



Department of Conservation

Te Papa Atawhai

Community groups—for your information about the translocation process documents

These documents have been written for Department of Conservation (DOC) staff as well as community groups. As a result, it includes DOC-specific terms (which are usually defined) and references to document numbers (DOCDM-...) for use by DOC staff. The majority of these documents will be available on the DOC website. For further information, please email sop@doc.govt.nz.

Translocation proposal worked example 2:

Grand and Otago skinks from wild to captivity (a Department of Conservation (DOC) proposal)

This is a worked example based on a real translocation proposal. Note it has been adapted to match the new requirements of the revised Standard Operating Procedure (SOP) and therefore the content varies slightly from the original proposal.

Useful links

- Return to Translocation Proposal Form ([DOCDM-59825](#), [plus website link](#))
- Explanatory Notes for the Translocation Proposal Form ([DOCDM-774881](#) [plus website link](#))
- Translocation SOP—planning through to reporting for DOC translocations ([DOCDM-315121](#))
- Return to Translocation Guide for Community Groups ([DOCDM-363788](#), [plus website link](#))
- Processing translocation proposals SOP ([DOCDM-315123](#), [plus website link](#))
- Translocation proposal worked example 1—shore plovers from captivity to wild (as Department of Conservation (DOC) proposal) ([DOCDM-162939](#), [plus website link](#))
- Translocation proposal worked example 3—North Island robins from wild to wild (a community group proposal) ([DOCDM-399715](#), [plus website link](#))

1. Translocation summary

1.1 Translocation title	Proposal for transfer of grand and Otago skinks from Macraes Flat and Lindis/Hawea areas to captivity, from September 2007 until June 2009.
1.2 Species to be translocated	<ul style="list-style-type: none">• Grand skink, <i>Oligosoma grande</i>, threat status Nationally Critical• Otago skink, <i>Oligosoma ottagense</i>, threat status Nationally Critical (Hitchmough et al. 2007)
1.3 Type of translocation Refer to Chapter 2	<ul style="list-style-type: none">➤ Wild to captive➤ N/A➤ Otago skinks are already being bred in captivity

(Do not forget all Chapter references relate to Chapters in the Explanatory Notes)	Grand skinks are held in captivity and are not breeding This translocation will establish a captive breeding population of grand skinks
1.4 Temporary translocation	N/A
1.5 Translocation overview (maximum 200 words)	This proposal aims to bring grand and Otago skinks into captivity and maintain a breeding population in order to help secure the genotype of the eastern and western populations of each species. Up to 24 Otago skinks in total will be collected from the eastern (12 Otago skinks) and western (12 Otago skinks) populations from late 2007, and transferred to captive facilities. Up to 24 grand skinks in total will be collected from the eastern (12 grand skinks) and western (12 grand skinks) populations from late 2007, and transferred to captive facilities.
1.6 Project manager	James Reardon, Programme Manager—Grand and Otago Skink (GAOS) Recovery Programme, DOC.
1.7 Proposal writer	James Reardon, Programme Manager—GAOS Recovery Programme, DOC. Lesley Judd, Ranger—GAOS Recovery Programme, DOC.
1.8 Project team	James Reardon, Programme Manager—GAOS Recovery Programme and Karina Holmes—GAOS Monitoring Ranger. Both are skilled in capture, handling and captive husbandry of lizards. Other experienced staff will assist in the capture and translocation of the lizards; Simon Madill, Nathan Whitmore and Lesley Judd (GAOS monitoring rangers) with possible further inclusion of new staff, herpetoculturists and SRARNZ (Society for Research into Amphibians and Reptiles of New Zealand) members. Mike Kean—GAOS Captive Management Coordinator, will receive skinks and coordinate transfers to other facilities.
1.9 Lead conservancy and lead area (DOC staff to complete) Refer to Chapter 1 for definitions	Otago Conservancy Coastal Otago Area (one of the captive release sites)
1.10 Affected conservancy/ies and affected areas (DOC staff to complete) Refer to Chapter 1 for definitions	All conservancies with captive institutions or herpetoculturists that will be holding grand and/or Otago skinks as part of the captive management programme. These are: Auckland, Bay of Plenty, Canterbury, Otago, Waikato, Wanganui, and Wellington. Wanaka Area (source site–wild) <i>(Other affected areas with captive institutions or herpetoculturists are not listed in this example)</i>

<p>1.11 Translocation approver (DOC processing staff to complete)</p>	<p>Jeff Connell—Otago Conservator</p>
--	---------------------------------------

