

Threatened Species

Action Plan No.9

Small Purple Pea *Swainsona recta*

In accordance with section 21 of the *Nature Conservation Act 1980*, the **Small Purple Pea (*Swainsona recta*)** was declared an **endangered** species on 15 April 1996 (formerly Determination No. 29 of 1996 and currently Determination No. 7 of 1998). Section 23 of the Act requires the Conservator of Flora and Fauna to prepare an Action Plan in response to each declaration.

This is the Action Plan for the:

Small Purple Pea *Swainsona recta*

Preamble

The *Nature Conservation Act 1980* establishes the ACT Flora and Fauna Committee with responsibilities for assessing the conservation status of the ACT's flora and fauna and the ecological significance of potentially threatening processes. Where the Committee believes that a species or ecological community is threatened with extinction or a process is an ecological threat, it is required to advise the Minister for the Environment, Land and Planning and recommend that a declaration be made accordingly.

Flora and Fauna Committee assessments are made on nature conservation grounds only and are guided by specified criteria as set out in its publication *Threatened Species and Communities in the ACT*, July 1995.

In making its assessment of the Small Purple Pea, the Committee concluded that it satisfied the criteria indicated in the adjacent table.

An Action Plan is required to ensure, as far as is practicable, the identification, protection and survival of the species or the ecological community, or proposals to minimise the effect of any process which threatens any species or ecological community.

While the legal authority of this Action Plan is confined to the Australian Capital Territory, management considerations are addressed in a regional context.

Criteria Satisfied

1.1 The species is known or suspected to occur in the ACT region and is already recognised as endangered in an authoritative international or national listing.

1.2 The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the near future, as demonstrated by the following:

1.2.1 Current severe decline in population or distribution, from evidence based on:

1.2.1.1 Direct observation, including comparison of historical and current records.

1.2.4 Severely fragmented distribution for a species currently occurring over a small range or having a small area of occupancy within its range.

Species Description and Ecology

DESCRIPTION

The Small Purple Pea (*Swainsona recta*) is a slender, erect perennial plant with few, more or less rigid stems 20 - 30 cm high, with a woody root. The leaves are pinnate, 5 - 7 cm long with 7 - 11 narrow to very narrow-elliptical, 1 - 3 mm wide leaflets; the terminal leaflet distinctly longer than adjacent laterals. The

purple or bluish flowers are 5 - 6 mm long, borne in racemes (spikes) of 10 to 21 which are 10 - 27 cm long.

The pods are rounded-oblong, 7 - 11 mm long and 4 - 6 mm wide, hairless except along the suture and base.



Figure 1: Small Purple Pea (*Swainsona recta*). Scale: one third to half natural size (flower detail - three times natural size).

DISTRIBUTION

Swainsona recta has in the past been recorded from north-eastern Victoria, Culcairn and Wagga Wagga along the south-western slopes of New South Wales, north to Trangie and east to the Wellington-Mudgee district on the central western slopes, south to Carcoar on the Central Tablelands, and to the Queanbeyan-Canberra area of the Southern Tablelands (Lee 1948). Over the last 60 years, the range of *S. recta* has contracted to two disjunct clusters in NSW, one between Wellington and Mudgee, and the other from Canberra and Queanbeyan south to Williamsdale. Fewer than 4,000 plants now survive in seven populations. In Victoria, it had been presumed extinct until a single plant was found near Glenrowan in 1996 (The Wangaratta Chronicle).

In the ACT region, the species had been previously recorded in the following localities where it no longer occurs: Queanbeyan (1887), Black Mountain (CSIRO) (1939), O'Connor (1961), Harman (1964), Kambah (1980) and Mawson (1983).

The largest known population has about 3,400 plants, scattered along 22 km of narrow railway easement in NSW from Tralee (south of Queanbeyan) to south of Williamsdale (Briggs 1994, Briggs and Mueller 1997). The western fence of this part of the railway easement marks the ACT/NSW border.

The largest ACT population is on Mount Taylor where 94 plants over 0.03 ha were recorded in 1996. A second population of 12 plants occurs on three undeveloped house blocks in Kambah, and a single plant has been recorded on the edge of Long Gully Road.

