

National recovery plan for the Black-throated finch southern subspecies (*Poephila cincta cincta*)



Black-throated Finch Recovery Team, Department of Environment and
Climate Change (NSW) and Queensland Parks and Wildlife Service



Australian Government



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The attainment of the objectives and the provision of funds may be subject to budgetary and other constraints affecting the parties involved, and may also be constrained by the need to address other conservation priorities. Approved recovery actions may be subject to modification due to changes in knowledge and changes in conservation status.

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Executive summary

Species

The black-throated finch *Poephila cincta* is a small, stocky, granivorous bird with a distinctive black throat that forms a prominent bib.

Current species status

The southern subspecies of the black-throated finch is currently listed as 'Endangered' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It is listed as 'Endangered' under the schedules of the NSW *Threatened Species Conservation Act 1995* (TSC Act) and 'Vulnerable' under the Queensland *Nature Conservation Act 1992* (NC Act).

Distribution and habitat

The southern subspecies of the black-throated finch historically occurred from north-east NSW to Queensland's Atherton Tablelands and west to central Queensland, with the northern subspecies found from the Atherton Tablelands, north to Cape York Peninsula, and west to the Gulf of Carpentaria (Schodde and Mason 1999). It appears that the southern subspecies is now confined to the northern part of its former range and analysis of historical records suggests that a contraction of range has been occurring for several decades

The black-throated finch inhabits grassy woodland dominated by eucalypts, paperbarks or acacias, where there is access to seeding grasses and water (Zann 1976). Particularly in north Queensland during the wet season, the species probably needs a mosaic of different habitats in which to find seed.

Threats summary

Possible threats to the black-throated finch include:

- clearing and fragmentation of woodland, riverside habitats and wattle shrubland;
- degradation of habitat by domestic stock and rabbits, including alterations to fuel load, vegetation structure and wet season food availability; and
- alteration of habitat by changes in fire regime;
- invasion of habitat by exotic weed species, including exotic grasses;
- illegal trapping of birds;
- predation by introduced predators; and
- hybridisation with escapees of the northern subspecies.

Recovery objectives

The overall objective of this Recovery Plan is to manage and protect the black-throated finch and its habitat, and to promote the recovery of the southern subspecies.

Summary of actions

The actions of this recovery plan seek to understand the relative importance of the known threats, to verify the suspected decline of the subspecies and protect and enhance existing habitat.

Evaluation and review

Annual reviews of this Recovery Plan will be necessary for assessing the success of the proposed recovery actions against the performance criteria. The plan's performance will be reviewed within five years of adoption.

1. General information

Conservation status

The southern subspecies of the black-throated finch is currently listed as 'Endangered' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It is listed as 'Endangered' under the schedules of the NSW *Threatened Species Conservation Act 1995* (TSC Act) and 'Vulnerable' under the Queensland *Nature Conservation Act 1992* (NC Act).

International obligations

The species is listed on Appendix II of the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES). This Recovery Plan is consistent with Australia's international obligations.

Affected Interests

A range of public authorities, organisations and private individuals may be affected by actions to recover the southern subspecies of the black-throated finch.

Government agencies with affected interests include:

Australian government

Wet Tropics Management Authority
Department of Defence

Queensland government

Environment Protection Agency/ Queensland Parks and Wildlife Service
Department of Primary Industry and Fisheries
Department of Natural Resources, Mines and Water

New South Wales government

National Parks and Wildlife Service
Department of Environment and Climate Change

Local government

Local government areas throughout the range of the species in Queensland

Natural Resource Management Regional bodies

Burdekin Dry Tropics
Mackay Whitsunday
Fitzroy Basin Association
Desert Channels
Northern Gulf
Southern Gulf
Far North Queensland

Aboriginal councils and other bodies

North Queensland Land Council
Gurang Land Council
Central Queensland Land Council

Other organisations

Birds Australian
Bird Observers Club of Australia

Additionally, actions proposed as part of this Recovery Plan may affect various members of the community including:

- private landholders whose properties provide foraging, roosting or nesting habitat,
- conservation groups, and
- research organisations.

Consultation with Indigenous people

Local Aboriginal Land Councils, Elders and other groups representing Indigenous people in the areas where the black-throated finch occurs were identified and the draft was provided to them. Comments were sought on the draft recovery plan from the North Queensland Land Council, Gurang Land Council, and Central Queensland Land Council.

No comments were received from the Gurang Land Council or Central Queensland Land Council.

North Queensland Land Council (NQLC) responded with a letter. NQLC represent, amongst others, the Ewamian People, whose native title claim includes the Georgetown and Mount Surprise area of the Einasleigh Uplands. Given that a focus of the recovery plan will be on the stronghold of the species in the Townsville and Thuringowa areas, the NQLC indicated that they did not feel the need to comment on the recovery plan as the area where actions are to be undertaken is not covered by their native title claim. Where appropriate, indigenous participation in the implementation of recovery actions and review will be encouraged.

Benefits to other species or communities

The preparation and long term implementation of recovery plans for threatened species, and ecological communities contributes to, and highlights the importance of, conserving biodiversity. The conservation of biodiversity has a number of wider community benefits. These include:

- provision and maintenance of a range of ecosystem processes;
- contributing to increased ecological knowledge of species, habitats and broader ecosystems; and
- cultural, aesthetic and spiritual biodiversity values.

Protecting the black-throated finch will assist in the protection of other grassland birds that are threatened at the state or national level. These include the brown treecreeper eastern subspecies *Climacteris picumnus victoriae*, diamond firetail *Stagonopleura guttata*, grey-crowned babbler eastern subspecies *Pomatostomus temporalis temporalis*, hooded robin south-eastern subspecies *Melanodryas cucullata cucullata*, speckled warbler *Chthonicola sagittata*, squatter pigeon southern subspecies *Geohaps scripta scripta*, bush stone-curlew *Burhinus grallarius*, and regent honeyeater *Xanthomyza phrygia*.

Information and management developed as part of the recovery of the black-throated finch may also be of assistance in the conservation of related species such as the Gouldian finch *Erythrura gouldiae* ('Endangered' - Queensland, Commonwealth, 'Rare' – Western Australia) as well as a number of ecological communities listed as 'Endangered' at the Commonwealth and state levels.

Social and economic impacts

Implementation of this Recovery Plan will have advantages in improved land management of a range of regional ecosystems. Any management on private land will be in consultation with and with the approval of the landholders. Required changes to land use or restriction of activities may be offset by the support and incentives provided by voluntary conservation agreement mechanisms.

It is anticipated that there will be no significant adverse social or economic costs associated with the implementation of this Recovery Plan.