2. Reason for the translocation

Refer to Chapters 3 and 4

<p>2.1 Reason</p>	<p>Grand and Otago skinks are now both restricted to less than 10% of their former range (Whitaker & Loh 1995). Predation by cats was thought to be the cause of decline; however a 6-year study monitoring abundance of lizards before and during intensive cat trapping showed both species were still in decline (Tocher 2006). Experimental management is currently underway at Macraes Flat to determine the cause of decline through extensive mammal suppression and exclusion through mammal-proof fencing. Feral cats, stoats, weasels, ferrets.... even hedgehogs have been implicated in the decline of the skinks.</p> <p>There are no guarantees that the in-situ experimental management being trialled at Macraes Flat will yield viable management options for implementation in the short term. Even if it does, the management options are unlikely to be implemented over sufficient habitat or with adequate speed to guard against the loss of genetic variability. For this reason it is imperative that captive populations of both species exist, to insure against the loss of genetic variability and maintain maximum heterozygosity, as these species must be managed to maintain their adaptive potential to help ensure their survival in the wild. To achieve this, our aim is to maintain distinct captive populations of eastern and western grand and Otago skinks to conserve their respective adaptation and distinctiveness.</p> <p>This translocation will further the development of captive management and husbandry techniques for the skink species referred to in this proposal. It is important that husbandry techniques are well developed and captive populations are secure by 2009 when the in-situ experimental management comes to an end. By this time population models suggest that both species will be close to functional extinction given their current rate of decline.</p> <p>This translocation is the only conservation action available to offer security against failure of the in-situ experimental management trials. There are currently no other alternatives for management action because the threat status of the species has become so critical. If grand and Otago skinks are lost from the wild, the captive programme is the only way to prevent total extinction and has the benefit of allowing for future re-introduction to the wild.</p> <p>The captive breeding programme aims to eventually support in-situ recovery initiatives by providing animals for re-introduction into the wild, once the factors of decline have been addressed and suitable habitat becomes available.</p>
--------------------------	--

<p>2.2 Appropriateness and priority (DOC processing staff to complete) Refer to Chapter 3 Also refer to table 1 in 'Cost recovery for translocation proposals' DOCDM-321137</p>	<p>This translocation is appropriate because grand and Otago skinks are both Nationally Critically threatened species and it is predicted that they will become functionally extinct between 2010 and 2015 at their current rate of decline (Tocher & Norbury 2005). They are therefore a very high priority for conservation action.</p> <p>The captive programme is a high priority in the Grand and Otago skink Recovery Plan 2006—2016 (Norbury et al. in draft 2007). See also section 2.1 above.</p> <p>The species is available for translocation, there are no other translocations planned. See also section 4.3: Effects of removal.</p>
<p>2.3 Context</p>	<p>If the experimental management work described in section 2.1 fails to identify any viable management options, this will leave the captive management programme as the only protection for GAOS against the species' imminent extinction, as predicted by observed population trends and predictive population models.</p> <p>The captive breeding project eventually aims to provide animals for re-introduction into the wild. A re-introduction programme has yet to be developed, as current recovery efforts for in-situ populations are still in the research phase (Recovery phase 1—researching agents of decline). The timeframe for completion of this phase of recovery is unknown and depends on the outcome of the experimental mammal control treatments. However, it is expected that growth of the captive population will take some time and needs to be initiated as soon as possible in advance of sites becoming available for release into the wild. If timing of these does not match, temporary maintenance of animals might be necessary in case numbers are ready for release before sites are available. Captive stock will be translocated for release when there are captive skinks surplus to the maintenance of the genome within the captive populations, and when proven secure habitat is identified and maintained with skink abundances known to be below carrying capacity of the environment.</p> <p>These translocations may also provide animals for advocacy and experimental investigation of biology and ecology, and conservation tools such as translocation trials and re-introduction to the wild when these do not impinge on the primary objectives.</p>
<p>2.4 Conservation outcomes</p>	<p>Short term—3 years: the captive facilities will be well set up, with the required number of wild-caught animals to achieve maximum conservation of genetic variability.</p> <p>Medium term—10 years: the captive populations will be managed to maintain breeding populations of grand and Otago skinks from the east and west of their ranges, with minimal inbreeding depression, representing maximum heterozygosity. They will be producing progeny that are capable of surviving upon release back into the wild, at sites where the original reasons for their decline have been addressed. The best techniques for translocations of grand and Otago skinks have been developed, including an understanding of carrying capacity of wild release sites.</p>

	<p>Long term—30 years: the captive population continues to provide insurance against the loss of wild populations, and there are new self-sustaining populations of grand and Otago skinks in the wild at Macraes Flat and Lindis/Hawea areas, and at other restored habitat sites in central Otago.</p>
<p>2.5 Operational targets Refer to Chapter 4</p>	<ul style="list-style-type: none"> Up to 24 grand skinks will be collected from the eastern (12 grand skinks) and western (12 grand skinks) populations in late 2007, and transferred to captive facilities with at least 75% survival of animals. Up to 24 Otago skinks will be collected from the eastern (12 Otago skinks) and western (12 Otago skinks) populations in late 2007, and transferred to captive facilities with at least 75% survival of animals. <p>It should be noted that these are ideal numbers of individuals to be collected and no source population has yet been identified for these animals from the west of their range. The ideal composition aimed for is an even sex ratio.</p>
<p>2.6 Research objectives (Only applies to research projects)</p>	N/A
<p>2.7 Advocacy (If this is a primary reason for the translocation)</p>	N/A

3. Fit with legal requirements, strategies and plans

Refer to Chapters 5 and 6

DOC staff also refer to Appendix 2, Section A2.1 in 'Translocation SOP' [DOCDM-315121](#)

<p>3.1 Legal requirements (DOC staff to complete) Refer to Translocation SOP Appendix 2, Section A2.1</p>	<p>This translocation is compatible with the legislation the land is held under and meets the legal requirements in the Conservation General Policy.</p>
--	--

3.2 Management plans and strategies

Refer to Translocation SOP Appendix 2, Section A2.1

Conservation Management Strategy [CMS] for Mainland Southland/West Otago 1998—2008 (DOC 1998).

The CMS covers the source sites. This proposal supports the objectives in the CMS as follows:

Chapter 2.3.3.1—Indigenous species Objective 1. To maintain natural biodiversity by preventing, where possible, the further loss of indigenous species from areas where they are currently known to exist.

