Australian Red Cross
New South Wales
Incorporated by Royal Charter 1941
Red Cross House, 159 Clarence Street
SYDNEY NSW 2000
Telephone: (02) 229 4111
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ANNUAL CHRISTMAS APPEAL

6 November, 1996

Mr J Tedder
Pavans Acc Grassy Head
VIA STUARTS POINT NSW 2441

Dear Mr Tedder,

Our friends hold the key to the future of Red Cross NSW.

Difficult to believe but entirely true. Without people such as you who support the important work of Red Cross, we would cease to exist. The organisation's widespread assistance programs depend largely on private and corporate donations.

During the Festive Season especially, your help is crucial as the demand for services to people who depend on Red Cross escalates considerably.

As most of us share in the joy that Christmas brings, Red Cross volunteers and staff are hard at work helping to alleviate the hardships of children, families and elderly people whose troubles are mostly caused by economic or social disadvantage.

The task ahead of Red Cross now and into the New Year is one of care and practical help, all of which place a heavy burden on our financial resources. I would therefore be grateful for your continued support through our Annual Christmas Appeal.

Wherever hardship and suffering exists locally, nationally or abroad, the emblem of the Red Cross has become synonymous with hope, care and relief.

Thank you for being a valued friend of Australian Red Cross. Your generosity and your compassion for others is very much appreciated.

Yours sincerely,

E. Pigott

Mrs Edithe M. Pigott O.A.M.
CHAIRMAN

Helping people through hardships in their lives... with your support

A 0017571

FBSA/330/4/469

18 July 1995

North Coast Environment Council Inc
C/-J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing a copy of the 1994-95 Cougar Proclamation for the State of Utah, United States of America, plus an article from the Utah Division of Wildlife Resorces magazine *Wildlife Review* (winter 1994/95 issue) on the management of the cougar *Felis concolor* in that State.

Consideration is being given to declaration of the Utah management arrangements for cougar under the controlled specimens provision (section 10A) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* to allow for the non-commercial importation of hunting trophies. Importation will naturally also be conditional upon the presentation of a valid CITES export permit from the USA.

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

Frank Antram
Acting Assistant Director
Population Assessment Unit

Australian Nature Conservation Agency

Canberra Office
GPO Box 636
Canberra ACT 2601
Ph (06) 250 0200
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1994-95

COUGAR PROCLAMATION

Cougar by Brent R. Todd

STATE OF UTAH
NATURAL RESOURCES
Division of Wildlife Resources

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STATE OF UTAH
NATURAL RESOURCES
Division of Wildlife Resources

TAKE Pride IN UTAH

PROCLAMATION

STATE OF UTAH

PROCLAMATION OF THE WILDLIFE BOARD

For Taking

COUGAR

1994 - 1995

1. PURPOSE & AUTHORITY

(R657-10-1)

Under authority of Sections 23-14-18 and 23-14-19 of the Utah Code, the Wildlife Board has established this proclamation for taking and pursuing cougar.

Specific dates, areas, number of permits, limits, and other administrative details which may change annually are published herein.

This proclamation expires September 30, 1995, unless modified or rescinded by the Wildlife Board or the director of the division.

2. DEFINITIONS (23-13-2 & R657-10-2)

(1) **"Canned hunt"** means that a cougar is treed, cornered, held at bay, or its ability to escape is otherwise restricted for the purpose of allowing a person who was not a member of the initial hunting party to arrive and take the cougar.

(2) **"Carcass"** means the dead body of an animal or its parts.

(3) **"Certificate of registration"** means a document issued under the Wildlife Resources Code, or any rule or proclamation of the Wildlife Board or Board of Big Game Control granting authority to engage in activities not covered by a license, permit, or tag.

(4) **"Cougar"** means Felis concolor, commonly known as mountain lion, lion, puma, panther, or catamount.

(5) **"Cougar/bear pursuit permit"** means a permit that authorizes a person to pursue cougar or bear during designated seasons. Information regarding bear pursuit is published in the proclamation of the Wildlife Board for taking bear.

(6) **"Division"** means the Division of Wildlife Resources.

(7)(a) **"Domicile"** means the place:

(i) where an individual has a fixed permanent home and principal establishment;

(ii) to which the individual if absent, intends to return; and

(iii) in which the individual and his family voluntarily reside, not for a special or temporary purpose, but with the intention of making a permanent home.

(b) To create a new domicile an individual must:

(i) abandon the old domicile; and

(ii) be able to prove that a new domicile has been established.

(8) **"Evidence of sex"** means the sex organs of a cougar, including a penis, scrotum, or vulva.

(9) **"Green pelt"** means the untanned hide or skin of any cougar.

(10) **"Kitten"** means a cougar less than one year of age.

(11) **"License"** means the primary document granting authority to engage in activities under:

(a) the Wildlife Resources Code; or

(b) a rule or proclamation of the Wildlife Board or Board of Big Game Control.

(12) **"Nonresident"** means a person who does not qualify as a resident.