2. Biological information

Description and taxonomy

The black-throated finch *Poephila cincta* is a small stocky granivorous bird with a distinctive black throat that forms a large bib. The bill is dark grey, the short tail and the flanks black. The bird has a cinnamon breast, brown back, white belly, blue-grey head, and pink feet (Schodde and Mason 1999).

The southern subspecies *P. c. cincta* has a white rump, which distinguishes it from the black-rumped northern subspecies *P. c. atropygialis*. The brown plumage is also richer in the southern subspecies than in the northern subspecies.

Life history and ecology

In north Queensland, the black-throated finch has a life history strategy typical of granivores in the wet-dry tropics. In the dry season it feeds on the seed of annual grasses like *Schizachyrium* spp., switching in the wet season to half-ripe grass seeds, insects and their larvae, including flying termites (Immelman 1982; Smedley 1904; Zann 1976). At Mareeba Wetlands, the northern subspecies was recorded searching for food throughout daylight hours once the first rains of the wet season saturated annual grass seeds. Behaviour at this time frequently included hawking for flying termites for extended periods. In 2003-2004 the first fresh seeds of the wet season to be used by the subspecies were produced by the annual grass *Eremochloa bimaculata*, followed by *Paspalidium* spp. In previous years *E. bimaculata* had not been available because of heavy grazing by cattle (W. Goulding, pers. comm. 2004). Foods used at other times through the wet season are unknown. In the Townsville region, seeds of *Urochloa mosambicensis* and *Digitaria ciliaris* were prominent in the diet of the southern subspecies (Mitchell 1996).

The species is believed to be sedentary in nature, although it may move around locally (McCutcheon 1976; Blakers *et al.* 1984). It may also move in response to drought (Ley and Cook 2001a,b).

During breeding, pairs of black-throated finches separate from flocks. They build domed nests of grass in the foliage of trees or in tree hollows and lay five to nine eggs (Immelman 1982). There are no measures of breeding success in the wild.

Distribution

The southern subspecies of the black-throated finch historically occurred from north-east NSW to Queensland's Atherton Tablelands and west to central Queensland, with the northern subspecies found from the Atherton Tablelands, north to Cape York Peninsula, and west to the Gulf of Carpentaria (Schodde and Mason 1999). It appears that the southern subspecies is now confined to the northern part of its former range and analysis of historical records suggests that a contraction of range has been occurring for several decades (Franklin 1999) (Figure 1).

Historically, the southern and northern subspecies interbred along the Burdekin-Lynd Divide in north Queensland in a broad band west-southwest from the Atherton Tablelands (Schodde and Mason 1999). The current status of the southern subspecies in this region is unknown but only the northern subspecies can be found near Mareeba (W. Goulding, pers. comm.), which was historically the northern fringe of the hybrid's range (Bravery 1970; Zann 1976). Zann (1976) suggested there was little actual interbreeding in the Mareeba area when he observed both subspecies nearby in the 1960s.

In north Queensland, the southern subspecies of black-throated finch remains locally common at sites near Townsville and Charters Towers. Populations of this subspecies at less accessible sites have not been as frequently surveyed, compared with those in other areas in the species'

distribution. Small flocks have been regularly seen scattered throughout the Northern Brigalow Belt and Desert Uplands, suggesting they remain locally common but patchy in these areas.

Since 1998 there have been recordings of the southern subspecies of the black-throated finches in four bioregions within Queensland (Environment Australia 2000):

- Brigalow Belt North - south of Ross River Dam, Bohle floodplain, Serpentine Lagoon, Giru and Strathalbyn (W. Holmes, A. Grice, I. Montgomery, M. McLaughlin, A. Kutt pers. comm. 2003).
- Desert Uplands - near Aramac, Yarrowmere, Moonoomoo, Fortuna (A. Kutt, pers. comm. 2003) and Doongmabulla (J. Augusteyn, in litt. 2003).
- Einasleigh Uplands - Great Basalt Wall (A. Kutt, pers. comm.) and Camel Creek Road near Mt Fox (S. Pollock, pers. comm.).
- Wet Tropics: Helen's Hill Plain, Ingham (M. Acton in Birds Australia Atlas).

Very few black-throated finches have been reported south of Clermont or Aramac in Queensland (23°S) since the late 1970s (Blakers *et al.* 1984). On the coast there are few records south of Ayr (19.5°S). The species was numerous around cattle troughs on properties near Rockhampton in the 1950s (C. Larsen, pers. comm.) but apparently disappeared from most of this area between the early and mid 1970s (Longmore 1978; Blakers *et al.* 1984). There is a record from the Hedlow/Alligator Creek area in 1988-1989 (G. Porter, pers. comm.) and more recent sightings near Rockhampton.

In southern Queensland, the most recent southern records were on private land in the early 1980s and again in the mid 1990s along the Severn River near Ballandean in the New England Tableland bioregion. They have not been seen there since (P. Haselgrove, pers. comm.), although searching may not have been comprehensive. They disappeared from the Murphy's Creek area at the foot of the main range during the 1940s (P. Walker, pers. comm. via R. Hobson).

In NSW black-throated finches were extending their range along a creek near Inverell until a severe drought in 1967 and there was a record as far south as Gilgandra in 1968 (Baldwin 1975, 1976; McCutcheon 1976). Since then there have been only five records, all from the southern New England Tablelands (Rogers and Lindsey 1977; Morris *et al.* 1981). The most recent record in NSW was on private land in 1994 below Pindari Dam, near Ashford (Ley and Cook 2001a,b). No birds have been sighted in the last decade, despite specific and general surveys being undertaken during this time.

Over the last 20 years it is estimated that there has been a contraction in the extent of occurrence of the species by approximately 80 percent of its former extent (comparing Blakers *et al.* 1984 with Barratt *et al.* 2003). At the same time the area of occupation and, presumably, the population size has also declined. Circumstantial evidence points to an overall decline of more than 50 percent in the population of this species in the past ten years.