The implementation of this objective includes 2. Intensively manage

	various threatened species where the priority for that species has been assessed ... and the nature of direction given through either the appropriate species recovery plan or local species plan.
3.3 Species recovery plan and recovery group Refer to Chapter 6, Section 6.1	<p>These species are covered by the Grand and Otago skinks Recovery Plan 2006—2016 (Norbury et al. in draft 2007).</p> <p>This translocation is part of the Grand and Otago Skink Recovery Plan (Norbury et al. in draft 2007), which aims to maintain representative populations of grand and Otago skinks sufficient for their long-term security.</p> <p>‘Objective 7.1: Secure representative populations of grand and Otago skinks through captive management by 2007 for Otago skinks, and by 2008 for grand skinks.’</p> <p>The Grand and Otago Skink Recovery Group endorses this translocation project.</p>
3.4 Captive management plan and captive coordinator (captive to wild and wild to captive proposals for animals only) Refer to Chapter 6, Section 6.2	<p>There is a captive management plan for these species. The captive co-ordinator is Mike Kean.</p> <p>This proposal is consistent with the Grand and Otago Skink Captive Management Plan (Collen & Reardon in draft 2007)</p> <ul style="list-style-type: none"> • ‘Objective 1: To achieve security of genotypic variability and rare alleles for eastern and western populations of both species by captive breeding of representative wild remnant populations.’ • ‘Objective 2: To maintain a captive population large enough to maintain genetic security and provide insurance against failure of in-situ management treatments.’ • ‘Objective 4: To provide skinks for re-introduction into secure habitat as and when it becomes available.’ <p>The captive population directly supports the in-situ recovery programme by providing animals for future release into the wild.</p>

4. Source population

Refer to Chapter 7

4.1 Likely sources Refer to Chapter 7, Section 7.1	<p>Macraes Flat: small populations of grand and Otago skinks on the peripheries of the core study populations, with some populations on private land and some on conservation estate.</p> <p>Glenfoyle/Lake Hawea Stations: ideally collection from populations which do not affect the core study populations, if such populations can be found.</p>
4.2 Preferred source Refer to Chapter 7, Section 7.1	<p>The Macraes Flat area will be the source population of grand and Otago skinks within their eastern range. This is most appropriate as genetic variability is likely to be the greatest in populations close to the centre of the remaining population cluster.</p> <p>Exact sites are yet to be determined in the west of their range, but grand skinks are likely to be sourced from Breast Creek on Lake Hawea Station, and Otago skinks from Glenfoyle Station. We are currently trying to</p>

	<p>locate appropriate source populations within those areas that do not influence the population dynamics of the study populations, and where there is local support for the translocation. Tenure of this land is conservation estate (Glenfoyle Station) and in process of transferral as part of the tenure review process (Lake Hawea Station).</p> <p>These source populations are natural remnant populations.</p>
<p>4.3 Effects of removal (N/A when the source is captivity/cultivation) Refer to Chapter 7, Section 7.2</p>	<p>Populations considered for the collection of captive animals will be monitored prior to any collection to allow an estimate of abundance and some measure of spatial extent. If at all possible, populations that are confirmed through monitoring and estimation of abundance to be large enough to withstand some collection will be targeted first. However, there are also likely to be small populations targeted that are extremely vulnerable to extinction in the short term regardless of the impact of collecting animals from them for captivity. The GAOS Recovery Group thinks that securing the species in captivity is the higher priority, as the small populations are likely to become extinct in the short term regardless of collection, therefore normal concerns about collection impacting on source populations are not relevant, and doing nothing is not an option.</p> <p>The GAOS Captive Management Plan (Collen & Reardon in draft 2007) and GAOS Husbandry Manual (Collen 2007) have been written to ensure that all animals removed from the wild remain in a suitable condition for re-release into the wild at any point should the captive management programme fail, become unnecessary or the animals be required for re-introductions.</p>

5. Release site

Indicate whether the translocation is:

- | | | |
|--|------------|--------------------------------|
| Of animals from the wild to captivity | Yes | (if yes, complete section 5.1) |
| Of plants from wild into cultivation | No | (if yes, complete section 5.2) |
| To establish or supplement a wild population | No | (if yes, complete section 5.3) |

5.1 Establishment of captive animal populations

<p>5.1.1 Wild to captive translocations</p>	<p>The captive facilities receiving the species have permits to hold the species.</p> <p>This proposal meets the requirements of DOC's Captive Management Policy (DOC 2003) and Captive Management SOP (DOC 2008).</p>
<p>5.1.2 Captive facilities</p>	<p>The following people will receive grand and Otago skinks:</p> <ul style="list-style-type: none"> • Mike Kean, Levin—GAOS Captive Management Coordinator (CMC) for the past 10 years. • Dennis Keall, Wellington—lizard breeder for the past 15 years. <p><i>(Contact details withheld to maintain privacy)</i></p> <p>And other herpetoculturists/institutions that the CMC and GAOS</p>