(13) **"Permit"** means a secondary document, including a stamp, which:

(a) requires a license as a prerequisite to its issuance; and

(b) grants authority to engage in specified activities under the Wildlife Resources Code or a rule or proclamation of the Wildlife Board or Board of Big Game Control.

(14) **"Person"** means an individual, association, partnership, government agency, corporation, or an agent of the foregoing.

(15)(a) **"Protected wildlife"** means wildlife as defined in Subsection (22), except as provided in Subsection (b).

(b) **"Protected wildlife"** does not include coyote, field mouse, gopher, ground squirrel, jack rabbit, muskrat, and raccoon.

(16) **"Pursue"** means to chase, tree, corner, or hold a cougar at bay.

(17)(a) **"Resident"** means a person who:

(i) has been domiciled in the state of Utah for six consecutive months immediately preceding the purchase of a license; and

(ii) does not claim residency for hunting, fishing, or trapping in any other state or country.

(b) A Utah resident retains his Utah residency if he leaves this state:

(i) to serve in the armed forces of the United States or for religious or educational purposes; and

(ii) complies with Subsection (a)(ii).

(c)(i) A member of the armed forces of the United States and dependents are residents for the purposes of this proclamation as of the date he reports for duty under assigned orders in the state if he:

(A) is not on temporary duty in this state; and

(B) complies with Subsection (a)(ii).

(ii) A copy of the assignment orders must be presented to a wildlife division office to verify the member's qualification as a resident.

(d) A nonresident attending an institution of higher learning in this state as a full-time student may qualify as a resident for purposes of this proclamation if he:

(i) has been present in this state for 60 consecutive days immediately preceding the purchase of the license; and

(ii) complies with Subsection (a)(ii).

(e) A Utah resident license is invalid if a resident license for hunting, fishing, or trapping is purchased in any other state or country.

(f) An absentee landowner paying property tax on land in Utah does not qualify as a resident.

(18) **"Tag"** means a card, label, or other identification device issued for attachment to the carcass of protected wildlife.

(19) **"Take"** means to:

(a) hunt, pursue, harass, catch, capture, possess, angle, seine, trap, or kill any protected wildlife; or

(b) attempt any action referred to in Subsection (a).

(20) **"Trapping"** means taking protected wildlife with a trapping device.

(21) **"Waiting period"** means a specified period of time that a person who has obtained a cougar permit must wait before applying for any other cougar permit.

(22) **"Wildlife"** means:

(a) crustaceans, including brine shrimp and crayfish; and

(b) vertebrate animals living in nature, except feral animals.

3. LICENSE, PERMIT, AND TAG REQUIREMENTS

A. License, Permit, and Tags (23-19-1)

A person may not:

(1) take or pursue a cougar without having first obtained a valid small game or combination license and the appropriate permit and tag and having the license, permit, or tag on his person;

(2) lend, transfer, sell, give, or assign, a license, permit, tag, or certificate of registration or the rights granted by a license, permit, tag, or certificate of registration; or

(3) use or attempt to use a license, permit, tag, or certificate of registration issued to another person.

B. Age Requirements & Restrictions (23-20-20)

(1) A person must be 12 years of age or older to take or pursue cougar.

(2)(a) A person 13 years of age or younger must be accompanied by his parent or legal guardian, or other responsible person 21 years of age or older and approved by his parent or guardian, while hunting with any weapon.

(b) A person 14 or 15 years of age must be accompanied by a person 21 years of age or older while hunting with any weapon.

(3) As used in this section "accompanied" means at a distance within which visual and verbal communication is maintained for the purposes of advising and assisting.

C. Proof of Hunter Education (23-19-11)

(1) The division may not issue a hunting license to any person born after December 31, 1965, unless proof is presented to the division or one of its authorized wildlife license agents that the person has passed a division approved hunter education course offered by a state, province, or country.

(2) For purposes of this section, "proof" means:

(a) a certificate of completion (in Utah referred to as a "blue card") of a hunter education course; or

(b) a current or immediately preceding year's hunting license issued by a state, province, or country with the applicant's hunter education number noted on the hunting license.

(3) If an applicant for a nonresident hunting license is not able to present a hunting license or a certificate of completion as provided in Subsections (1) and (2), the division may contact another state, province, or country to verify the completion of a hunter education course so that a nonresident hunting license may be issued. The division charges a fee for this service.

4. PERMITS FOR TAKING COUGAR (R657-10-3)

(1) A small game or combination license must be purchased before a person may take or pursue cougar.

(2) To take a cougar, a person must first obtain a limited entry cougar permit for a specified management unit as provided on page 9, Application Procedure.

(3) To pursue cougar, a person must first obtain a cougar/bear pursuit permit from a division office.

(4) Any cougar permit purchased after the season opens is not valid until seven days after the date of purchase.

(5) Residents may apply for limited entry cougar permits and cougar/bear pursuit permits.