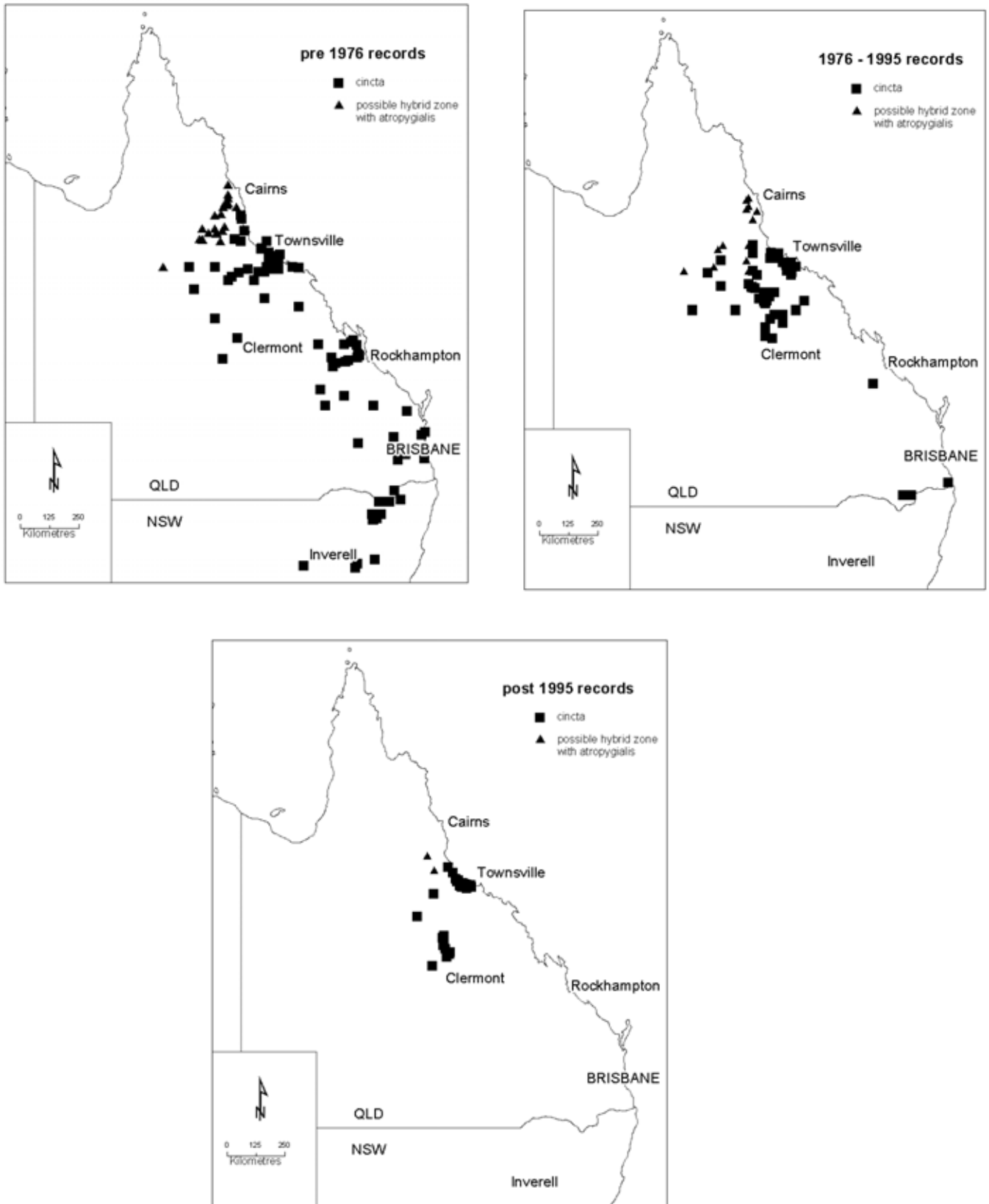


Figure 1. Known current distribution and recent historical records for the black-throated finch southern subspecies

SOURCES: Birds Australia database 2004, Black-throated finch recovery team database 2004, Queensland Environmental Protection Agency (EPA) sightings to 2004. The information shown on this map is for discussion purposes only, EPA Townsville, March 2004.

Land tenure

Of recent records of the subspecies in north Queensland, those in the Desert Uplands, and the Einasleigh Uplands have all been on leasehold land, and those in the Wet Tropics on freehold land. Near Townsville (Brigalow Belt North), the subspecies has been recorded on State Land, (unallocated State Land, reserves and leasehold land), freehold, local government and Australian Government Department of Defence land, with a few records on a Queensland Environmental Protection Agency/Queensland Parks and Wildlife Service (QEPA/QPWS) Nature Refuge at Serpentine Lagoon. Records from the last 20 years in southern and central Queensland have been on either road reserves or freehold land. There are no known reports of black-throated finches on existing conservation reserves.

Habitat

The black-throated finch inhabits grassy woodland dominated by eucalypts, paperbarks or acacias, where there is access to seeding grasses and water (Zann 1976). Particularly in north Queensland during the wet season, the species probably needs a mosaic of different habitats in which to find seed (Mitchell 1996).

In north Queensland, the southern subspecies has been recorded in 17 regional ecosystems (Table 1), none of which are 'Endangered' or 'Of Concern' under the *Vegetation Management Act 1999* (VMA).

Table 1. Regional ecosystems in which the black-throated finch southern subspecies has been recorded in north Queensland since 1994

| Bioregion | Regional Ecosystem | Remaining area of regional ecosystem (September 2000) | *Status of regional ecosystem |
|--------------------|---|--|---|
| Einasleigh Uplands | 9.5.1 <i>Eucalyptus similis</i> open forest on red kandosols on Tertiary plateaus, mesas and tablelands | >10,000 ha remaining, which is >30% of the original area of this regional ecosystem as above | VMA: not of concern Biodiversity: no concern at present |
| | 9.5.5 Mixed open forest to woodland commonly including <i>Corymbia clarksoniana</i> , <i>Eucalyptus portuensis</i> , <i>E. crebra</i> (sens. lat.), <i>C. citriodora</i> on red kandosols on Tertiary surfaces | as above | VMA: not of concern Biodiversity: of concern, due to high total grazing pressure and clearing which is leading to degradation and fragmentation. |
| | 9.8.1 <i>Eucalyptus crebra</i> (sens. lat.) or <i>E. cullenii</i> ± <i>Corymbia erythrophloia</i> ± <i>E. leptophleba</i> woodland on plains and rocky rises of basalt geologies | as above | VMA: not of concern Biodiversity: no concern at present |
| Desert Uplands | 10.3.6 <i>Eucalyptus brownii</i> open woodland on alluvial plains | as above | VMA: not of concern Biodiversity: no concern at present |
| | 10.3.9 <i>Eucalyptus whitei</i> open woodland on sandy alluvial fans | as above | VMA: not of concern Biodiversity: no concern at present |
| | 10.3.13 <i>Melaleuca fluviatilis</i> and/or <i>Eucalyptus camaldulensis</i> woodland along watercourses | as above | VMA: not of concern Biodiversity: of concern due to soil and pasture degradation and weed infestation, including rubber vine. |
| | 10.3.28 <i>Eucalyptus melanophloia</i> or <i>E. crebra</i> open woodland on sandy alluvial fans | as above | VMA: not of concern Biodiversity: no concern at present |
| | 10.4.8 <i>Dichanthium sericeum</i> and/or <i>Astrebla</i> spp. and/or <i>Panicum laevinode</i> tussock grassland on Cainozoic lake beds | as above | VMA: not of concern Biodiversity: no concern at present |

