

# Song thrush *Turdus philomelos* Brehm, 1831

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New Zealand birds have been assigned to the subspecies *T. p. clarkei*.

Scientific Name Origin: From Greek – loving a song

Family: MUSCICAPIDAE Old World flycatchers, Old World thrushes and allies

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## Collective and Common Names

Thrush, English or European Song Thrush or Thrush; Mavis or Throstle

Manu-kai-hua-rakau

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## Introduction

These notes focus on Song Thrushes introduced and now naturalized in New Zealand. They aim to assist wildlife rehabilitators in understanding the species' natural history to improve care for birds admitted for rehabilitation.

**Disclaimer:** These notes are an overview of the basic needs of the species and issues rehabilitators need to consider when holding them as patients. They are not intended as a comprehensive 'how to' guide however, and the following informational sources will help fill in some gaps. Work with your wildlife rehabilitation community and your veterinarian and join organizations promoting professional wildlife rehabilitation.

## Information sources

- NZ Birds On-line [Home page | New Zealand Birds Online](#)
  - [Handbook of Australian, New Zealand and Antarctic Birds: Vol 7](#)
    - [344\\_Song Thrush](#)
  - *Hand-Rearing Birds*, 2nd Edition. Edited by Rebecca S. Duer and Laurie Gage. [Hand-Rearing Birds, 2nd Edition – National Wildlife Rehabilitators Association](#)
  - BirdCare Aotearoa diet sheets available in the WReNNZ members website
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## Species Notes:

- **Adult weight range:** 58 to 85g
  - **Legal Status in NZ:** No permits are required to rehabilitate these species. However, the Welfare Act may be invoked in cases of cruelty.
  - **Natural diet:**
    - **Omnivorous**
      - Considered a snail specialist. Garden snails usually broken after 4-5 blows against stone anvil, but mud-snails have much thicker shell and require more thorough walloping against stone to break them open; 'once seen to bang mud-snail 40 times against rock and still not break shell'.
      - Forages on the ground, probing for earthworms and gleaning for slugs and snails, on bare soil, leaf-litter and on grass or other low vegetation. Also seen reaching from ground to pick caterpillars from low-hanging leaves. May also eat wetas.
      - Usually forages in pairs.
      - Small fruits eaten whole, but flesh of larger fruit pecked from ripe fruit in trees or on ground.
      - May sip nectar of Pohutukawa.
    - **Insects and Molluscs**
      - Molluscs – garden and mud-snails, spiders, flies, cicadas, aphids, planthoppers, leafhoppers, assassin bugs, shield bugs, sawflies, wasps, bees, ants, butterflies and moths.
      - One report; nestlings fed mainly on earthworms.
      - NOTE: an adult seen apparently teaching fledgling how to extract snail from shell.
    - **Fruits:** Considered an orchard pest!
      - Briars, inkweed, elderberries, Sambucus, blackberries, Pseudopanax
      - Indigenous fruits from Coprosma, Muehlenbeckia, Pittosporum, Matai or black pine, Schefflera digitata, cabbage trees
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**Critical time periods to ensure natural history and biological milestones are respected while in rehabilitation.**

<b>Song thrush</b>	
Incubation - eggs	12 to 14 days
Nest attendance	Both
Brooding	Female
Hatch to fledging	14 days
Dependency after fledging	Several weeks

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**Diet Notes for Adult Song Thrushes**

By reviewing the natural history notes on song thrush diets, there are several ways to manage these species and respect their own biology.