HABITAT AND REPRODUCTIVE BIOLOGY

Habitat

Swainsona recta now occurs in open woodland dominated by one or more of the following: *Callitris endichleri*, *C. glaucophylla*, *Eucalyptus blakelyi*, *E. bridgesiana*, *E. dives*, *E. melliodora*, *E. microcarpa*, *E. nortonii* and *E. polyanthemos*. The grassy understorey is dominated by *Themeda triandra*, *Poa sieberiana* var. *sieberiana* or *Austrostipa* spp. In the ACT region, it occurs on all aspects, on grey sandy or stony loams, always on undulating terrain (Briggs and Leigh 1990).

Reproductive Biology

Swainsona recta resprouts in autumn and winter from a woody root. It flowers in spring, peaking over two to three weeks in October. Seed ripens in late December to early January, and shoots die, leaving only the perennial rootstock to survive the summer. Plants are thought to live for up to 20 years, or more.

Plants are not usually killed by fire or light trampling, and sometimes are able to resprout (Briggs and Mueller in prep.). Fire benefits the species firstly by breaking the hard seed-coat and thereby enhancing germination, and secondly by reducing the amount of dead and living material (especially from *T. triandra* competing for space (and therefore light, water and nutrients)) with *S. recta* (Briggs 1994).

Table 1. List of Site Locations for *Swainsona recta*

Site Number and Location	Population Size	Area* (ha)	Ecological Community	Landholder and Current Status
ACT SITES:				
Mt Taylor: (lower south-west side)	94	0.03	grassy woodland	Canberra Nature Park: Reserve.
Kambah (cnr McTaggart Crescent and DeSailly Street)	8.14	0.06	secondary grassland	Canberra Urban Parks: Restricted site.
Long Gully Road (road verge, 350 - 400 m west of Mugga Lane)	1 (?)		grassy woodland	Canberra Urban Parks: road verge.
NSW SITES:				
Tralee-Williamsdale railway easement	approximately 3,400	3.5	secondary grassland	NSW State Rail Authority - leased to Australian Railway Historic Society: managed under voluntary conservation agreement with NSW NPWS.

Shaded areas indicate sites that are located within reserved areas.

* = Area column refers to the area occupied by *S. recta*.

Conservation Status

Swainsona recta is recognised as a threatened species in the following sources:

National

Endangered. - ANZECC Endangered Flora Network (1998)

Endangered. - ROTAP (1996).

Endangered. - Part 1, Schedule 1 of the *Endangered Species Protection Act 1992* (Commonwealth).

Australian Capital Territory

Endangered. - Section 21 of the *Nature Conservation Act 1980*, Determination No. 7 of 1998 (formerly Determination No. 29 of 1996).

Special Protection Status Species. - Schedule 6 of the *Nature Conservation Act 1980*, Determination No. 77 of 1996.

New South Wales

Endangered. - Part 1, Schedule 1 of the *Threatened Species Conservation Act 1995*.