| Bioregion | Regional Ecosystem | Remaining area of regional ecosystem (September 2000) | *Status of regional ecosystem |
|----------------------------|---|---|---|
| | 10.5.1 <i>Eucalyptus similis</i> and/or <i>Corymbia brachycarpa</i> and/or <i>Corymbia setosa</i> low open woodland to open woodland on sand plains | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present |
| | 10.5.5 <i>Eucalyptus melanophloia</i> open woodland on sand plains | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present |
| | 10.7.11 <i>Eucalyptus melanophloia</i> low open woodland on ferricrete | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present |
| Brigalow Belt North | 11.3.12 <i>Melaleuca viridiflora</i> , <i>M. argentea</i> ± <i>M. dealbata</i> woodland on Cainozoic alluvial plains. | >10,000 ha remaining, which is >30% of the original area of this regional ecosystem | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present (under review) |
| | 11.3.25b <i>Eucalyptus camaldulensis</i> or less often <i>E. tereticornis</i> open-forest to woodland fringing drainage lines. | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : of concern (threatening processes other than clearing) |
| | 11.3.27 Freshwater wetlands | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : of concern (threatening processes other than clearing) |
| | 11.3.30 <i>Eucalyptus crebra</i> , <i>Corymbia dallachiana</i> woodland on alluvial plains | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present (under review) |
| | 11.3.35 <i>Eucalyptus platyphylla</i> , <i>Corymbia clarksoniana</i> woodland on alluvial plains | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present |
| | 11.11.9 <i>Eucalyptus populnea</i> or <i>E. brownii</i> woodland on deformed and metamorphosed sediments and interbedded volcanics | as above | <u>VMA</u> : not of concern <u>Biodiversity</u> : no concern at present |

Source: EPA 2003, Regional Ecosystem Description Database (REDD), Version 4.0. Updated September 2003.

***Status of regional ecosystem**

VMA = the status of regional ecosystems as gazetted under the Queensland *Vegetation Management Act 1999* (Vegetation Management Act Status). This is based on an assessment of the pre-clearing and remnant extent of a regional ecosystem.

Biodiversity = the status of regional ecosystems as recognised by the QEPA (biodiversity status). This is based on an assessment of the condition of remnant vegetation in addition to the pre-clearing and remnant extent of a regional ecosystem.

Virtually all recent records of the black-throated finch southern subspecies south of the tropics are from riverine habitat (Baldwin 1976; Ley and Cook 2001a,b; P. Haselgrove, pers. comm.). Regional ecosystems from which the subspecies has been recorded in south-east and central Queensland are summarised in Table 2.

In northern NSW, all of the most recent records have been in riparian vegetation dominated by *Casuarina cunninghamiana* and *Angophora floribunda*. At one location this riparian vegetation includes *Eucalyptus melliodora* and some *E. albens* with a range of native grasses and Coolatai Grass (Peter Croft, pers. comm.).

The predominance of records from riparian areas in its southern range, suggest these might be refugial habitat within a highly fragmented, modified environment.

Table 2. Regional ecosystems in which the black-throated finch southern subspecies has

been recorded in southeast Queensland and NSW since 1994.

| Bioregion | Regional ecosystem | Remaining area of regional ecosystem (September 2000) | *Status of regional ecosystem |
|---|--|--|--|
| Brigalow Belt South | 11.3.4 <i>Eucalyptus tereticornis</i> and/or <i>Eucalyptus</i> spp. tall woodland on alluvial plains | 10-30% of original extent remaining | <u>VMA</u> : of concern <u>Biodiversity</u> : of concern |
| New England Tableland (Queensland section) | 13.3.1 <i>Eucalyptus blakelyi</i> woodland on alluvial plains | 10-30% of original extent remaining of a regional ecosystem with a restricted remnant extent | <u>VMA</u> : Endangered <u>Biodiversity</u> : Endangered |
| | 13.3.4 <i>Eucalyptus conica</i> , <i>E. microcarpa</i> , <i>E. melliodora</i> woodland on alluvial plains | <10% of original extent remaining | <u>VMA</u> : Endangered <u>Biodiversity</u> : Endangered |
| | 13.3.5 <i>Eucalyptus camaldulensis</i> fringing open forest | >30% of original extent remaining of a regional ecosystem with a restricted remnant extent | <u>VMA</u> : of concern <u>Biodiversity</u> : Endangered, Remaining areas are in poor condition due to weed invasion, dieback of tree canopy, edge effects (much of adjoining areas have been cleared leaving narrow strips of vegetation fringing drainage lines) and impacts associated with high total grazing pressure. |

*see Table 1.

3. Threats

The decline of the black-throated finch began early in the 20th century with the development of pastoralism (Franklin 1999). Overgrazing of the riparian grassland that is the main habitat of the species is most likely a major cause of the contraction in range. Clearing of habitat has also increased pressure on the species (Garnett and Crowley 2000).

The subspecies' decline began at the southern end of its range in NSW, where sheep grazing is dominant and feral rabbits have been common. There had been a less extreme effect in the northern part of its range where clearing has not yet been so widespread, and grazing is predominantly by cattle. Now, however, even in the northern extent of its range, the subspecies appears to be in decline.

Possible threats to the black-throated finch include:

- clearing and fragmentation of woodland, riverside habitats and wattle shrubland;
- degradation of habitat by domestic stock and rabbits, including alterations to fuel load, vegetation structure and wet season food availability; and
- alteration of habitat by changes in fire regime;
- invasion of habitat by exotic weed species, including exotic grasses;
- illegal trapping of birds;
- predation by introduced predators; and
- hybridisation with escapees of the northern subspecies.

The relative importance of these threats is currently unknown.

4. Previous recovery actions

Formation of a recovery team

The Black-throated Finch Recovery Team (BTFRT) was formed in 2003 to further conservation of the southern subspecies of black-throated finch. The BTFRT is a cross section of people from a variety of disciplines who are committed to working with stakeholders to bring about a recovery of the wild black-throated finch populations. Current membership is listed in Appendix 3.

Surveys and monitoring

All known records of black-throated finch have been assembled in a database which is being managed by the BTFRT, with substantial assistance from the QEPA/QPWS. This database is lodged with the QEPA/QPWS Wildnet database, to improve access to it. Confidential records are not available to the public except by request to the BTFRT.