(6) Nonresidents may apply only for limited entry cougar permits.

5. FEES

A. Resident License Fees

Combination license	$25
Small game license (12-13 years of age)	$6
Small game license (14 years of age or older)	$12

B. Nonresident License Fees

Small game license (12 years of age or older)	$40

C. Resident Permit Fees

Cougar permit	*$30
Cougar/bear pursuit permit	$25
Cougar damage permit	$25

D. Nonresident Permit Fees

Cougar permit	*$255

(Cougar/bear pursuit permits are not available to nonresidents)

(includes a nonrefundable $5 application fee)*

E. Conservation Permits (R657-10-4)

(1)(a) Two conservation permits are offered annually to an eligible conservation organization for sale at an auction.

(b) The permit allows the successful bidder the opportunity to take a cougar in any limited entry area during the prescribed season dates.

(2)(a) The auction will take place prior to the beginning of the season.

(b) Any person may bid on the permit regardless of affiliation to the recipient conservation organization.

(c) The minimum bid accepted is $2,000.

(3) Conservation organizations interested in auctioning the permit must contact the Salt Lake division office before November 1.

(4) Information about obtaining the permit for auction and other information concerning the date, time, and place of the auction is available from division offices.

F. Purchase of License or Permit by Mail

(R657-10-5)

(1) A nonresident may purchase a small game license by mail by sending the following information to the Salt Lake division office: full name, complete mailing address, phone number, date of birth, weight, height, sex, color of hair and eyes, driver's license number (if available), proof of hunter education certification, and fee.

(2) A person may purchase a permit by mail by sending the following information to the Salt Lake division office: full name, complete mailing address, phone number, hunting license number, and fee.

(3)(a) Residents may send a personal check, certified check, or money order.

(b) Nonresidents must send either a certified check or

money order.

(c) Checks must be made payable to the Utah Division of Wildlife Resources.

G. Sales Final (23-19-38)

Sales of all licenses, certificates, or permits are final, and no refunds may be made by the division, except the division may refund the amount of the license, certificate, or permit if:

(1) the division or Wildlife Board discontinues the activity for which the license, certificate, or permit was obtained; or

(2) the person to whom the license, certificate, or permit is issued dies prior to his being able to participate in the activity for which the license, certificate, or permit was obtained.

6. EXHIBIT OF LICENSE, PERMIT, TAG, AND WILDLIFE (23-20-25)

Any person, while engaged in hunting, trapping, or fishing, shall be required upon demand of any conservation officer or any other peace officer to exhibit:

(1) the required license, permit, or tag;

(2) any device or apparatus in that person's possession used for any activity regulated under the Wildlife Code; or

(3) any wildlife in that person's possession.

7. HUNTING HOURS (R657-10-6)

Cougar may be taken or pursued only between one-half hour before official sunrise through one-half hour after official sunset.

8. FIREARMS AND HUNTING EQUIPMENT (R657-10-7)

A. Firearms and Archery Tackle

A person may use the following to take cougar:

(1) any firearm not capable of being fired fully automatic; and

(2) a bow and arrows, except a crossbow may not be used.

B. Traps and Trapping Devices (R657-10-8)

(1) Cougar may not be taken with a trap, snare, or any other trapping device.

(2) Cougar accidentally caught in any trapping device must be released unharmed.

(3)(a) Written permission must be obtained from a division representative to remove the carcass of a cougar from any trapping device.

(b) The carcass shall remain the property of the state of Utah and must be surrendered to the division.

C. Loaded Firearms in a Vehicle — When Deemed Loaded (76-10-502 & 76-10-505)

(1) A person may not carry a loaded firearm in or on a vehicle.

(2) A pistol, revolver, rifle, or shotgun is deemed to be loaded when there is an unexpended cartridge, shell, or projectile in the firing position.

(3) Pistols and revolvers shall also be deemed to be loaded when an unexpended cartridge, shell, or projectile is in a position whereby the manual operation of any mechanism once would cause the unexpended cartridge, shell, or projectile to be fired.

(4) A muzzleloading firearm shall be deemed to be loaded when it is capped or primed and has a powder charge and ball or shot in the barrel or cylinders.

D. Discharge of Firearm from a Vehicle or Near Highway (76-10-508 & R657-12)

(1) A person may not discharge any kind of firearm:

(a) from an automobile or other vehicle, except as provided in Subsection (2); or

(b) from, upon, or across any highway.

(2) A person who is paraplegic or otherwise permanently disabled so as to be permanently confined to a wheelchair or the use of crutches may obtain a certificate of registration to take protected wildlife from a motor vehicle.

E. Safety Zone (23-20-32)

A person may not, without written permission from the owner or person in charge, discharge a firearm within 600 feet of:

(1) a house, dwelling, or any other building; or

(2) any structure where a domestic animal is kept or fed, including a barn, poultry yard, corral, feeding pen, or stockyard.