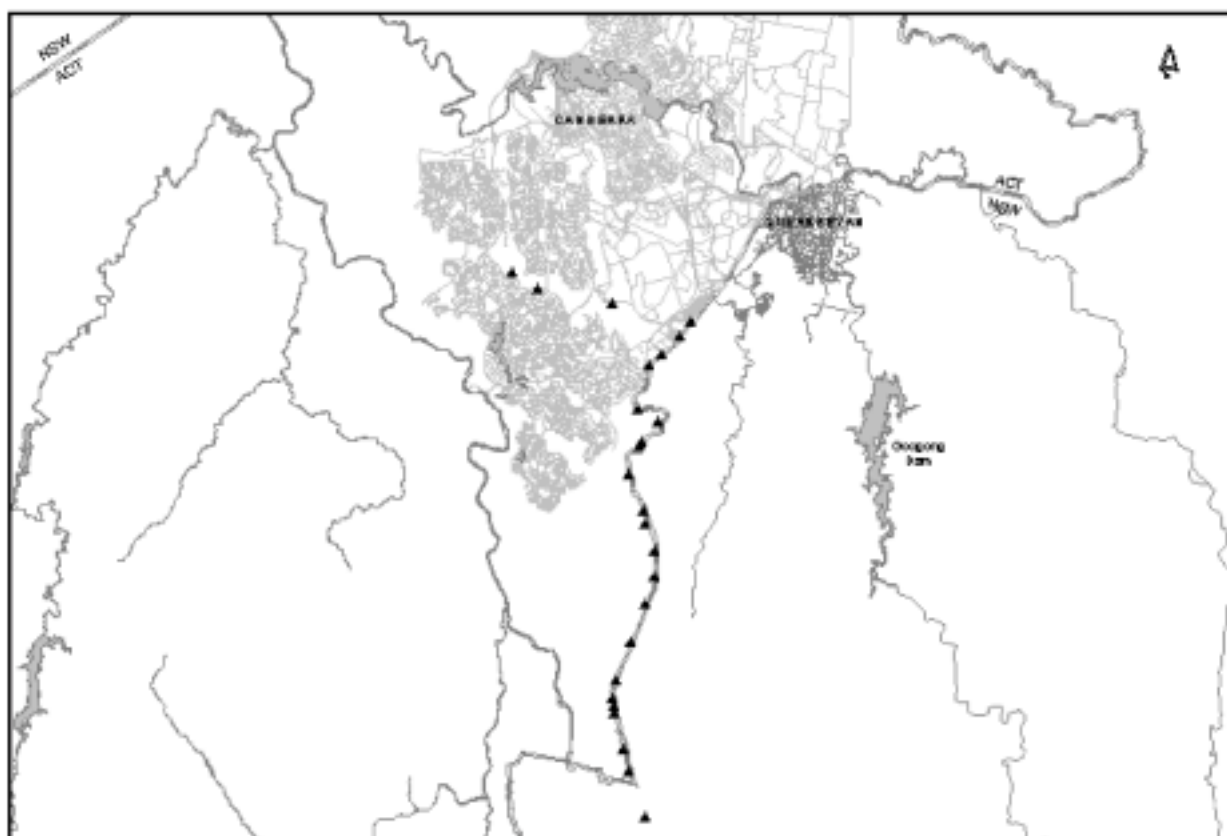


Figure 2: Map showing location of sites (▲) within the ACT region where *Swainsona recta* is known to occur. Map produced by Environment ACT (Wildlife Research and Monitoring).

Figure 2: Map showing the locations of sites (*) within the ACT region where *Swainsona recta* is known to occur.

Map produced by Environment ACT (Wildlife Research and Monitoring).

Threats to Populations in the ACT Region

- **The species is at risk from habitat loss and degradation** throughout the ACT region due to urban development, agricultural development, domestic stock grazing, competition from exotic weeds, loss of grazing by native herbivores and reduced fire frequency, and the resulting increased competition from understorey species.
- **The populations in the ACT are small and severely fragmented**, making them more susceptible to the impact of catastrophic events. The largest of these is 94 plants recorded on Mt Taylor. A second population of between 8 - 14 plants occurs in Kambah and a single plant was recorded in the road verge of Long Gully Road.
- **Activities associated with the railway line and easement maintenance**, including actions such as herbicide use, constitute a major threat to the species, given that over 80% of known plants are on a railway easement.

Major Conservation Objectives

The objective of this Action Plan is to maintain in the long term, existing viable populations of *S. recta* as a component of the indigenous biological resources of the ACT and as a contribution to the regional and national conservation of the species. This is interpreted to include the maintenance of the species' potential for evolutionary development in the wild.

This objective is to be achieved by:

- Maintaining and increasing, if feasible, the size of the Mt Taylor and Kambah populations.
- Applying the findings of research and monitoring to develop and update management plans for *S. recta* sites in the ACT.

These objectives will be assisted by:

- Participation of Environment ACT (Wildlife Research and Monitoring (WR&M)) in the National Recovery Team.
- Participation in and support of research on and monitoring of populations in both the ACT and adjacent areas in NSW (along the Tralee-Williamsdale railway easement).
- Support for continued genetic research by CSIRO.

Conservation Issues and Intended Management Actions

GENERAL

Genetic Effects

NSW National Parks and Wildlife Service (NSW NPWS) is partially supporting research by the CSIRO Centre for Plant Biodiversity Research into the genetic and demographic effects of habitat fragmentation on *S. recta* populations, and the implications for the survival of the species.