Many of the recent records of the southern subspecies were derived from general fauna and flora surveys of the Northern Brigalow Belt and Desert Uplands by members of QEPA/QPWS and the Tropical Savannas CRC, and surveys conducted in preparation for construction of a gas pipeline in the Townsville region. No widespread targeted surveys of the southern subspecies have been conducted outside of the Townsville-Thuringowa region. Preliminary surveys near Rockhampton, Chincilla, Toowoomba Range, Stanthorpe and the Desert Uplands did not detect any black-throated finches.

In NSW a survey for the black-throated finch was carried out in 2000 in the Inverell district by Birds Australia (Ley and Cook 2001a,b). No black-throated finches were sighted. Waterhole surveys were undertaken near Townsville in 2002 and 2003, with the results being incorporated in the database.

Community awareness

As part of their survey in NSW in 2000, Birds Australia distributed questionnaire leaflets on the subspecies to ratepayers and students living within the previous range of the black-throated finch. The effort was also publicised through radio interviews.

The status of the black-throated finch has been highlighted in articles in newsletters of both Bird Observers Club of Australia (BOCA) and Birds Australia and in avicultural magazines in Queensland. A Greencorps program run by Townsville City Council includes, among its objectives, increasing awareness of the black-throated finch at Oak Valley south of Townsville where the subspecies remains locally common.

5. Recovery objectives, performance criteria and actions

The overall objective of this Recovery Plan is to manage and protect the black-throated finch and its habitat, and to promote the recovery of the southern subspecies.

Specific objectives of the Recovery Plan for the species are listed below. For each of these objectives a number of recovery actions have been developed, each with a performance criterion.

Specific objective 1: Identify and quantify threats

Action 1.1: Investigate breeding requirements and threats to key breeding areas

Performance criterion: Study is completed within the five-year life of this recovery plan.

Justification: Determining the factors affecting breeding success has proved critical to many bird species but there is currently no knowledge of factors affecting breeding success in wild black-throated finches.

Methods: Conduct a study to investigate breeding in relation to landscape and management variables (e.g. landscape pattern, vegetation structure, fire, livestock grazing, rainfall and land condition). Breeding should be examined at many sites across the subspecies' current range to cover variability in success. Surveys need to be conducted over several seasons to account for inter-annual variation in seasonal conditions. Birds should be colour-banded to generate information on post-breeding survival and movements.

Potential contributors: Universities such as Central Queensland University, BTFRT, veterinary laboratories, landholders/managers and Burdekin Dry Tropics Natural Resource Management Regional body (BDTNRM).

Location: north Queensland.

Estimated costs:

| Funding type | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|--------------|----------|----------|----------|--------|--------|------------|
| Cash | \$35,000 | \$35,000 | \$35,000 | \$0 | \$0 | \$105,000 |

Action 1.2: Investigate feeding and other habitat requirements

Performance criterion: Study is completed within the five-year life of this Recovery Plan.

Justification: There is almost no information on the strategies used by wild black-throated finches to survive seasonal or stochastic fluctuations in resource availability. The behaviour, diet and distribution of birds during these fluctuations are critical to the bird's survival.

Methods: Conduct a study to investigate the diet and feeding strategies used by black-throated finches in relation to vegetation structure and composition, exotic grasses, fire, livestock grazing and rainfall. This study should span several years and place emphasis on the bird's requirements and strategies during the early wet season. This study should investigate characteristics of the mosaic of different habitats required to meet the needs of viable black-throated finch populations.

Potential contributors: Universities, BTFRT, landholders/managers and the BDTNRM.

Location: north Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|----------|----------|----------|--------|--------|------------|
| \$35,000 | \$35,000 | \$35,000 | \$0 | \$0 | \$105,000 |

Specific objective 2: Quantify distribution and abundance

Action 2.1: Document sightings

Performance criterion: A master database for black-throated finch sightings is developed and managed.

Justification: Information on the distribution and abundance of the southern subspecies of the black-throated finch must be collected and collated to allow for geographically targeted conservation actions.

Methods: A database of sightings records will be created to cover the entire range of the subspecies. This will include development of a process to ensure the database is managed into the future. All historical records of sightings of black-throated finches will be entered into this database. New records to be included in the database may be made as part of structured surveys by professionals or by amateur bird-watchers or other observers.

Potential contributors: BTFRT, QEPA/QPWS, James Cook University, Tropical Savannas CRC, BDTNRM, Birds Australia, Bird Observers Club of Australia (BOCA), Queensland Finch Society and members of the general public.

Location: throughout the subspecies range, based north Queensland

Estimated costs: Observations will be made during formal studies or as in-kind contributions by general observers. The database will be constructed and maintained by in-kind contributions by participating organisations.

Action 2.2: Develop standard survey guidelines

Performance criterion: Standard survey and environmental assessment guidelines are developed and distributed within 2 years of the commencement of this Recovery Plan.

Justification: A standard minimum survey effort should be undertaken when determining if the black-throated finch is present in or near an area of potential development. If discovered as part of any impact assessment, presence of the species should initiate implementation of effective mitigation measures (Specific Objective 3).

Methods: Standard survey and environmental assessment guidelines will be developed for the black-throated finch and distributed to relevant agencies, individuals and consultants. This includes land managers and those involved in impact assessment. Data collected through this process will be added to the database (see Action 2.1).

Potential contributors: BTFRT, researchers involved in Action 1.1 and 1.2 and Birds Australia

Location: north Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|---------|---------|---------|--------|--------|------------|
| \$5,000 | \$5,000 | \$5,000 | \$0 | \$0 | \$15,000 |

Action 2.3: Undertake mapping and habitat modelling

Performance criteria: (i) creation, and State approval, of essential habitat map, to be used during assessments under the *Vegetation Management Act 1999*. (ii) new areas of potential habitat for the species are determined within two years from the commencement of this Recovery Plan.

Justification: Identifying important and potential habitat through habitat modelling and mapping to enable the targetting of areas for field surveys would use a predictive map or model to undertake “conservation initiatives” unless ground-truthed.

Methods: Existing mapping and habitat modelling will be collated to determine all future mapping and modelling needs for the subspecies. New mapping and habitat modelling will be

undertaken to remove gaps and identify further areas of potential habitat for the species. This mapping will be based on known habitat types determined from existing and historical records.

This should be an iterative, on-going process, that continues across the 5 years as more data comes to hand. It should be linked with formal population surveys and informal observations that document distribution and abundance (Action 2.1).

Potential contributors: BTFRT, government agencies, universities and BDTNRM.

Location: Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|----------|----------|----------|--------|--------|------------|
| \$10,000 | \$10,000 | \$10,000 | \$0 | \$0 | \$30,000 |

Action 2.4: Undertake targeted surveys

Performance criterion: Surveys for populations in identified target areas are completed or under way within the life of the plan.