F. State Parks (R657-10-9 & R651-603-6)

(1) Hunting of any wildlife is prohibited within the boundaries of all state park areas except those designated by the Division of Parks and Recreation in Section R651-603-5.

(2) Hunting with a rifle, handgun, or muzzleloader on park areas designated open is prohibited within one mile of all park facilities including buildings, camp or picnic sites, overlooks, golf courses, boat ramps, and developed beaches.

(3) Hunting with shotguns and archery equipment is prohibited within one quarter mile of the above stated areas.

G. Hunting Under the Influence (23-20-11)

A person may not possess or use a weapon in the pursuit of any wildlife while under the influence of alcohol or illegal drugs.

9. HUNTING METHODS

A. Prohibited Methods (23-20-12 & R657-10-10)

(1) Cougar may be taken or pursued only during open seasons and using methods prescribed in this proclamation. Otherwise, under the Wildlife Resources Code, it is unlawful for any person to possess, capture, kill, injure, drug, rope, trap, snare, or in any way harm, or transport cougar.

(2) After a cougar has been pursued, chased, treed, cornered, or held at bay, a person may not, in any manner, restrict or hinder the animal's ability to escape.

(3) A person may not engage in a canned hunt.

(4) A person may not take any wildlife from an airplane or any other airborne vehicle or device or any motorized terrestrial or aquatic vehicle, including snowmobiles and other recreational vehicles.

B. Spotlighting (R657-10-11)

(1) A person may not throw or cast the rays of any spotlight, headlight, or other artificial light on any highway or in any field,

woodland, or forest while having in possession a weapon by which protected wildlife may be killed, except as provided in Section 23-13-17.

(2) The provisions of this section do not apply if the headlights of a motor vehicle are operated in a usual manner on a highway, and there is no attempt or intent to locate protected wildlife.

C. Party Hunting (R657-10-12)

A person may not take a cougar for another person.

D. Use of Dogs (R657-10-13)

(1) Dogs may be used to take or pursue cougar only during open seasons as provided in this proclamation.

(2) The owner and handler of dogs used to take or pursue cougar must have a valid cougar permit or cougar/bear pursuit permit in possession while engaged in taking or pursuing cougar.

(3) When dogs are used in the pursuit of a cougar, the licensed hunter intending to take the cougar must be present when the dogs are released and must continuously participate in the hunt thereafter until the hunt is completed.

10. POSSESSION AND TRANSPORTATION

A. Tagging Requirements (23-20-30 & R657-10-14)

(1) The carcass of a cougar must be tagged with a temporary possession tag before the carcass is moved from or the hunter leaves the site of kill.

(2) To tag a carcass, a person shall:

(a) completely detach the tag from the license or permit;

(b) completely remove the appropriate notches to correspond with:

(i) the date the animal was taken; and

(ii) the sex of the animal; and

(c) attach the tag to the carcass so that the tag remains securely fastened and visible.

(3) A person may not:

(a) remove more than one notch indicating date or sex; or

(b) tag more than one carcass using the same tag.

(4) A person may not hunt or pursue a cougar after any of the notches have been removed from the tag or the tag has been detached from the permit.

(5) The temporary possession tag:

(a) must remain attached to the pelt or unskinned carcass until the permanent possession tag is attached; and

(b) is only valid for 48 hours after the date of kill.

(6) A person may not possess a cougar pelt or unskinned carcass without a valid permanent possession tag affixed to the pelt or unskinned carcass. This provision does not apply to a person in possession of a properly tagged carcass or pelt within 48 hours after the kill, provided the person was issued and is in possession of a valid permit.

B. Evidence of Sex and Age (R657-10-15)

(1) Evidence of sex must remain attached to the carcass or pelt of each cougar until a permanent tag has been attached by the division.

(2) The pelt and skull must be presented to the division in an unfrozen condition to allow the division to gather other management data.

(3) The division may seize any pelt not accompanied by its skull.

C. Permanent Tag (R657-10-16)

(1) Each cougar must be taken by the permit holder to a conservation officer or division office within 48 hours after the date of kill to have a permanent possession tag affixed to the pelt or unskinned carcass.

(2) A person may not possess a green pelt after the 48-hour check-in period, transport or ship a green pelt out of Utah, or present a green pelt to a taxidermist if the green pelt does not have a permanent possession tag attached.

D. Transporting Cougar (R657-10-17)

Cougar which have been legally taken may be transported by the permit holder provided the cougar is properly tagged and the permittee possesses a valid small game or combination license and the appropriate permit.

E. Exporting Cougar from Utah (R657-10-18)

(1) A person may export a legally taken cougar or its parts if that person has a valid license and permit and the cougar is properly tagged with a permanent possession tag.

(2) A person may not ship or cause to be shipped from Utah, a cougar pelt without first obtaining a shipping permit issued by an authorized division representative.

11. CHECKING STATIONS

(1) The division monitors the taking and possession of wildlife, the required licenses, permits, tags, and certificates of registration, firearms, and other equipment used for hunting.