To meet nutritional requirements under New Zealand conditions, consider the following;

- **Cat biscuit:** Ground finely to a sandy consistency. Use high-quality brands (e.g., Orijen) with animal-sourced ingredients listed as the first 2, 3 or more ingredients. Cat biscuit is designed to meet the nutritional needs of carnivores, so we can use this to help as a substitute for any insect components in a diet.
  - **Egg mix:** this base food is prepared using hard boiled eggs with the shell included, finely ground up and well-cooked vegetables added. This can be sweet potato, pumpkin, silver beet cooked well and mashed up. Cooked apple can also be added. Blend all this together and blitz in a food processor. The resulting mix can be frozen in ice-cube trays, or freezer bags. If using freezer bags, do not over fill. Instead, freeze so you have a thin layer of food that can easily be broken off and thawed as needed.
  - **Eggshell powder:** Sterilize eggshells by baking at 150°C for 20 minutes, then grind finely.
  - **Nectar substitute:** Use sugar or dextrose if birds need a quick energy boost. This species does use some nectar as part of their natural diet.
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## **BirdCare Aotearoa Diet Sheet**

Live insects are the best option for these birds. However, when these supplies are limited, substitution diets are valuable. The BCA diet is well accepted, especially if some live mealworms are used as garnish. The complete BCA diet sheet is available to WReNNZ members in the members pages.

If you have several birds in an enclosure, ensure there are as many feeding spots featuring berries and live insects to reduce one dominant bird taking the lot. Or spread these food items around to act as enrichment and foraging opportunities.

Providing a tray with fresh garden soil daily will also help in many ways. If you have a worm compost bin, these can be added to the tray.

The following diet can be the base, however, insects should form the major part of the daily intake.

Song bird daily meal plan, per bird. Feed these 2 to 3 times daily;

2 tbsp. egg mix

1 tsp. dried mealworms

2 -3 small berries or chopped fruit mix. Use ripe fruits chopped to bite size pieces.

Live insects can include; mealworms, soldier fly larvae, earthworms, crickets.

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## **Nestling to fledging care notes**

### **Housing**

- Use a cup-shaped nest with a non-slip interior surface to prevent splay-leg.



- Line nests with multiple layers of crumpled tissue paper for hygiene and comfort, replacing soiled layers regularly.
  - Crocheted nests work well and can be laundered when soiled.
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### **Nutrition and Feeding the Kids**

- To stimulate feeding responses, you may need to ‘rustle’ the nest to mimic a parent returning, wiggle your fingers to imitate wing movement of a returning adult, or tap the side of their beak gently.
  - Song thrushes stop begging or will refuse food once they have eaten enough at each meal. They may still continue to ask, but not open their beaks when food is offered.
  - Feeding must continue diligently until the appropriate age is reached.
  - Weigh nestlings daily to track growth until within the adult weight range.
  - If the crop is not empty, investigate immediately.
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### **Troubleshooting Digestive Issues**

- **Skipping a meal:** If the fledgling seems in good condition, try skipping the next meal if it is starting to eat on its own. Do however, offer food at each scheduled feeding round.
  - **Temperature:** Once feather growth is well underway, maintain brooder at 35–38°C with 40–60% humidity until birds thermoregulate; a warm nursery room temperature may be all that is needed during the day. However, return the youngsters to stable warmth and humidity level-brooder conditions at night.
  - **Hydration:** Look for signs of dehydration (wrinkled dry skin). Provide sterile isotonic (~pH 7.0 to 7.4) fluids subcutaneously if necessary. The fluid volume can be up to 7 to 10% body weight SID given in the inguinal region, then review 30 minutes later. Repeat as needed. Warm water drops can help moisten the GI prior to starting to offer food.
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### **Developmental Milestones and Rehabilitation Guidelines**

The following chart shows some known developmental steps to aid in aging nestling admissions. The rehabilitation notes reflect the needed care allied to the biological development of song thrush young.

