regional Council, establishing tenure and protection and rehabilitation of at least three habitats. Most notable on the Sunshine Coast has been construction of a 'birdwing walk' with trellises at Mary Cairncross Scenic Reserve, Maleny (p. 91) and the rehabilitation of the hilltop reserve above the town of Maleny. Several other sites have been dedicated to conservation of the Richmond birdwing, including the reserves at Mount Mellum and on the Stanley River. Most of the reserves are owned by the local governments and have community volunteers, sometimes members of local catchment groups, who carry out activities ranging from weed removal, re-planting of native flora including butterfly food plants, to guiding and attending to visitor enquiries. The only major losses of important birdwing habitats have occurred on the Sunshine Coast near Coolum Beach, in Fauna Terrace and at Point Arkwright near Coolum, and at Bli Bli.

The Brisbane City Council has since 2005 provided several grants to help rehabilitate bushlands and plant birdwing food plants and to map potential sites for

rehabilitation. Local government officers working in 'Land for Wildlife' programmes have been very supportive, by encouraging community landowners to participate in various conservation agreements, particularly environmental covenants, helping to locate wild *P. praevenosa* vines in reserves and on private properties, participating in surveys for butterflies and their vines, cultivating the vines for distribution (by some Councils) and providing financial support for community workshops, printing newsletters and supplements, or providing venues for meetings. Considerable support was also provided by South-East Queensland Catchments, towards providing community members with substantial numbers of vines planted mostly in the Western Suburbs of Brisbane but also for several isolated areas where the birdwing had been seen in past years.

6.7.1 Working with Conservation Agencies: Legislation and Its Effects on the Programme

The State Government in Queensland has made important contributions to research on the birdwing, particularly by establishing a captive rearing programme at the David Fleay Wildlife Park, West Burleigh. Officers have also been actively involved in surveys for wild vines, selecting populations of the butterfly for out-crossing experiments and developing experimental field methods to address this inbreeding problem. Since 2008, Officers from the State Department of Environment and Resource Management (DERM) made considerable progress towards understanding inbreeding depression at the facilities based at Moggill and have made preliminary releases of out-crossed stocks in areas where inbreeding depression was known to occur.

Queensland's first Richmond birdwing butterfly reserve started on the Stanley River (Fig. 6.4) in 1992, when it received support from the Queensland Department of Primary Industries and a local landcare group ensured preservation of a breeding site for the birdwing butterfly after it had been seriously disturbed. Since 2005, considerable support has been received from the Brisbane City Council and South-East Queensland Catchments towards bush rehabilitation projects and, most recently, the Council has promoted surveys of the municipality, to identify local government land suitable as core recovery areas, where substantial numbers of the food plant vines could be established in attempts to bring back birdwings into Brisbane (see Chap. 8).

Very recently, since 2012 the Tweed Shire Council has started to prepare a major new habitat for the birdwing at Chick Park, on the banks of the Tweed River, opposite Stotts Island where there is a small resident population of the butterfly. This site is being planted with nursery-grown *P. praevenosa* as the first of several planned sites (core recovery sites or stepping stones) on waterway embankments to link isolated existing sites in far northern New South Wales.

Fig. 6.4 Stanley River Park: Queensland's first dedicated reserve for the Richmond birdwing butterfly (J. Chamberlain)

6.7.2 Permits for Propagating Protected Food Plants

In Queensland, the Environment Protection Agency (EPA) requires permits for propagators of all protected plants, including *Pararistolochia praevenosa* and *P. laheyana*. In 2005, the Agency issued a permit that allowed endorsement of members of the then Richmond Birdwing Recovery Network (RBRN) on one permit, alleviating the need for separate permits, providing the permit was used for non-commercial purposes. For other people and nurseries selling protected plants, applications independent of RBRN would be required. Permit tags were also required for each potted plant sold. A simple adhesive sticker attached to each pot with permit number or alternatively a special plant tag with permit number and details of the plant, its cultivation or an illustration, were considered by the Department as acceptable. Each propagator was required to keep records of the number of plants sold or dispersed to community members, or used in bushland rehabilitation projects. A separate permit was required (by EPA and DERM) for the collectors of any protected plant materials (leaves, stems, roots, flowers or seeds). For 5 years of operation under RBRN, the permits and endorsements have been managed to everyone's satisfaction.

6.8 Development of Wider Community and Agency Interests

Planting vines and continuing vine and corridor surveys has become an active and ongoing part of the collaboration between the members of RBRN and RBCN and several Community Catchment Groups, particularly on the Sunshine Coast. In Brisbane, The Hut Environmental and Community Association (THECA) played a major part with CSIRO, in establishing the Environmental Caretaker Network for the Richmond Birdwing Butterfly. A flight cage constructed by RBRN at Gold Creek for the first captive rearing studies later became a major facility for cultivation of *P. praevenosa* and other plants by the Moggill Creek Catchment Group. Subsequently from 2009 to 2012, the captive rearing methods were adapted for inbreeding studies at the David Fleay Wildlife Park, West Burleigh by the Queensland Parks and Wildlife Service (implemented by I. Gynther, R. Booth, J. Seal). This work became the basis for extending on-going collaboration between the community, RBCN Members and the Queensland Department of Environment and Heritage Protection.

At the northern regions of the Sunshine Coast, the Mary River Catchment Coordinating Committee and Noosa and District Landcare made major contributions to surveys for wild vines, sightings of adult birdwings, providing venues for workshops and cultivating *P. praevenosa* in their nursery for distribution to the community. In northern NSW, the NSW Parks and Wildlife Service has provided considerable practical help with surveys and advice and recently, the Tweed Shire Council provided support for a workshop held at Murwillumbah and Rainforest Rescue helped with a workshop held at Mullumbimby. The coordination of the peripheral birdwing projects continued since 2010 with substantial help from RBCN Committee Members and from the Wildlife Preservation Society of Queensland in Brisbane.

With many interested parties dispersed over the full range of the birdwing, coordination of activities, and recording and dissemination of information and news became important issues in the programme.