(2) Hunters should expect to encounter conservation officers checking hunters in the field, at checking stations, and check points.

(3) These contacts allow the division to collect valuable information concerning wildlife populations and trends as well as helping to fulfill the division's responsibility as trustee and custodian of wildlife.

12. DISPOSAL OF WILDLIFE

A. Donating (23-20-9 & R657-10-19)

(1) A person may donate protected wildlife or their parts to another person only at the following places:

(a) the residence of the donor;

(b) the residence of the person receiving protected wildlife or their parts;

(c) a meat locker;

(d) a storage plant; or

(e) a meat processing facility.

(2) A written statement of donation must be kept with the protected wildlife or parts showing:

(a) the number and species of protected wildlife or parts donated;

(b) the date of donation;

(c) the license or permit number of the donor and the permanent possession tag number; and

(d) the signature of the donor.

(3) A green pelt of any cougar donated to another person must have a permanent possession tag affixed.

(4) The written statement of donation must be retained with the pelt.

B. Purchasing or Selling (R657-10-20)

(1) Legally obtained, tanned cougar hides may be purchased or sold.

(2) A person may not purchase, sell, offer for sale, or barter a tooth, claw, paw, or skull of any cougar.

C. Waste of Wildlife (23-20-8 & R657-10-21)

(1) A person may not waste or permit to be wasted or spoiled any protected wildlife or their parts.

(2) The skinned carcass of a cougar may be left in the field and does not constitute waste of wildlife.

13. AIDING OR ASSISTING (23-20-23)

(1) A person may not aid or assist another person to violate any provisions of the Wildlife Resources Code, rule, or proclamation.

(2) The penalty for aiding or assisting is the same as the provision for which aid or assistance is given.

14. EMERGENCY CLOSURES (23-14-8)

The director of the division has the authority to declare emergency closed or open seasons in the interest of wildlife.

15. LIVESTOCK DEPREDATION

(R657-10-22)

(1) If a cougar is harassing, chasing, disturbing, harming, attacking, or killing livestock, or has committed such an act within the past 72 hours:

(a) the livestock owner, an immediate family member, or an employee of the owner on a regular payroll, and not hired specifically to take cougar, may kill the cougar;

(b) the livestock owner may notify the division of the depredation who shall authorize a local hunter to take the depredating cougar or notify an animal damage control specialist; or

(c) the livestock owner may notify an animal damage control specialist of the depredation who may take the depredating cougar.

(2) Depredating cougar may be taken at any time by an animal damage control specialist, supervised by the animal damage control program, while acting in the performance of the person's assigned duties and in accordance with procedures approved by the division.

(3) A depredating cougar may be taken with any weapon authorized for taking cougar.

(4)(a) Any cougar taken pursuant to subsections (1)(a) and (b) must be delivered to a division office or employee within 72 hours.

(b) The cougar shall remain the property of the state, except the division may sell a cougar damage permit to a person who has killed a depredating cougar in accordance with this section, if that person wishes to maintain possession of the cougar.

(c) A person may acquire only one cougar annually.

(5)(a) Hunters interested in taking depredating cougar as provided in Subsection (1)(b) may contact the division.

(b) Hunters will be contacted by the division to take depredating cougar as needed.

16. QUESTIONNAIRE (R657-10-23)

Each permittee who receives a questionnaire should return the questionnaire to the division regardless of success. Returning the questionnaire helps the division evaluate population trends, harvest success, and other valuable information.

17. TRESPASS (23-20-14)

(1) While taking wildlife or engaging in wildlife related activities, a person may not:

(a) without the permission of the owner or person in charge, enter upon privately owned and properly posted land of any other person, firm, or corporation;

(b) refuse to immediately leave the private land if requested to do so by the owner or person in charge; or

(c) obstruct any entrance or exit to private property.

(2) "Permission" means written authorization from the owner or person in charge to enter upon private land that is properly posted, and must include:

(a) the signature of the owner or person in charge;

(b) the name of the person being given permission;

(c) the appropriate dates; and

(d) a general description of the property.

(3) "Properly posted" means that "No Trespassing" signs or a minimum of 100 square inches of bright yellow or fluorescent paint are displayed at all corners, fishing streams crossing property lines, roads, gates, and rights-of-way entering the land. If metal fence posts are used, the entire exterior side must be painted.

(4) A person may not post:

(a) private property he does not own or legally control; or

(b) land that is open to the public as provided by Section 23-21-4.

(5) A person convicted of violating any provision of Subsection (1) may have his license, tag, certificate of registration, or permit, relating to the activity engaged in at the time of the violation, revoked by the Wildlife Board.

18. TAKING FURBEARERS (R657-10-24)

(1) Furbearers, including badger, beaver, black-footed ferret, bobcat, fisher, red fox, gray fox, kit fox, lynx, marten, mink, otter, ringtail, skunk, weasel, wolf, and wolverine may be taken only in accordance with the furbearer proclamation.