<b>Song thrush developmental steps</b>			
<b>Age (Days)</b>	<b>Weight (g)</b>	<b>Developmental steps</b>	<b>Care notes</b>
Hatch		Nidicolous. Altricial - blind, not known if totally naked	Incubator 32C to 35C, humidity 40 to 60%, feed every 10 to 15 minutes over 12 to 14 hours. Nest unit needs cup-like structure with non-slip surfaces
1-4 days		Sparse down seems to erupt	Nest kept scrupulously clean
5 to 6		Eyes start to open, pin feathers appear	Feeding can be given every 30 minutes over 12 to 14 hours
6 to 8		Eyes open, pin feathers established	Offer mealworms and diet in small bowl to encourage exploring for food. Incubator temperature 30C
13		Well feathered	Can be at ambient temperature, housed indoors. Feeding every 45 to 60 minutes over 12 to 14 hours
12 to 14		Leave nest	Reduce feeding times, offer mealworms and other live bugs. Include foraging options, foliage, ensure housing has perching
14 to 30		Continued feeding by parents for several weeks	Continue to offer feeds. Ensure weights close to adult or higher (~70g)
		Weaning - do not hurry this process	Feed and monitor weight and appearance
28 to 30	~70g	Independent	Release
Adult weight	58 to 85g	Check for keel scores, robust young should be plump with BCS 3+	

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## **Diet notes for rearing robust Song Thrush kids**

Song thrushes start life as obligate faunivores and **MUST** eat an insect-based diet at this stage. This can be a diet of insects e.g. chopped up mealworms, crickets, earthworms. To meet the dietary needs of the growing youngsters, adding bugs to the Baby Songbird diet should meet the nutritional needs of the nestlings. Try feeding bugs one feeding then the diet mix the next round. Ensure all the ingredients are well constituted and even a little runny if more fluid intake is needed.

## **Tube and assist feeding options for young and adult Song Thrushes**

- Ingredients
  - 1 cup Orijen Cat and Kitten biscuits – or similar high quality cat diet
  - 1 1/2 cups warm water
  - 3 tbsp. egg white powder
  - 1 tbsp. whole egg powder
  - 1 tbsp. Wombaroo Insectivore Mix
  - 1 tsp. sunflower or canola oil
  - ½ tsp. dried and finely ground eggshell
  - ½ tsp. plain yoghurt or Bird Probiotics (Bird Probiotics - 100g – Avian Empire)
  - ¼ tsp Polyaid powder
- Preparation
  - Soak the biscuits at least 2 hours, but preferable overnight to ensure they are fully reconstituted.
  - Blend all the remaining ingredients into this mixture until a smooth soft paste is formed. This needs to be lump-free and able to be fed through a 1cc syringe.
  - Store in the fridge in labeled and dated containers, use within 24 hours.
  - Warm for feeding.

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## **Issues that may render the Song Thrush non-releasable**

- Loss of a leg as these birds walk/hop everywhere.
- Loss of one functioning eye, both are needed.

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## **Care notes for juveniles and adults**

- These birds need cover for safety. Provide safe sites for them to retreat to in their housing to help reduce stress and promote natural behaviours.
- They are rarely found as a singleton, use a mirror near the food bowls to reassure the bird it is not alone.

- Use leaf litter as a base to encourage fossicking. Seed the foliage with wild caught and commercial insects; mealworms, army worms, earth worms, garden and mud -snails and especially if you are near zones where mud-snails are abundant. Crickets are also useful food sources.
- Use a plastic tray filled with safe (no pesticides) soils to hold earthworms (or even mealworms and other insects) to allow song thrushes to practice detecting and eating earthworms.
- If you find caterpillars on green vegetables, offer these also.

Ensure there is a couple of flat stones for these birds to practice with or use to break open snail shells. Consider cracking mud-snail shells to allow the bird to eat the snail easily and learn about this useful food source.



Garden snail shells broken open by foraging Song Thrushes.

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### Release Criteria for Song Thrushes

The Song Thrush is a common bird in New Zealand, though Eurasian blackbirds are about ten times more abundant than song thrushes in most habitats. Thrushes are usually seen occasionally as single birds, but mostly in pairs or small groups, and are not known to flock.