	<p>Recovery Group deem suitable. The CMC and GAOS Programme Manager will have discretion on placement and future movement of the lizards and their progeny in order to maximise the integrity of the captive population—as informed by studbook management which maintains minimal inbreeding coefficients.</p> <p>Captive facilities must adhere to the standards of the GAOS Husbandry Manual and Captive Management Plan.</p>
<p>5.1.3 Existing captive population</p>	<p>There is currently a captive breeding population of Otago skinks already in existence, originating from five sites: Sutton, Conical Hill, Deighton creek, Ross Rd and Bernard. All of these sites are from the Macraes area (eastern population). These founder individuals were all collected during the 1980s. Current captive genetics are presumed to be non-deleterious at the moment; however this is not confirmed by molecular data. New individuals need to be taken into captivity urgently, to avoid inbreeding within the captive population, and to establish a captive breeding population of animals from the western range.</p> <p>A new captive breeding population of grand skinks is to be established. Seven grand skinks (of Macraes flat origin—eastern population) are currently held in captivity although successful breeding in captivity has not occurred recently due to insufficient numbers of young healthy individuals. As the captive population is so small, more grand skinks must be brought into captivity in order to improve husbandry techniques and enable grand skinks to begin breeding successfully in captivity. New captive breeding populations of grand skinks will be established, from both the western and eastern areas of their range.</p>

5.2 Establishment of cultivated plant populations

Refer to Chapter 8

<p>5.2.1 Management of plants in cultivation</p> <p>Refer to Chapter 8, Section 8.1</p>	N/A
<p>5.2.2 Cultivation facilities</p>	N/A

5.3 Release site is in the wild

Refer to Chapters 1, 8 and 9

<p>5.3.1 History of the species at the release site</p> <p>Refer to Chapter 1 for definitions.</p> <p>For introductions, refer</p>	N/A
---	-----

to Chapter 9, Section 9.1.	
5.3.2 Description of release site	N/A
5.3.3 Temporary holding area Refer to Chapter 8, Section 8.2	N/A
5.3.4 Suitability of release site for the species (N/A if release site is a temporary holding area) Refer to Chapter 8, Section 8.3	N/A
5.3.5 Current management at release site	N/A
5.3.6 Security of habitat	N/A

6. Ecological impacts at release sites in the wild

(N/A for translocations into captivity/cultivation)

Refer to Chapter 9

6.1 Between-species interactions Refer to Chapter 9, Section 9.2	N/A
6.2 Within-species interactions Refer to Chapter 9, Section 9.3	N/A
6.3 Impacts on ecosystem function Refer to Chapter 9, Section 9.4	N/A
6.4 Additional management requirements for other indigenous species	N/A

6.5 Additional site management and impacts Refer to Chapter 9, Section 9.5	N/A
6.6 Restriction of future options	N/A
6.7 Weeds and animal pests Refer to Chapter 9, Section 9.6.	N/A

7. Disease management

Refer to Chapter 10

7.1 Disease management requirements for plants Refer to Chapter 10, Section 10.1.1	N/A
7.2 Animal disease management protocol (Excludes invertebrates) Refer to Chapter 10, Section 10.1.2	See Appendix 1a, b for the disease management protocol/worksheets, which was developed in consultation with Richard Jakob-Hoff, Senior Veterinarian, New Zealand Centre for Conservation Medicine, Auckland Zoo.
7.3 Other disease management requirements for animals Refer to Chapter 10, Section 10.1.2	<p><i>The hygiene checklist was attached as Appendix 2c in the original proposal.</i></p> <p>The captive facilities have many years experience in best practice for wildlife health management. Strict hygiene and quarantine procedures will be followed as per the Wildlife Health Management SOP in order to reduce disease risks. This will include the use of Trigenex to disinfect all catching gear, transfer boxes, husbandry equipment and the quarantine enclosures, before and after use.</p> <p>The captured animals will be observed regularly to check for signs of illness, as often as is possible without causing stress from too much disturbance (refer to section 10.2 Monitoring Programme).</p> <p>If any animals die, they will be sent immediately to Massey University vet clinic (IVABS) for diagnosis.</p>
7.4 Disease management requirements for invertebrates	N/A

Refer to Chapter 10, Section 10.1.3	
--	--

8. Translocation design

Refer to Chapter 10

<p>8.1 Learning from past translocations Refer to Chapter 10, Section 10.2</p>	<p>Transfers of grand and Otago skinks into captivity have been successful in the past, and the techniques used will be repeated in this translocation (see section 8.5). However, during the last transfer of grand skinks into captivity (in 2005), four out of eight skinks died. This was probably due to a toxic dose of Fipronil, used to treat the lizards for ectoparasites. The Fipronil was administered at an inappropriate dose, and this combined with potential stress due to transport and temporary housing conditions, caused their deaths.</p> <p>Since this incident extensive consultation with other herpetological experts has determined a safer method for treating ectoparasites, and the methods used during this translocation and the translocation results will be documented thoroughly to help develop the best protocols for future use.</p>
<p>8.2 Composition Refer to Chapter 10, Section 10.3</p>	<p>Up to 24 Otago skinks in total will be collected from late 2007 to June 2009—12 from the eastern and 12 from the western populations.</p> <p>Up to 24 grand skinks in total will be collected from late 2007 to June 2009—12 from the eastern and 12 from the western populations.</p> <p>The animals to be collected will be large sub-adults, as they are thought to be more capable of surviving transfer and parasite treatment than smaller juveniles, which are more susceptible to dehydration and stress. This tactic will also be less likely to adversely affect the wild breeding populations that can withstand the impact of some collection.</p> <p>Ideally an approximately even sex ratio will be collected, to complement the existing (roughly even) sex ratio in captivity. A major skew towards one sex will not be as useful to the captive population as the animals can only be housed as pairs (not trios or groups).</p>
<p>8.3 Timing</p>	<p>The skinks will be collected from late 2007 to June 2009, as and when suitable animals are found, and transferred into quarantine at Macraes Flat before subsequent transfer to the captive facilities. Flexibility will be built into the programme to allow for multiple transfers to the captive facilities post-quarantine, when the animals finish quarantine.</p> <p>Once the desired number of animals is captured, no further transfers into captivity are planned.</p>
<p>8.4 Pre-transfer preparation of captive animals (For captive to wild transfers only) Refer to Chapter 10,</p>	<p>N/A</p>