(2) A person may not disturb, remove, or possess a trap, trapping device, or any wildlife held in a trap without first obtaining written permission from the trap owner.

19. TAKING COUGAR (R657-10-25)

A. Taking Restrictions

(1)(a) A person may harvest only one cougar during the season and from the area specified on the permit.

(b) Permits may be obtained by following the application procedures on page 9.

(2) A person may not:

(a) take or pursue a female cougar with kittens; or

(b) repeatedly pursue, chase, tree, corner, or hold at bay, the same cougar during the same day after the cougar has been released.

(3) Any cougar may be taken during the prescribed seasons, except a kitten with spots or any cougar accompanied by young.

B. Limited Entry Cougar Permit Season Dates

(1) December 17, 1994 through June 4, 1995, except as provided in Subsection (2).

(2) Unit 30 is open January 1, 1995, through December 31, 1995, except during big game season as provided in Section C.

C. Closed Areas

(1) Unit No. 30 Cedar Mountain - Closed during all big game seasons. However, during some big game seasons, a certificate of registration may be given to approved permittees to take cougar in cougar/bear management unit 30. Authorization will given be on a case-by-case basis. Permittees must contact the division's southern regional office in Cedar City to obtain authorization.

(2) The division may authorize hunters who have obtained a limited entry cougar permit to take cougar in a specified area of the state in the interest of protecting wildlife from depredation.

20. COUGAR PURSUIT (R657-10-26)

A. Pursuit Restrictions

(1) Cougar may be pursued only by persons who have obtained a cougar/bear pursuit permit. The cougar/bear pursuit permit does not allow a person to kill a cougar.

(2) A person may not:

(a) take or pursue a female cougar with kittens;

(b) repeatedly pursue, chase, tree, corner, or hold at bay, the same cougar during the same day; or

(c) possess a firearm or any device that could be used to kill a cougar while pursuing cougar.

(3) If eligible, a person who has obtained a cougar/bear pursuit permit may also obtain a limited entry cougar permit.

B. Cougar Pursuit Season Dates

(1) Cougar may be pursued only on limited entry units during the following dates:

(a) December 17, 1994, through June 4, 1995; and

(b) on Unit 30 the season is open year round to pursuit, except during big game hunting seasons. (see page 6, C. Closed Areas)

(2) Cougar/bear pursuit permits are valid on a calendar year basis (January 1 through December 31). Nonresidents may not purchase a cougar/bear pursuit permit.

D. Limited Entry Permit Areas

Hunt No.	Cougar Management Unit	Number of Cougar Permits Resident	Nonresident
C-1	Box Elder	7	2
C-2A	North Cache*	1	1
C-2B	South Cache (Rich)*	7	1
C-2C	Weber*	2	1
C-3	Deep Creek Mountains	13	7
C-4	Oquirrh	17	9
C-5	Lone Peak	10	5
C-6	Summit-Morgan*	11	3
C-7	Vernon	10	5
C-8A	Heber	10	4
C-8B	Diamond Fork	10	4
C-9	Duchesne	22	8
C-10	Vernal	24	9
C-11A	East Nebo	10	4
C-11B	West Nebo	11	5
C-11C	South Nebo	15	7
C-12A	Spanish Fork	12	6
C-12B	Fairview	14	7
C-13	Manti	28	14
C-14	East Manti	20	7
C-15A	Avintaquin	9	4
C-15B	Range Creek	11	5
C-16	Book Cliffs	18	8
C-17	San Rafael	3	1
C-18A	LaSal Mountains	9	3
C-18B	Dolores Triangle	3	2
C-19	San Juan	18	6
C-20	Henry Mountains	3	1
C-21A	Fish Lake	29	14
C-21B	Thousand Lakes	8	4
C-22	Oak Creek	32	15
C-23A	Monroe Peak	17	7
C-23B	Dutton	8	2
C-24	Boulder Mountains	14	4
C-25	Paunsaugunt	12	4
C-26	Panguitch	13	4
C-27	Beaver	27	10
C-28	Millard	9	3
C-29A	Pine Valley	30	10
C-29B	Browse	6	4
C-30	Cedar Mountain*	26	12
	Total Permits	**559**	**232**

**These units consist primarily of private land. Landowner permission should be obtained before applying. The division cannot guarantee access. (R657-10-25)*

21. DESCRIPTION OF COUGAR MANAGEMENT UNITS

UNIT NO. 1 - BOX ELDER

Box Elder and Tooele counties - Boundary begins at the Utah-Idaho state line and I-15 near Portage; then west along the state line to the Utah-Nevada state line; south along this state line to Wendover and I-80; easterly on I-80 to Salt Lake City and I-15; northerly on I-15 to Tremonton and I-15; north on I-15 to the Utah-Idaho state line.

Unit No. 2A - North Cache - Boundary begins at the Utah-Idaho state line and I-15 near Portage; east along the state line to US-89; then south/southwest along US-89 through Logan and Brigham City to I-15; north along I-15 to the Utah-Idaho state line.