The known range of *S. recta* has been drastically reduced and fragmented into four small populations in central eastern NSW, and two small populations and one larger population in the Canberra-Williamsdale district. It is not known how much genetic diversity there is within and between these populations and districts, nor whether there has been a loss of genetic diversity due to genetic drift and/or inbreeding. The interaction between population size and genetic makeup, and demographic parameters such as recruitment, mortality and reproduction is not yet clear for this species. Data on these issues are required before some objectives of the Action Plan can be achieved, such as maintaining the genetic diversity of the species and establishing additional populations in protected areas (reserves). Meanwhile, a precautionary approach should be taken.

Habitat 'Islands'

In the ACT, the known groups of *S. recta* plants occupy very small areas (<0.05 ha). The Kambah and Long Gully Road plants occur in a former road reserve and an existing road reserve respectively, where they presumably have escaped stock grazing. The Mt Taylor population may have been partially protected from grazing by the surrounding landform, and occurs amidst apparently suitable habitat from which the plant has disappeared (Briggs and Mueller in prep.). The population along the ACT/NSW border railway easement consists of a number of groups of plants, separated from one another by stretches of weedy or other unsuitable habitat.

Apart from the Mt Taylor plants, the local populations are in very small or narrow areas of suitable habitat, surrounded by other land uses. This makes them very vulnerable to detrimental influences from the surrounding areas, such as weed invasion, accidental grazing or trampling, fertilizer run-on, herbicide drift, shading and slug and snail attack.

Burning

Flowering of *S. recta* and seedling establishment can be suppressed by dense grass thatch. Regular burning reduces this competition and appears to favour the survival of the species (Briggs and Mueller 1997).

Further information is required on criteria for burning, optimal timing and frequency of burns, and the effect on other plant and animal species in the remnant grassland and grassy woodland habitat.

NSW NPWS is continuing research commenced by CSIRO into the role of fire in maintaining the species.

SURVEY

Swainsona recta is unlikely to be found in other parts of Canberra Nature Park near Mt Taylor, nor in the grassland west of Kambah in the Murrumbidgee River Corridor, both of which have been relatively well surveyed, (the latter nevertheless contains a number of other species usually eliminated by grazing).

Surveys should be carried out in October/November in any ungrazed grassy woodlands considered to have the ecological characteristics suitable for the species, including the area east of the railway easement in NSW, in the Royalla-Williamsdale area.

MONITORING

Regular monitoring of *S. recta* in the ACT region is necessary to assess whether management is successful in maintaining and increasing populations.

NSW NPWS revisited the three known ACT populations in October/November 1996 and 1997 (Briggs and Mueller in prep.). All plants were marked with flattened steel pegs, and at the Kambah site, plants raised from seed and planted as part of earlier introduction trials were separately marked. This provides baseline data for future monitoring of the population dynamics at the sites.

Monitoring of existing plants and marking of new ones should be carried out in October every one or two years.

The NSW NPWS has been counting the *S. recta* plants on the Tralee-Williamsdale railway easement and recording the number of plants on each side of the line for every 100m interval as part of a research and monitoring program.

Environment ACT and NSW NPWS will coordinate inspections of sites and their buffer zones quarterly, or as appropriate, for deliberate or accidental damage. This includes unauthorised grazing, mowing, burning or planting; access by cars or trail bikes; trampling; rock, soil, wood or plant removal; and dumping of rubbish. ACT land bordering on the Tralee-Williamsdale railway easement population, which includes road verges and leased grazing land, should be inspected each spring for damaged fences and other threats to the adjacent *S. recta* population.

Protective fences/barriers and information signs will be installed or upgraded where necessary.

RESEARCH

Environment ACT is supporting research by the CSIRO Centre for Plant Biodiversity Research into the genetic and demographic effects of habitat fragmentation on *S. recta* populations, and the implications for the survival of the species. This will provide useful information on the management of ACT populations, such as whether inbreeding depression is affecting the viability of the small Kambah population.

The NSW NPWS is carrying out research on the Tralee-Williamsdale railway easement, on the largest *S. recta* population, which survived under a program of regular hazard-reduction burning and long term protection from grazing. The study will determine the effects on *S. recta* of spring and autumn burning, and of different fire frequencies (Briggs 1994, Briggs and Mueller in prep.). The effects of burning on the floristic composition of the whole grassland are also being monitored (Briggs and Mueller 1997). These studies will provide firm data on which to base fire management for all the local populations.