Section 10.4	
<p>8.5 Capture / collection and transport (N/A to plant translocations) Refer to Chapter 10, Section 10.5</p>	<p>Skinks will be captured using the noosing technique. The locations of capture will be recorded by GPS. The skinks will be placed into cloth bags which are then placed into plastic containers with air holes. These will be kept out of direct sunlight. The skinks collected from the western populations may need to be housed for several days and, if this is the case will be housed in sterile, plastic containers with mesh lids. Water and complex cover (paper towels, tiles) will be provided. They will be transported by car to the holding facilities at DOC's Macraes Flat Field Base. The skinks collected from the Macraes area will be transferred directly into the holding facilities (which will be established between July and September 2007). The capture, handling, transport and captive holding at Macraes Flat Field Base will be done by the DOC staff listed in section 1.9 of this proposal.</p> <p>All animals collected for inclusion in the captive management programme will be treated for ectoparasites prior to transfer out of Otago. The utilisation of skills and expertise at the Zoology Department, University of Otago is an excellent option where treatment for ectoparasites using non-toxic topical oil treatment has been developed. We also have precise recommendations for the correct administration of Fipronil as recommended by a number of zoological institutions (Auckland Zoo, Zoological Society of London, San Diego Zoo, and Durrell Wildlife Preservation Trust). This would seem to offer the lowest-risk option and has been proven in the treatment of common skink species. Skinks will be maintained at the facility at Macraes Flat for all or most of the 90-day quarantine period and only moved to captive holders or institutions if recovering fully from treatment, and the receiving holder or institution is able to maintain the quarantine regime for the remaining period.</p> <p>The skinks collected for captivity will be kept in the holding facilities (which are set up to mimic the natural environment to reduce stress) and monitored daily until satisfied that they are eating, drinking, and displaying normal behaviours and maintaining body condition. At this point the skinks will be transferred to small plastic containers and flown to destination, carried on as hand luggage by Mike Kean, Dennis Keall, or one of the team from the GAOS Recovery Programme.</p> <p>Should skinks fail to adapt to captivity or the effects of parasite treatment they will be monitored closely for dehydration and loss of body condition. Where it is clear to the Captive Manager that the animal is not recovering, veterinary advice will be sought and a decision will be made whether to repatriate the animal to the location of collection if the cause of poor condition is believed to be stress rather than systemic toxic effect.</p> <p>The captive facility at Macraes Flat currently has the capacity to hold up to six animals; however, we will begin planning and construction of a captive holding and quarantine facility at the Macraes Flat field station in July 2007 which should have the capacity to hold at least 60 skinks.</p>
8.6 Release /	There are no specific requirements for the release of the captive skinks

planting Refer to Chapter 10, Section 10.6	into their new enclosures.
8.7 Dispersal from the release site (N/A for wild to captive translocations or plant translocations) Refer to Chapter 10, Section 10.7	N/A
8.8 Short-term post release management (N/A for wild to captive translocations) Refer to Chapter 10, Section 10.8	N/A
8.9 Contingency plans for unexpected results (N/A for wild to captive or plant translocations)	N/A

9. Justification

Refer to Chapter 11

9.1 Justification Refer to Chapter 11	The removal of animals from some of the smaller source populations may have an impact because they are already extremely vulnerable to extinction in the short term. The GAOS Recovery Group thinks that securing the species in captivity is the higher priority, as the small populations are likely to become extinct in the short term regardless of collection; therefore, normal concerns about collection impacting on source populations are not relevant, and doing nothing is not an option. See also section 4.3.
---	--

10. Research and monitoring

Refer to Chapter 12

10.1 Research

No research questions were identified.

Refer to Chapter 12,
Section 12.1

10.2 Monitoring programme Refer to Chapter 12,	Source populations will be monitored prior to collection, to estimate abundance and determine the likely impacts of the proposed collection. Captive population: daily visual monitoring will take place initially until
--	---

Section 12.2	staff are satisfied that the individuals are eating, drinking and behaving normally. Weighing and measuring will take place fortnightly (or more frequently if weight loss is suspected) until satisfied that skinks are not losing condition. Weighing and measuring will be required every 6 months (spring/autumn) following the animals' relocation into their new captive environment. The captive population will be monitored according to the GAOS Husbandry Manual and Captive Management Plan.
--------------	--