Unit No. 2B - South Cache (Rich) - Boundary begins at US-89 at the Utah-Idaho state line; then east along the state line to the Utah-Wyoming state line; south along the Utah-Wyoming state line to the Rich-Summit county line; west along this county line to the Rich-Morgan county line; north and west to the Rich-Weber county line; then north and west to the Cache-Weber county line; west to the Cache-Box Elder county line; north along this line to US-89/91; north and east along US-89/91 to the Utah-Idaho state line.

Unit No. 2C - Weber - Boundary begins at the intersection of US-89/91 and I-15 just west of Brigham City; then east along US-89/91 to the Cache-Box Elder county line; south to the Cache-Weber county line; east along this county line; south and east along the Rich-Weber county line to the Rich-Morgan county line; and then southwest along the Morgan-Weber county line to I-84; then follow I-84 to Roy; then north along I- 15 to its intersection with US-89/91, including those portions of Weber and Boxelder counties east of I-15 and south of US-89/91.

UNIT NO. 3 - DEEP CREEK MOUNTAINS

Tooele, Juab and Millard counties - Boundary begins at I-80 and the Utah-Nevada state line near Wendover; then easterly on I-80 to Rowley Junction; southerly on the Skull Valley Road to the Dugway Proving Grounds entrance; southerly on Round Valley Road to the Fish Springs-Lookout Pass road; southwesterly on this road to the Dugway Valley Road; southerly on this road to Highway SR-272; southeasterly on SR-272 to Highway US-6; southwesterly on US-6 to the Utah-Nevada state line; north along this state line to Wendover.

UNIT NO. 4 - OQUIRRH

Tooele, Utah, and Salt Lake counties - Boundary begins at Rowley Junction and I-80; then easterly on I-80 to Salt Lake City and I-15; southerly on I-15 to Lehi and Highway SR-73; southwesterly on SR-73 to the Pony Express-Faust road near Five-Mile Pass; southwesterly on this road to Highway SR-36; southerly on SR-36 to the Lookout Pass-Vernon road; westerly on this road to Round Top and the Iosepa-Timpie road; northerly on this road to Rowley Junction.

UNIT NO. 5 - LONE PEAK

Salt Lake, Summit, Weber, Davis, Morgan, and Utah counties - Boundary begins at Roy and I-15; then southerly on I-15 to 800 North in Orem; easterly on 800 North to Highway US-189; northeasterly in Provo Canyon to the Utah-Wasatch county line near Wildwood; northeasterly along the county line to the Salt Lake-Wasatch county line near Sunset Peak; northerly and easterly along this county line to the Wasatch-Summit county line; then northeasterly along this county line to US-40; northerly on US-40 to Silver Creek Junction and I-80; northerly on I-80 to Echo and I-84; west on I-84 to Roy and I-15.

UNIT NO. 6 - SUMMIT-MORGAN

This unit consists primarily of private land. Landowner permission should be obtained before applying. The Division cannot guarantee access.

Summit and Morgan counties - Boundary begins at the Morgan-Weber county line and I-84; then easterly along this county line to the Morgan-Rich county line; southerly along this county line to the Rich-Summit county line; easterly along this county line to the Utah-Wyoming state line; south and east along this state line to the Burnt Fork-Birch Creek drainage divide; southerly along this drainage divide to the Summit-Duchesne county line (Uintah Mountains summit); westerly along this county line to Highway SR-150; south on SR-150 to the Provo River-Duchesne River drainage divide; southerly along this drainage divide to SR-35 at Wolf Creek Pass; northwesterly along SR-35 to the Wasatch-Summit county line; then northwesterly along this county line to US-40; northerly on US-40 to I-80 at Silver Creek Junction; northerly on I-80 to Echo Junction and I-84; westerly on I-84 to the Morgan-Weber county line.

UNIT NO. 7 - VERNON

Juab and Tooele counties - Boundary begins at Lehi and I-15; then southerly on I-15 to Nephi and SR-132; southwesterly on SR-132 to Highway US-6 at Lynndyl; southwesterly on US-6 to Highway SR-272; northwesterly on SR-272 to the Dugway Valley Road; northerly on this road to the Fish Springs-Lookout Pass road; northeasterly on this road to Highway SR-36 near Vernon; northerly on SR-36 to the Faust-Five Mile Pass road; northeasterly on this road to Highway SR-73; northeasterly on SR-73 to Lehi. *This unit consists primarily of private land. Landowners permission should be obtained before applying. The division cannot guarantee access.