MANAGEMENT

Management will aim to protect *S. recta* and its habitat, and promote its regeneration. Vehicle access, trampling and soil disturbance will be kept to a minimum in all circumstances.

A management plan for each ACT site will be prepared in consultation with the agency responsible for its implementation.

Environment ACT will continue to co-operate with NSW authorities responsible for the protection and management of the Tralee-Williamsdale population.

Environment ACT will take an adaptive management approach, liaising with the National Recovery Team, NSW NPWS, and other regional researchers, and incorporating the results of research into management prescriptions for ACT *S. recta* sites.

Specific management issues relating to the conservation of *S. recta* at specific sites within the ACT region are:

Mt Taylor (managed by Canberra Nature Park)

The site should be burnt every 3-5 years, to prevent suppression of *S. recta* by grass competition.

In the event of bushfire, *S. recta* populations should be protected as far as possible from uncontrolled vehicle and fire suppression activities which may compact soil or otherwise disturb *S. recta* habitat.

No planting of *S. recta* should be carried out on Mt Taylor using seed from this or any other population, unless endorsed by the National Recovery Team.

Kambah (corner of McTaggart Crescent and DeSailly Street - managed by Canberra Urban Parks)

The site should be burnt every 3 - 5 years, to prevent suppression of *S. recta* by grass competition.

Slugs and snails damage adults and seedlings at this site, due to the proximity of irrigated suburban gardens. Effects should be assessed and appropriate action be taken, where necessary.

Woody weeds (including non-indigenous natives) should be controlled by cutting and dabbing with glyphosate, and invasive herbaceous species such as St John's Wort (*Hypericum perforatum*), African Lovegrass (*Eragrostis curvula*), Chilean Needlegrass (*Nassella neesiana*) and Toowoomba Canary Grass (*Phalaris aquatica*) should be carefully spot-sprayed with an appropriate herbicide.

No spraying of herbicide should be undertaken within 2 m of any *S. recta* plant.

A 1 - 1.5 m wide strip (perhaps gravel) should be maintained as a firebreak adjacent to the neighbouring fences.

The buffer zone outside the enclosure should be rehabilitated to form a dense Kangaroo Grass *Themeda triandra* sward, which should then be managed by burning.

No further planting or removal of previously planted *S. recta* should be undertaken until the National Recovery Team has assessed the results of current genetic studies.

Long Gully Road (managed by Canberra Urban Parks)

A 100 m roadside strip has been fenced to ensure management of the area. The single plant on this site was last seen in 1995 (Briggs and Mueller in prep.).

The strip was burnt in April 1998 and will be surveyed in spring 1998 for *S. recta* plants.

Woody weeds (including nonindigenous natives) should be controlled by cutting and dabbing with glyphosate, and invasive herbaceous species (including Blue Periwinkle (*Vinca major*)) should be carefully spot-sprayed with an appropriate herbicide. No sprayed herbicide should be applied within 2 m of any *S. recta* plant.

The site should be monitored subsequent to the above management actions to ascertain whether the species still exists in this area. If no plant is found, the site will need to be reassessed as to whether further special attention is required.

Tralee-Williamsdale railway easement, western boundary (managed by the Australian Railway Historic Society)

The ACT border forms the western boundary of this linear site. Activities within the ACT could therefore have a significant impact on the *S. recta* population. Potential threats include invasive weeds such as St John's Wort (*H. perforatum*), Serrated Tussock (*N. trichotoma*) and African Lovegrass (*E. curvula*), inadequate fencing and straying stock, herbicide spray drift, vehicle access to the easement, roadworks on the Monaro Highway and associated activities, and planting of trees or invasive landscaping species on the boundary.

Environment ACT (WR&M) will ensure that lessees or agencies managing ACT land adjacent to the railway easement are aware of the presence and status of *S. recta*, and will advise them on measures to protect it.

When annual inspection of the boundary or information from NSW NPWS indicates a threat to *S. recta* plants or habitat emanating from ACT land, Environment ACT will negotiate with the lessee/managing agency to prevent or minimise damage.

Protection

This Action Plan is the main instrument by which directions can be set, which seek to ensure the continued survival of *S. recta* and its habitat in the ACT.