11. Consultation and community relations

Refer to Chapters 6 and 13

<p>11.1 Specialist advice Refer to Chapter 6</p>	<p>Specialist advice was sought as follows:</p> <p>Animal health and parasite issues: Richard Jacob-Hoff (Auckland Zoo) and Alison Cree (University of Otago).</p> <p>Iwi: Hoani Lansbury (Ngäi Tahu).</p> <p>Matapura Ellison, Pou Kura Taiao, Otago Conservancy.</p> <p>Translocation techniques: David Towns, DOC Auckland.</p>
<p>11.2 Iwi Refer to Chapter 13, Sections 13.1, 13.2 and 13.4</p>	<p>Grand and Otago skinks are not included in the Ngäi Tahu Deed of Settlement as a taonga species. However, in terms of Section 4 of the Conservation Act (to give effect to the principles of the Treaty of Waitangi), DOC will recognise the manawhenua of Otago and Murihiku based runanga when dealing with western skink populations, and Otago based runanga for the eastern populations. A representative of Otakou Rünanga is a member of the GAOS Recovery Group and is kept fully informed of all developments and is fully supportive. All other rünanga will be informed.</p> <p>The proposal was presented to the Murihiku Kaitiaki Röpü group in Invercargill on the 5th of July. The group were happy with the proposal and give their support to the project. Letters outlining the proposal were sent to Otago Rünanga on the 9th of July. A reply has been requested within 5 weeks or it will be assumed they have no issues with the proposal.</p> <p>Iwi have been invited but chose not to participate in the transfer.</p> <p><i>Copies of correspondence were attached as Appendix 2 in the original proposal.</i></p>
<p>11.3 Key stakeholders Refer to Chapter 13, Sections 13.1 and 13.3</p>	<p>Relevant stakeholders at any site selected for capture of animals will be consulted prior to removal and their support will be a prerequisite for transfer.</p> <p>These parties are:</p> <ol style="list-style-type: none"> GAOS Recovery Group <ul style="list-style-type: none"> The Recovery Group has been consulted and endorse the collection of wild animals for captivity. <p><i>Relevant Sections of the minutes from the GAOS Recovery Group meeting in December 2006 were attached as Appendix 3 in the original</i></p>

	<p><i>proposal.</i></p> <ol style="list-style-type: none"> 2. Wanaka Area, DOC <p>A copy of the translocation proposal has been sent to Paul Hellebreakers (Area Manager) and Stu Thorne (Programme Manager Biodiversity Assets), of the Wanaka Area Office for review.</p> 3. Affected landowners <p>Land owners have been contacted via letters, requesting access into their land and informing them of the proposed collection of animals. Responses to this communication were included in Appendix 4 of the original proposal.</p> 4. High country tenure review manager, DOC Otago Conservancy—Tony Perret <p>Informed verbally of the collections to be taking place on land that is going through tenure review. Tim Whittaker (Tenure Review, Central Otago Area Office) has also been verbally informed of the proposal.</p> 5. SRARNZ board 6. Conservancies and areas in which captive animals will be held <p>There have been no negative responses to the proposal.</p>
<p>11.4 Communication and community involvement Refer to Chapter 13, Section 13.4</p>	<p>The Community Relations Programme Manager in the Coastal Otago Area, Otago Conservancy is developing some opportunities for public participation and media releases. This is a good opportunity to raise the profile of the species with the local landowners whose properties may have skink on them. One option might be to give them the opportunity to visit the Macraes Flat quarantine facilities to see the animals and be shown the predator-proof enclosure and predator control being undertaken to protect the skinks, or to be involved in skink surveys on their land.</p> <p>The public institutes receiving the skinks will be encouraged to promote the skink programme by advising media about the arrival of the skinks and providing some managed opportunities for media to film them.</p>
<p>11.5 Public interest issues management Refer to Chapter 13, Section 13.4 and 13.5</p>	<p>The skink recovery team is working with DOC staff involved in tenure review processes to secure further skink habitat for the maintenance or establishment of self-sustaining skink populations. The public relations implications of this have been discussed with tenure review staff.</p> <p>Some landowners whose properties have skinks on them have issues with allowing DOC access to their land. They may also have issues about DOC securing land from tenure reviews for the conservation of the skinks and then removing the animals. It is hoped that these issues will be addressed by communication with the landowners.</p>

12. Budget

Refer to Chapter 14

12.1 Business plan (DOC proposals only)	The translocation project has been included in a work plan in the business plan for Coastal Otago Area 2007-2008.
12.2 Resources required Refer to Chapter 14	See table below.

Item description e.g. equipment, contract workers, freight, transport (animals and people), staff hours, predator control	Cost (\$)	Source of funding
	Year 1	
Captive facilities development	\$25,000	CAPEX Biodiversity
Construction of holding facilities at Macraes Flat and support for captive breeders	\$4,000	GAOS 07/08 budget
Collection labour and monitoring 0.5 FTE (prob. 3 × 4 months) plus overheads	\$19,000	Biodiversity funded GAOS 07/08 budget
Husbandry and database management 1.0 FTE overseeing captive database development and SPARKS (plus consumables, travel and training) and on site husbandry, liaison with captive community and treatment of skinks.	\$35,000	Biodiversity funded GAOS 07/08 budget
Monitoring populations for estimates of abundance, vehicle, accommodation and food costs 0.5 FTE (component of distribution monitoring)	\$19,000	Biodiversity funded GAOS 07/08 budget
Vehicle, accommodation and food, and equipment costs	\$16,000	Biodiversity funded GAOS 07/08 budget
Collaboration costs: professional fees, travel, veterinary advice and university collaboration for mite removal and general supplies	\$8000	Biodiversity funded GAOS 07/08 budget
Total	126,000	

13. Permits and approvals

Refer to Chapter 5

13.1 Permits and approvals Refer to Chapter 5, Section 5.2	<p>Once this translocation proposal has been approved the translocation is an approved action of the Department and does not require a permit.</p> <p>The captive breeders involved have current permits to hold grand and Otago skinks. It will be ensured that permits are current and have appropriate conditions—including requiring adherence to the GAOS Captive Management Plan and Husbandry Manual. This will ensure the Captive Management Coordinator is able to manage the skink population and readily move animals between holders.</p> <p>An animal ethics permit has been applied for involving the collection of tissue samples through tail-tipping of all animals being brought into</p>
--	---