Song Thrushes are territorial and nest as solitary, monogamous pairs, breeding from August to February. The following offer some guidelines to consider;

- **Adult birds**
  - **Recovered from injury, illness**
    - Fractures may be well stabilized at 2 weeks, but still may need time to mineralize. Cat bites with soft tissue injuries should be well healed within ~2 weeks. Flight exercise may be important to help the bird regain muscle mass and aerobic fitness.
  - **Territoriality**

- Release close to where it was found unless there is a major concern for its survival and safety, especially in the breeding season in case a mate is nearby.
- Avoid releasing into a breeding territory if possible.
- Breeding territories may be present and defended during the summer
- **Weather**
  - Generally, avoid releases when extreme weather events are predicted.
  - If possible, a 3-day window of stable weather is useful. However, adults know about weather, so do not delay a release unless severe downpours are predicted.
- **Parasite load**
  - Intestinal worms may be an issue and a faecal sample should be checked for signs of eggs.
- **Waterproofing**
  - **Critical issue.** Feathers **MUST** be waterproof. An ill or injured bird does not preen effectively, so spritzing with water daily will help encourage the bird maintain good feather condition. Any sign of wetting should be monitored and only once the bird has regained waterproofing, should release be considered.
- **Feather condition**
  - Some feather loss will not hinder release, however, flight check in a safe room before release to verify any primary, secondary or tail feather loss does not impact the bird's flight. Do not release if large bald patches are still present.
- **Able to forage**
  - Can the bird actually forage? Not just from a bowl! Spread food items around the enclosure to monitor a bird's ability to seek and eat any food items offered.
- **Timing**
  - Probably best option is a morning release to allow the bird to reorient itself and de-stress after the capture, pre-release exam (including weigh in), transport and first flight.
- **Social grouping**
  - Song thrushes are found singly, but more commonly twos. Small flocks may be seen at any time of year. Generally, in non-breeding seasons, it is best to release with other song thrushes in the area if the original capture location is not known.
- **Young birds**
  - **Age**
    - Have they reached the age at which they are fully independent? They may be over 1 month old – do not hurry to end this supportive care.
  - **Imprinting, habituation or adaptive behaviors**
    - Song birds will not imprint on humans. Habituation may be an issue especially in singletons. However, once they are reliably self-feeding,

monitor their progress and self-feeding in an outside habitat with regular weigh-ins to ensure they are indeed close to release-ready. Any dependence on humans will be gone rapidly, especially if given an outdoor flight space, multiple hiding spots and foraging areas.

- **Recovered from injury, illness**
  - Fractures may be well stabilized at 2 weeks, but still may need time to mineralize. Cat bites with soft tissue injuries should be well healed within ~2 weeks. Flight exercise may be important to help the bird regain muscle mass and aerobic fitness.
- **Soft or hard release**
  - Where possible, soft-releases are best, however, that might not always be possible. So, a hard release into a suitable, safe habitat might be your only option.
- **Weather**
  - These birds are naïve when it comes to weather extremes. It is crucial they have time to adapt so a window of 2 to 3 days of relatively stable weather is important. This may be less problematic if they have had time outside before release.
- **Waterproofing**
  - **Critical issue.** Feathers MUST be waterproof. Help the youngsters practice preening behaviours by spritzing with water daily to help with the maintaining of good feather condition as they emerge and grow. Any sign of wetting should be monitored, increase spritzing or seek advice (WReNNZ) on how to restore waterproofing.
- **Feather condition**
  - With a high-quality diet, the feather condition should be optimal for these young birds. Any major stress bars or damaged feathers should be considered a reason to hold a bird back until it has molted into fully functional feathering.
- **Able to hunt / forage**
  - Can the bird actually forage? Not just from a bowl! Spread food items around the enclosure to monitor a bird's ability to seek and eat any food items offered.
- **Timing**
  - Probably best option is a morning release to allow the bird to reorient itself and de-stress after the capture, pre-release exam (including weigh in), transport and first flight.
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- **Food recognition and foraging**

- Wherever possible, bring foods you know are eaten by the song thrushes in your region to help develop the skills to feed effectively.

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