The Mt Taylor population is protected within the Mt Taylor unit of Canberra Nature Park which is Public Land (Nature Conservation) under the Territory Plan. The Kambah population does not currently have any special status under the Territory Plan, although the site is managed by Canberra Urban Parks and access is restricted by means of a locked gate.

Environment ACT (WR&M) and Planning and Land Management will examine options for formalising the status of the land at Kambah, should this be needed, to ensure protection and appropriate management of this site.

The Long Gully site will be maintained as a roadside and be managed by Environment ACT (Parks and Conservation - Canberra South District).

Socio-economic Issues

The main social benefit of conserving sites in which *S. recta* occurs is in meeting community concerns that further loss or extinction of threatened ecological communities, together with their component native species, be prevented. Conservation of *S. recta* in the ACT will make a significant contribution to the regional conservation of the species.

Legislative Provisions

The following legislation is relevant to conservation of flora and fauna in the ACT:

Nature Conservation Act 1980

The Nature Conservation Act provides a mechanism to encourage the protection of native plants and animals, the identification of threatened species and ecological communities, and the management of Public Land reserved for nature conservation purposes. Specified activities are managed via a licensing system.

Native plants and animals may be declared in recognition of a particular conservation concern and increased controls and penalties apply. Species declared as endangered must also be declared as having special protection status, the highest level of statutory protection that can be conferred.

As an endangered species, *S. recta* must be declared a special protection status (SPS) species and any activity affecting an SPS species is subject to special scrutiny. Conservation requirements are a paramount consideration and only activities related to conservation of the species or serving a special purpose are permissible. The Conservator of Flora and Fauna may only grant a licence for activities affecting a species with SPS where satisfied that the act specified in the licence meets a range of stringent conditions. Further information can be obtained from the Licensing Officer, Compliance and Quarantine Services, Environment ACT, telephone 6207 6376.

Land (Planning and Environment) Act 1991

The Land (Planning and Environment) Act is the primary authority for land planning and administration. It establishes the Territory Plan, which identifies nature reserves, national parks and wilderness areas within the Public Land estate.

The Land (Planning and Environment) Act establishes the Heritage Places Register. Places of natural heritage significance may be identified and conservation requirements specified.

Environmental Assessments and Inquiries may be initiated in relation to land use and development proposals.

Endangered Species Protection Act 1992 (C'th)

Under this legislation, *S. recta* has been declared an **endangered** species. The Commonwealth is required to prepare and implement recovery plans for the species as it occurs in Commonwealth areas, and to cooperate with both the ACT and NSW authorities in implementing protection measures. The Commonwealth also encourages joint preparation and implementation of a recovery plan across State and Territory boundaries (ANCA 1994). This is being achieved through joint membership on the National Recovery Team, which has already prepared a draft national recovery plan for the species (Zich *et al.* 1995).

Consultation and Community Participation

Environment ACT (WR&M and Parks and Conservation) actively participates on the National Recovery Team (Southern Branch), which has representatives from the CSIRO Centre for Plant Biodiversity Research, NSW NPWS, Australian Railway Historic Society, NSW State Rail, Canberra Urban Parks, National Herbarium of Victoria and the Victorian Department of Natural Resources and Environment. Representatives from Environment ACT (WR&M and Parks and Conservation) maintain regular contact with lessees and agencies managing land on which *S. recta* occurs, to raise awareness of issues associated with the protection of the species.

Environment ACT will encourage community participation through appropriate Park Care Groups in activities assisting the conservation of *S. recta* and its grassy woodland habitat.

Environment ACT will promote the conservation of *S. recta* and its habitat through suitable information signs, community liaison and public education.

Implementation, Evaluation and Review

RESPONSIBILITY FOR IMPLEMENTATION

Environment ACT (WR&M) will have responsibility for coordinating implementation of this Action Plan, subject to availability of Government resources. Primary responsibility for conservation and management of the populations of *S. recta* on Mt Taylor rests with the ACT Parks and Conservation Service, and at Kambah with City Services (Canberra Urban Parks).

Environment ACT (WR&M) will liaise with relevant management agencies to coordinate conservation management and protection for this species.

The National Recovery Team will also be advising on, or encouraging the implementation of management measures to safeguard the species' conservation. Individual management authorities will be responsible for the on-ground implementation.