Justification: Targeted surveys would identify areas of potential habitat that warrant protection and management.

Methods: Using up-to-date knowledge of the sub-species distribution and abundance (Action 2.1), and knowledge and the results of habitat modelling and mapping (Action 2.3), surveys would target areas of potential habitat, describe that habitat, and determine the status of the subspecies within them.

Potential contributors: This work should be conducted as a research project involving universities, QEPA/QPWS, BDTNRM and in consultation with the BTFRT.

Location: Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|-----------|-----------|-----------|--------|--------|------------|
| \$100,000 | \$100,000 | \$100,000 | \$0 | \$0 | \$300,000 |

Specific objective 3: Protect and enhance habitat

Action 3.1: Secure selected sites for conservation

Performance criterion: Within three years of the commencement of this Recovery Plan, four sites containing viable population of the subspecies are identified and are being managed in a manner that is compatible with the conservation of black-throated finch.

Justification: While the conservation of the black-throated finch may be consistent with other land uses, it is important to have dedicated reserves of suitable habitat and populations, either in the State reserve systems or under other conservation mechanisms.

Methods: On the basis of Action 2.1, and in collaboration with appropriate government agencies, the BTFRT will identify four areas where management is or is likely to become consistent with long-term conservation goals for the black-throated finch. Areas will be selected on the basis of the extent of suitable habitat and current status of the subspecies. Selection would also consider the resources necessary for long-term maintenance of the areas. The results of work conducted under Objective 1 would help determine the size of areas required. Management of sites will be adapted in accordance with information gained as a result of Actions 1.1 and 1.2.

Potential contributors: BTFRT, QEPA/QPWS, local government, land managers, BDTNRM and other non-government conservation organisations.

Location: north Queensland

Action 3.2: Address threats on grazing lands

Performance criteria: (i) Land-holders in areas supporting viable populations are aware of the threats to the subspecies and how those threats can be addressed. (ii) Prospects for formal conservation agreements are developed.

Justification: Conservation of the subspecies within the broader landscape will require appropriate management of populations and habitats on pastoral and other lands.

Methods: Areas identified through Actions 2.1 and 2.4 will be targeted for programs designed to improve awareness of the conservation needs of black-throated finches. Personnel from appropriate state government agencies, in collaboration with the BTFRT, will work with land-holders to encourage land management appropriate to the survival of black-throated finches, and where appropriate, establish formal conservation agreements with land-holders under current provisions of responsible state government departments. Opportunities for incentives and support will be available to landholders of Nature Refuges under the Nature Assist program.

Potential contributors: BTFRT, QEPA/QPWS, universities, Birds Australia, BOCA and BDTNRM.

Location: north Queensland, targeting areas where the risks are greater but where viable populations still exist.

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|---------|---------|---------|---------|--------|------------|
| \$7,500 | \$7,500 | \$7,500 | \$7,500 | \$0 | \$30,000 |

This would not cover financial incentive schemes or specific on-ground works. This would be linked with other agency programs such as the Grazing Land Management program or the State Nature Refuge Program.

Action 3.3: Monitor management effectiveness

Performance criterion: A monitoring protocol is established, sites are identified, monitoring is undertaken, and results are analysed within the five year life of this Recovery Plan.

Justification: The effectiveness of conservation management will only be known if black-throated finch numbers are monitored consistently using a statistically rigorous protocol.

Methods: In combination with the activities undertaken in Actions 1.1 and 1.2, methods will be developed whereby trends in black-throated finch numbers can be accurately assessed. This may include such things as targeted waterhole counts, transects, mark/recapture studies, estimates of productivity based on ratios of adults to juveniles, spot counts at random sites or other methods as appropriate.

Once a technique is established, sites will be selected on the basis of Actions 2.1 to 2.4 and monitoring will be undertaken at a frequency determined from Action 2.2. Where possible, monitoring will take place at sites where appropriate management has been instituted. All data will be fed into the sightings database with trends analysed towards the end of the plan.

Potential contributors: BTFRT, government agencies, universities, Birds Australia and BOCA.

Location: north Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|--------|--------|--------|--------|---------|------------|
| 0 | 0 | 0 | 0 | \$6,000 | \$6,000 |

Action 3.4: Investigate development of other statutory planning instruments to minimise impacts of development on black-throated finch.

Performance criterion: Black-throated finch habitat is recognised as an important consideration when assessing proposed developments and measures are in place to protect important habitat areas from incompatible development.

Justification: Habitat clearing for urban development has potential to further fragment remaining black-throated finch habitat along the urban fringe in the Townsville and Thuringowa Shires and other areas, especially near the coast.

Methods: Means by which to protect black-throated finch habitat from incompatible development should be reviewed, interim protection measures put in place, and the most efficient long term means progressed. For example habitat mapping for the species should be incorporated into the assessment processes for developments that may result in its loss. This would include use of essential habitat mapping (developed under Action 2.3) in state level assessments such as for vegetation management and local government assessments under their planning schemes. Until essential habitat mapping is completed interim protection measures may include use of Part 6 of *Nature Conservation Act 1992* to declare an interim conservation order to prevent significant habitat destruction, or use of Division 4 of the *Vegetation Management Act 1999* to declare an area of high nature conservation value.

Potential contributors: State government and local government

Location: north Queensland

Estimated costs: Nil additional cost. QEP/QPWS policy staff are currently developing these protocols

Specific objective 4: Investigate the potential for captive birds contributing to a re-introduction project

Action 4.1: Determine suitability of birds currently in captivity for a reintroduction project

Performance criterion: Genetic analysis of captive birds undertaken.

Justification: A captive breeding colony may need to be established if re-introduction is to occur in certain areas.

Methods: If captive-bred birds genetically similar to the southern subspecies can be identified then it may be possible to consider these as part of a re-introduction strategy to parts of the subspecies former range. Testing for hybridisation will ensure that no hybrids are released.

Potential contributors: Queensland Finch Society, other aviculturists, BTFRT.

Location: probably Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|--------|--------|----------|--------|--------|------------|
| 0 | 0 | \$25,000 | 0 | 0 | \$25,000 |

Specific objective 5: Increase public awareness

Action 5.1: Increase public awareness of the status of and threats to the subspecies

Performance criteria: (i) copies of the final recovery plan provided to appropriate public libraries and local government offices; (ii) target groups identified and appropriate information packages developed and distributed.

Justification: It is important that the general community is made more aware of the status and threats to the southern subspecies of the black-throated finch. This awareness must provide a basis for land management that facilitates its survival and recovery.