	<p>captivity, and for those already in captivity.</p> <p>Skinks will not be marked, as a photo identification system is used instead.</p>
13.2 Collection of samples	<ul style="list-style-type: none"> Will any samples be collected from animals or plants for purposes other than disease screening? Yes <p>If 'YES'</p> <ul style="list-style-type: none"> Describe the samples that will be collected: Tissue samples from tail-tipping What is the purpose of collecting the material? (may refer to other sections in the application): For genetic study to enable management of the captive population for maximum heterozygosity Will any of the material be used for genetic modification outside of gene sequencing for taxonomic purposes? No <p>If 'YES', please attach ERMA application.</p> <ul style="list-style-type: none"> Will any of the material or its DNA be leaving New Zealand? No <p>If 'YES'</p> <ul style="list-style-type: none"> Where will the samples be sent and stored? Please list any Department facilities that will be used.

13.3 Effects of the translocation	Will your proposal have any direct or indirect effects on the following conservation values at the source and release sites in the wild:	Source site (tick)			Release site (tick)		
		Yes	No	N/A	Yes	No	N/A
Natural waterways or bodies of water?			√				√
Any disturbance of native vegetation?			√				√
Disturbance to soils, wetlands or any other natural feature?			√				√
Wildlife species (other than those being transferred) either within or near the area where you want to operate?			√				√
Historic or archaeological sites?			√				√
Other people using the site?			√				√
Will your activity affect the visual amenity of the site (i.e. will there be any aviaries etc visible at the site or from areas adjoining the site)?			√				√
Is it possible that your activity will introduce weeds, including lake weeds, or seeds of weeds into the area?			√				√
Is there a risk of fire from your activity?			√				√
Will significant noise be caused by your activity?			√				√
Is there any aspect of your activity that will affect current or future public access to the area?			√				√

13.3 Effects of the translocation	Will your proposal have any direct or indirect effects on the following conservation values at the source and release sites in the wild:	Source site (tick)			Release site (tick)		
		Yes	No	N/A	Yes	No	N/A
Will your activity affect plants, animals or sites of traditional importance to Māori and who have you consulted over this matter?			√				√
Will your activity have any positive effects on natural or historic values?	√						√
Will your activity promote understanding of conservation?	√				√		

13.4 Beneficial effects	<p>The removal of animals from the source sites will eventually benefit the natural grand and Otago skink populations, by providing captive-bred animals for release back into these areas to boost remnant populations and restore the animals to some of their former range.</p> <p>The captive population provides opportunities for the public to observe the animals in captivity and to learn about skink conservation programmes.</p>
13.5 Measures to avoid, remedy or mitigate adverse effects of the translocation Refer to Chapter 5, Section 5.3	N/A

Note: all permits and approvals must be obtained prior to the transfer occurring.

14. References

Collen, R.M. 2007: Grand and Otago skink husbandry manual. Unpublished report, Department of Conservation, Dunedin.

Collen, R.M.; Reardon, J.T. in draft 2007: Grand and Otago skink Captive Management Plan 2007—2012. Unpublished report, Department of Conservation, Dunedin.

DOC (Department of Conservation). 1998: Conservation Management Strategy for Mainland Southland/West Otago 1998 – 2008. Department of Conservation, Southland Conservancy, Invercargill.

DOC (Department of Conservation). 2003: Captive Management Policy. Department of Conservation. 12 p. <http://www.doc.govt.nz/templates/MultiPageDocumentTOC.aspx?id=41512> (Viewed 21 July 2011) [OLDDM-781413](#)

DOC (Department of Conservation). 2007: Conservation General Policy. Policy Group, Department of Conservation, Wellington. <http://www.doc.govt.nz/publications/about-doc/role/policies-and-plans/> (Viewed 5 July 2011).

DOC (Department of Conservation). 2008: Captive Management Standard Operating Procedure. Unpublished report, Department of Conservation, Research and Development Group, Wellington. 54 p. [DOCDM-266180](#)

Hitchmough, R.A.; Bull, L.; Cromarty, P. 2007: New Zealand Threat Classification System Lists—2005. Department of Conservation. <http://www.doc.govt.nz/upload/documents/science-and-technical/sap236.pdf> (Viewed 5 July 2011) [DOCDM-34119](#) (Excel spreadsheet).

New Zealand Conservation Authority. 2005: General Policy for National Parks. Department of Conservation for the New Zealand Conservation Authority. Department of Conservation Library, Wellington. <http://www.doc.govt.nz/templates/summary.aspx?id=41118> (Viewed 5 July 2011).

Norbury, G.; Reardon, J.; McKinlay, B. in draft 2007: Grand and Otago skink recovery programme 2006-2016. Unpublished report, Department of Conservation, Dunedin.

Tocher, M.; Norbury, G. 2005: Predicting extinction proneness and recovery in grand and Otago skinks. *Karaehe Kino* 7:1—3.

Tocher, M.D. 2006: Survival of grand and Otago skinks following predator control. *Journal of Wildlife Management* 70:31—42.

Whitaker, A.H.; Loh, G. 1995: Otago skink and grand skink Recovery Plan (*Leiopisma otagense* and *L. grande*). Department of Conservation.