EVALUATION

Implementation of this Action Plan will be a collaborative exercise between government agencies, landholders and the community generally. NSW participation will be critical in regard to the Tralee-Williamsdale railway easement site. The Action Plan will be reviewed after three years. The review will comprise an assessment of progress using the following performance indicators:

- completion of commitments that can reasonably be expected to be finalised within the review timeframe (e.g. introduction of a statutory protection measure for a species; development of a management plan);
- completion of a stage in a process with a time line that exceeds the review period (e.g. design or commencement of a research program);
- commencement of a particular commitment that is of a continuing nature (e.g. design or commencement of a monitoring program for population abundance); and
- expert assessment of achievement of conservation objectives of the Action Plan.

The review will be reported to the ACT Flora and Fauna Committee. This will provide an opportunity for Environment ACT and the Flora and Fauna Committee to assess progress, take account of developments in nature conservation knowledge, policy and administration and review directions and priorities for future conservation action.

The following conservation actions will be given priority attention:

- development of management plans;
- implementation of recommended conservation management measures; and
- maintaining stability of or generating an increase in ACT populations of *S. recta* over the three year period.

Acknowledgments

This Action Plan draws on expert advice provided by Alison Rowell, Biologist and Environmental Consultant.

The illustration of the species (Figure 1) was prepared for Environment ACT by John Pratt.

References

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- ANCA, 1994. Endangered Species Protection Act 1992: *An outline*. Australian Nature Conservation Agency, Canberra.
- Australian and New Zealand Environment and Conservation Council. Endangered Flora Network, 1998. *ANZECC List of Threatened Australian Flora*. 1997 revision. Environment Australia, Canberra.
- Briggs, J.D., 1994. *Research into the ecological/biological effects of fire on Swainsona recta. Survey of the Tralee-Williamsdale railway easement and the design and establishment of initial research plots, May 1994*. Final report to Endangered Species Unit, Australian Nature Conservation Agency, Canberra.
- Briggs, J.D. & Leigh, J.H., 1990. *Delineation of important habitats of threatened plant species in south-eastern New South Wales*. Unpublished research report to the Australian Heritage Commission.
- Briggs, J.D. & Leigh, J.H., 1996. *Rare or threatened Australian plants*. 1995 Revised Edn. CSIRO Publishing, Collingwood.
- Briggs, J.D. & Mueller, W.J., 1997. *Effects of fire and short term domestic stock grazing on the composition of a native secondary grassland bordering the Australian Capital Territory, August 1997*. Report to Wildlife Research and Monitoring, Environment ACT, Canberra.
- Briggs, J.D. & Mueller, W. J., (in prep.). *Effects of fire and short term domestic stock grazing on the endangered perennial forb Swainsona recta, in a native secondary grassland bordering the Australian Capital Territory*.
- Lee, A.T., 1948. The genus *Swainsona*. *Contributions from the New South Wales National Herbarium* 1: 131-271.
- Zich, F.A., Briggs, J.D. & Corrigan, V.T., 1995. *Swainsona recta (Small Purple Pea). Recovery Plan*.

List of Action Plans - December 1997

In accordance with Section 23 of the *Nature Conservation Act 1980*, the following Action Plans have been prepared by the Conservator of Flora and Fauna:

No. 1: Natural Temperate Grassland - an endangered ecological community.

No. 2: Striped Legless Lizard (*Delma impar*) - a vulnerable species.

No. 3: Eastern Lined Earless Dragon (*Tympanocryptis lineata pinguicollis*) - an endangered species.

No. 4: A leek orchid (*Prasophyllum petilum*) - an endangered species.

No. 5: A subalpine herb (*Gentiana baeuerlenii*) - an endangered species.

No. 6: Corroboree Frog (*Pseudophryne corroboree*) - a vulnerable species.

No. 7: Golden Sun Moth (*Synemon plana*) - an endangered species.

No. 8: Button Wrinklewort (*Rutidosia leptorrhynchoides*)
- an endangered species.

No. 9: Small Purple Pea (*Swainsona recta*) - an endangered species.

FURTHER INFORMATION

Further information on this Action Plan or other threatened species and ecological communities can be obtained from:

Environment ACT
(Wildlife Research and Monitoring)
Phone: (02) 6207 2126
Fax : (02) 6207 2122

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