Methods: The BTFRT and appropriate state and local government agencies will be responsible for ensuring improved awareness of the status and threats to the southern subspecies of the black-throated finch. An awareness campaign will particularly target regions where the subspecies persists or may persist. It will have a particular focus on those responsible for the management of land supporting the species habitat. In particular, NRM Regional bodies governing regions where the black-throated finch occurs, are an ideal conduit to promote awareness and develop community based programs monitoring and protecting finch habitat. Regional and national bird watching and conservation groups are also an important source of public awareness and goodwill.

Potential contributors: Queensland NRM Regional bodies, BOCA, Birds Australia, Queensland Finch Society, other aviculturists, BTFRT.

Location: probably Queensland

Estimated costs:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total cost |
|---------------|---------------|---------------|---------------|---------------|-------------------|
| \$15,000 | \$10,000 | 0 | 0 | 0 | \$25,000 |

Table 3: summary of recovery implementation

| Action | Performance criteria | Potential contributors | Priority* |
|---|---|--|-----------|
| Specific objective 1: Identify and quantify threats | | | |
| 1.1: Investigate breeding requirements | Study is completed within the life of this plan | universities, BTFRT, veterinary laboratories, landholders/managers and BDTNRM | 1 |
| 1.2: Investigate feeding and other habitat requirements | Study is completed within the life of this plan | universities, BTFRT, veterinary laboratories, landholders/managers and BDTNRM | 1 |
| Specific objective 2: Quantify distribution and abundance | | | |
| 2.1: Document sightings | A master database for black-throated finch sightings is developed and managed | BTFRT, QEPA, JCU, TSCRC, BDTNRM, Birds Australia, BOCA, Queensland Finch Society and members of the general public | 1 |
| 2.2: Develop standard survey guidelines | Standard guidelines are developed and distributed | BTFRT, researchers from 1.1 and 1.2 and Birds Australia | 2 |
| 2.3: Undertake mapping and habitat modelling | Mapping and habitat modelling completed | BTFRT, government agencies, universities and BDTNRM | 2 |
| 2.4: Undertake targeted surveys | Surveys are completed or underway within the life of the recovery plan. | BTFRT, BDTNRM, QEPA/QPWS, universities | 2 |
| Specific objective 3: Protect and enhance habitat | | | |
| 3.1 Secure selected sites for conservation | Four breeding sites containing viable populations of the subspecies are identified and are being managed | BTFRT, QEPA/QPWS, local government, land managers, BDTNRM and other non-government conservation organisations | 1 |
| 3.2: Address threats on grazing lands | Land holders in areas supporting viable populations are aware of the threats to the subspecies and how threats can be addressed | BTFRT, land holders, QEPA/QPWS, local government, Birds Australia, BOCA and BDTNRM | 2 |
| 3.3: Monitor management effectiveness | Monitoring protocol established, monitoring undertaken and results analysed | BTFRT, government agencies, universities, Birds Australia and BOCA | 1 |
| 3.4: Investigate development of other statutory planning instruments to minimise impacts of development on black-throated finch | BTF habitat is recognised as an important consideration when assessing proposed developments; measures are in place to protect important habitat areas from incompatible development. | State government and local government agencies | 2 |

| Action | Performance criteria | Potential contributors | Priority |
|--|---|---|----------|
| Specific objective 4: Investigate the potential for captive birds contributing to a re-introduction project | | | |
| 4.1: Determine suitability of birds currently in captivity for reintroduction project | Genetic analysis of birds undertaken | Queensland Finch Society, other aviculturists and BTFRT | 3 |
| Specific objective 5: Increase public awareness | | | |
| 5.1. Increase public awareness | (i) copies of final recovery plan provided to appropriate public libraries and local government offices; (ii) target groups identified and appropriate information packages developed and distributed | Queensland NRM Regional bodies, BOCA, Birds Australia, Queensland Finch Society, other aviculturists, BTFRT | 3 |

* Priority ratings are: 1 - action critical to meeting plan objectives; 2 - action contributing to meeting plan objectives; 3 - desirable but not essential action.

6. Cost of recovery

| Action no | Action Title | Cost Estimate (\$'s/year) | | | | | Total |
|--------------|---|---------------------------|------------------|------------------|----------------|----------------|------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 1.1 | <i>Investigate breeding requirements</i> | \$35,000 | \$35,000 | \$35,000 | \$0 | \$0 | \$105,000 |
| 1.2 | <i>Investigate feeding and other habitat requirements</i> | \$35,000 | \$35,000 | \$35,000 | \$0 | \$0 | \$105,000 |
| 2.1 | <i>Document sightings</i> | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 2.2 | <i>Develop standard survey guidelines</i> | \$5,000 | \$5,000 | \$5,000 | \$0 | \$0 | \$15,000 |
| 2.3 | <i>Undertake mapping and habitat modelling</i> | \$10,000 | \$10,000 | \$10,000 | \$0 | \$0 | \$30,000 |
| 2.4 | <i>Undertake targeted surveys</i> | \$100,000 | \$100,000 | \$100,000 | \$0 | \$0 | \$300,000 |
| 3.1 | <i>Secure selected sites for conservation</i> | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 3.2 | <i>Address threats on grazing lands</i> | \$7,500 | \$7,500 | \$7,500 | \$7,500 | \$0 | \$30,000 |
| 3.3 | <i>Monitor management effectiveness</i> | \$0 | \$0 | \$0 | \$0 | \$6,000 | \$6,000 |
| 3.4 | <i>Investigate development of other statutory planning instruments</i> | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 4.1 | <i>Determine suitability of birds currently in captivity for reintroduction project</i> | \$0 | \$0 | \$25,000 | \$0 | \$0 | \$25,000 |
| 5.1 | <i>Increase public awareness</i> | \$15,000 | \$10,000 | \$0 | \$0 | \$0 | \$25,000 |
| Total | Cost of Recovery Program | \$192,500 | \$192,500 | \$242,500 | \$7,500 | \$6,000 | \$641,000 |

An important corollary to the estimated cost of actions is that some of the costs will come from recurrent operational budgets of the organisation responsible for the activities.

7. Management practices

Proper management of the habitat of the southern subspecies of the black-throated finch is critical to the survival of the species. Guidelines for habitat management, based on current knowledge of the biology of the finch species, are outlined below.

- management of overgrazing of the riparian grassland that is the main habitat of the species;
- management of clearing and fragmentation of woodland, riverside habitats and wattle shrubland;
- management practices aimed at minimising impacts on habitat by domestic stock and rabbits, including alterations to fuel load, vegetation structure and wet season food availability;
- fire management; and
- weed management strategies to minimise invasion of habitat by exotic weed species, including exotic grasses.