15. Applicant confirmation

<p>Confirmation (Applicant / DOC project manager)</p>	<p>'I confirm that the person completing this application form has read the instructions in sections 1–15 of the proposal form and answered all of the questions before they deleted the instructions.'</p> <p>Signature of Applicant/DOC project manager: James Reardon</p> <p>Dated: June 2007</p>
--	--

DOC is responsible for completing sections 16 and 17 when assessing the proposal

16. Approval of translocation proposal

Refer to Chapters 6–8 and Appendix 1 in '[Processing Translocation Proposals SOP](#)' (DOCDM-315123)

16.1 Recovery group	The proposal has been circulated within the Grand and Otago skink Recovery Group and comments addressed.
16.2 Introductions expert group	N/A
16.3 Legal	The Otago Conservancy Solicitor has reviewed the completed proposal and has no concerns about the translocation.
16.4 Area manager(s) concurrence	This proposal has the support of all affected areas (both wild source sites and captive release sites): Paul Hellebreakers, Wanaka Area (source site–wild) Robin Thomas, Coastal Otago (one of the captive release sites) <i>(Other affected areas with captive institutions or herpetoculturists are not listed in this example)</i>
16.5 Concurrence of affected conservator(s)	This proposal has the support of all the Conservators of the affected conservancies with captive institutions or herpetoculturists that will be holding grand and/or Otago skinks as part of the captive management programme. These are: Sean Goddard, Auckland Conservancy Henry Weston, Bay of Plenty Mike Cuddihy, Canterbury Conservancy Greg Martin, Waikato Conservancy Damian Coutts, Wanganui Conservancy Alan McKenzie, Wellington Conservancy Otago Conservancy has both source and release sites, and is the lead conservancy
16.6 Inform deputy director-general operations	N/A
16.7 Lead conservancy/deputy director-general operations sign off	This translocation proposal is Approved / Not Approved Lead Conservators Name: Jeff Connell, Otago Conservator Signature: _____ Date: / October / 2007

17. Permissions database references and due dates for reports

Refer to Chapter 9 in '[Processing Translocation Proposals SOP](#)' (DOCDM-315123)

17.1 Permissions data base references		
	Permissions number	Permissions type
Translocation proposal		
Permit to <i>(description)</i>		

17.2 Reports required	Due dates
Transfer report	2 months after each transfer of animals from the wild into captivity
Monitoring reports	Captive coordinator report to Recovery Group annually from June 2008

Appendix 1

A.–Disease management protocol

Designed in consultation with wildlife health veterinarian Richard Jakob-Hoff after identifying that a disease risk was present.

Translocation of wild animals to captivity

Animals collected from the wild for transfer to captivity will be housed in quarantine facilities at the Macraes Flat Field Base. They will be housed here for 90 days as is consistent with studies on reptile viruses.

The health and disease screening will be completed during the quarantine period, which is designed to establish the health status of the animals and treat them for the external parasites that are widespread amongst all populations of grand and Otago skinks. For more details on health and disease screening, including methodology, see the Grand and Otago Skink Husbandry Manual, Chapter 4.2.7 Quarantine protocol (DOCDM-159966). Animals will not be transferred to the captive facilities until they are deemed to be free of potentially harmful diseases. Any animals returning positive results to the disease screens will be assessed and treated in consultation with the DOC veterinarian.

Physical examination

The exam will include:

1. Body weight plus snout-vent (SV) and vent-tail (VT) measurements
2. Thorough examination of body using a hand lens, paying particular attention to any signs of mites
3. Inspection of body condition including state of moult, demeanour, movements, brightness and prominence of eyes, discharges from eyes, nose, mouth or vent, skin wounds, swellings or discoloration and an inspection of inside the mouth

Blood smear

Blood smears will be taken from the caudal vein in the tail, to gain a complete blood count (CBC) and to check for haemoparasites. The smears will be taken at the beginning of the quarantine and again a week before the end of quarantine.

Cloacal swab

Cloacal swabs will be taken and submitted to a lab to test for Salmonella. If Salmonella is identified, three consecutive negative results from swabs taken at 7-10 day intervals are needed to confirm a true negative.

Faecal sample and stomach flush

Freshly passed faeces should be examined for *Cryptosporidium* and other internal parasites including protozoa such as Eimeria, Tichomonas, Giardia and Hexamita, as well as nematodes, cestodes and trematodes.

Depending on available expertise, a stomach flush may also be used to test for the presence of *Cryptosporidium*.

Appendix 1

B.–Translocation disease management workbook worksheets

Attached to the original proposal

Appendix 1

C.–Hygiene checklist

Attached to the original proposal

Appendix 2

Letters to iwi and their responses

Attached to the original proposal

Appendix 3

Minutes from recovery group meeting

Attached to the original proposal

Appendix 4

Correspondence with landowners

Attached to the original proposal

•

Go to:

- Return to Translocation Proposal Form ([DOCDM-59825](#), [plus website link](#))
- Explanatory Notes for the Translocation Proposal Form ([DOCDM-774881](#), [plus website link](#))
- Translocation Standard Operating Procedure (SOP)—planning through to reporting for DOC translocations ([DOCDM-315121](#))
- Return to Translocation Guide for Community Groups ([DOCDM-363788](#), [plus website link](#))
- Processing translocation proposals SOP ([DOCDM-315123](#), [plus website link](#))
- Translocation proposal worked example 1—shore plovers from captivity to wild (as Department of Conservation (DOC) proposal) ([DOCDM-162939](#), [plus website link](#))
- Translocation proposal worked example 3—North Island robins from wild to wild (a community group proposal) ([DOCDM-399715](#), [plus website link](#))