8. Evaluation of recovery plan

To ensure the successful recovery of the southern subspecies of the black-throated finch annual reviews of this recovery plan, which involve stakeholders, will be necessary for assessing the success of the proposed management actions against the performance criteria. Amendments to recovery practices will be made to the recovery plan in following years if deemed necessary. A review of the recovery plan will be conducted five years after adoption.

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Acronyms used in this document

| | |
|----------------------|---|
| ARC | Australian Research Council |
| BA | Birds Australia |
| BOCA | Bird Observers Club of Australia |
| BDTNRM | Burdekin Dry Tropics Natural Resource Management |
| BTFRT | Black-throated finch Recovery Team |
| DECC | NSW Department of Environment and Climate Change |
| DIPNR | NSW Department of Infrastructure, Planning and Natural Resources |
| EPA | Queensland Environmental Protection Agency |
| EP&A Act | NSW <i>Environmental Planning and Assessment Act 1979</i> |
| EPBC Act | Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> |
| NC Act, NCA | Queensland <i>Nature Conservation Act 1992</i> |
| NC Regulation | Queensland <i>Nature Conservation (Wildlife) Regulation 1994</i> |
| NSW | New South Wales |
| NPWS | NSW National Parks and Wildlife Service |
| NQLC | North Queensland Land Council |
| NRM | Natural Resource Management |
| QEPA/QPWS | Queensland Environmental Protection Agency/Queensland Parks and Wildlife Service |
| REDD | Regional Ecosystem Description Database |
| SEPP | State Environmental Planning Policy |
| SIS | Species Impact Statement |
| TSC Act | NSW <i>Threatened Species Conservation Act 1995</i> |

Appendix 1. – NSW Legislative Requirements

The DECC has considered all submissions to the NSW draft of this Recovery Plan received during the exhibition period and will provide a summary of those submissions to the NSW Minister for the Environment prior to final approval of the plan. A summary response to the Scientific Committees submission is attached in Appendix 1. Following adoption of the Recovery Plan by the Minister copies of all submissions, including personal details, will be available for public inspection. Submissions clearly marked that personal details are to remain confidential will be kept confidential. All submissions are stored in the DECC records system. Copies have been provided to the QPWS and the BTFRT, which, with DEH, has a role in ensuring dissemination of this document (See Recovery Action 5.3).

Critical Habitat

The TSC Act makes provision for the identification and declaration of Critical Habitat for species, populations and ecological communities listed as Endangered. Once declared, it becomes an offence to damage Critical Habitat (unless the action is specifically exempted by the TSC Act) and a species impact statement (SIS) is mandatory for all developments and activities proposed within Critical Habitat.

To date, Critical Habitat has not been declared for the species under the TSC Act. The declaration of Critical Habitat in NSW is not considered to be a priority for this subspecies at this stage.

Key Threatening Processes

As of April 2004 there are 22 Key Threatening Processes listed in the TSC Act. Of these, 'clearing of native vegetation', 'competition and grazing by the feral European Rabbit *Oryctolagus cuniculus*', 'invasion of native plant communities by exotic perennial grasses', and 'high frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition' are relevant to the black-throated finch in NSW. Of these, invasion by exotic perennial grasses is probably the most significant threat to potential habitat within NSW. In particular, Coolatai Grass *Hyparrhenia hirta* is invading potential habitat, displacing native grasses in the process (Peter Croft, pers. comm.).

In addition, a range of other processes are recognised as threatening the survival of the subspecies in NSW.

Licensing

Any activity not requiring development consent under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), which is likely to harm the black-throated finch, or damage its habitat, requires a licence from the DECC under the provisions of the TSC Act. If the impact is likely to be significant, a SIS is required.

Other conservation measures

The TSC Act includes provision for other measures that may be taken to conserve the black-throated finch or its habitat, including the making of a Stop Work Order or Joint Management Agreement.

Appendix 2. – Qld Legislative Requirements

The key legislation for the conservation and recovery of the black-throated finch in Queensland is the *Nature Conservation Act 1992*, including the Nature Conservation Regulation 1994.

The NCA facilitates threatened species conservation through:

- listing Vulnerable and Endangered species;
- requiring permits for the taking of Vulnerable and Endangered species;
- preparation of conservation plans for species or groups of species; and
- management of wildlife in accordance with the declared management intent for Vulnerable and Endangered fauna.

Other Queensland legislation that can be used to assist with the preservation of this species includes:

- *Integrated Planning Act 1997*
- *Environmental Protection Act 1994*

Appendix 3. Membership of the Black-throated Finch Recovery Team

Members include representatives from:

Northern group

Townsville City Council
North Queensland Water
Department of Defence
Environmental Protection Agency/Queensland Parks and Wildlife Service
Queensland Department of Primary Industries
Townsville Region Bird Observers Club of Australia
Woodstock Landcare Group
Birds Australia

Southern group

NSW Department of Environment and Climate Change
Queensland Finch Society
Birds Australia
Environmental Protection Agency/Queensland Parks and Wildlife Service

Appendix 4. Form for collecting information on black-throated finches**black-throated finch recording sheet**

Black-throated finches are one of the rarest birds in eastern Australia. Any sightings south of Mareeba are of great interest. If you are lucky enough to see them please complete as much of the attached form as you can and return to:

Marnie McCullough P.O.Box 1085, Townsville, 4810

Email: marnie.mccullough@dpi.qld.gov.au

Phone:W: 07-4722 2519 M: 0428 739 819



Observer/s:.....

Address:.....

Phone Email

Date: _ _ / _ _ / _ _ _ _ Time Observation Started (eg 0830):

Time Observation Finished (eg 1300):

LOCATION: (Essential) - GPS accurate readings preferred

EITHER Geographical Coordinates (Latitude and Longitude - degree, minutes, seconds)

Latitude: _ _ ° _ _ ' _ _ " South Longitude: _ _ ° _ _ ' _ _ " East

OR Map Grid Coordinates (Easting, Northings and Map Zone)

Easting: _ _ _ _ _ Northing: _ _ _ _ _ (Map Zone 54 / 55 / 56)

Datum above (applies to GPS units and Maps): GDA 94 (=GDA) WGS 84 AGD 84(old) AGD 66(old)

Method (circle as appropriate): GPS Map Other

Accuracy (circle as appropriate): 50 m 100 m 500 m Other

Locality (general description):.....

Weather:.....

Number of finches seen: Total:adults.....juveniles.....mixed ages.....

How the finches were counted:.....

What the finches were doing:.....

Any signs of breeding (presence of nests or immatures).....

Habitat: (describe main trees, shrubs and grasses present, landscape, soil). Collect any grass being fed on, place in an envelope and send in if uncertain about identification.....

Other bird species with finches:.....