UNIT NO. 8 - HEBER/DIAMOND FORK

Utah and Wasatch counties - Boundary begins at the intersection of 800 North and I-15 in Orem; easterly on 800 North to Highway US-189; northeasterly on US-189 in Provo Canyon to the Utah-Wasatch county line near Wildwood; then northerly and easterly along the Utah-Wasatch and Summit-Wasatch county lines to the south fork of the Provo River and SR-35; east on SR-35 to the Provo-Duchesne River drainage divide at Wolf Creek Pass; southwesterly along the Provo-Duchesne and Provo-Strawberry River drainage divides past Heber Mountain to Daniels Pass and US-40; southeasterly on US-40 to USFS 131; southerly on USFS 131 to Indian Creek Road; easterly on this road to the road following the left-hand fork of White River; southerly on this road to Soldier Summit and Highway US-6; northwesterly on US-6 to Spanish Fork and I-15; northerly on I-15 to Orem.

Unit No. 8A - Heber

Wasatch County - That portion of Unit No. 8 within Wasatch County.

Unit No. 8B - Diamond Fork

Utah County - That portion of Unit No. 8 within Utah County.

UNIT NO. 9 - DUCHESNE

Duchesne and Uintah counties - Boundary begins on US-40 at Daniels Pass; then northerly and easterly along the Provo-Strawberry River and the Provo-Duchesne River drainage divides to SR-150; north on SR-150 to the Summit-Duchesne county line; easterly along this county line to the Duchesne-Daggett county line; easterly along this county line to the Uintah-Daggett county line; easterly along this county line to Mosby Mountain-Paradise Park-Deadman Lake road; southerly on this road to La Point; southerly on the La Point-Gusher road to Gusher and US-40; westerly on US-40 to Daniels Pass.

UNIT NO. 10 - VERNAL

Uintah and Daggett counties - Boundary begins at the Utah-Wyoming state line and Burnt Fork-Birch Creek drainage divide; then southerly along this drainage divide to the Summit-Duchesne county line; easterly along this county line to the Duchesne-Daggett county line; easterly along this county line to the Uintah-Daggett county line; easterly along this county line to the Mosby Mountain-Paradise Park-Deadman Lake road; southerly on this road to La Point; west and southerly on the La Point-Gusher road to Gusher and Highway US-40; west on US-40 to the Uintah River; southerly along this river to the Duchesne River; southerly along this river to the Green River; northeasterly along this river to US 40; easterly along US 40 to the Utah-Colorado state line; north along this state line to the Utah-Wyoming state line; west along this state line to the Burnt Fork-Birch Creek drainage divide.

UNIT NO. 11A - EAST NEBO

Utah, Juab and Sanpete counties - Boundary begins at Spanish Fork and I-15; then southerly on I-15 to Payson and the Nebo Loop Road; southerly on this road to Highway SR-132; southerly on SR-132 to Highway SR-116; easterly on SR-116 to Highway US-89; northerly on US-89 to Highway US-6; northwesterly on US-6 to I-15.

UNIT NO. 11B - WEST NEBO

Utah and Juab counties - Boundary begins at I-15 and the Nebo Loop Road in Payson; then southerly on I-15 to Highway SR-132; east on SR-132 to Salt Creek and the Nebo Loop Road; northerly on this road to Payson and I-15.

UNIT NO. 11C - SOUTH NEBO

Sanpete and Juab counties - Boundary begins at Highways US-91 and SR-132 in Nephi; then southerly on SR-132 to Highway US-89 near Ephraim; southerly on US-89 to Gunnison; northerly on Highway SR-28 to US-91 near Levan; northerly on US-91 to Nephi and SR-132.

UNIT NO. 12A - SPANISH FORK

Utah and Carbon counties - Boundary begins at Thistle and Highway US-6; then easterly on US-6 to Highway SR-96; westerly and southerly on SR-96 to the northern shore of Scofield Reservoir; westerly along this shore to Upper Fish Creek; westerly along this creek to its confluence with Straight Fork Creek; westerly along this creek to the Skyline Drive Road; southerly on this road to the Brown's Peak road; west along the Brown's Peak road to Highway US-89; northerly on US-89 to US-6.

UNIT NO. 12B - FAIRVIEW

Sanpete County - Boundary begins at the Brown's Peak road and then south along this road to the Skyline Drive Road; southerly on this road to the Straight Canyon-Mount Pleasant road; westerly on this road to Mt. Pleasant; northerly on US-89 to the Utah-Sanpete county line.

UNIT NO. 13 - MANTI

Sanpete County - Boundary begins at Mt. Pleasant and the Straight Canyon Road; then easterly on this road to the Skyline Drive Road (Forest Road 150); southerly on this road to the Willow Creek Road (Forest Road 001) at the Sanpete-Sevier county line; south and west on the Willow Creek Road to US-89; northerly on US-89 to Mt. Pleasant.

UNIT NO. 14 - EAST MANTI

Carbon, Wasatch, Sanpete and Emery counties - Boundary begins at the junction of Highways US-6 and SR-96; then westerly and southerly on SR-96 to the northern shore of Scofield Reservoir; westerly along this shore to Upper Fish Creek; westerly along this creek to Straight Fork Creek; westerly along this creek to the Skyline Drive Road; southerly on this road to the South Fork of Muddy Creek; easterly along this creek to Highway SR-10; northerly on SR-10 to US-6; northerly on US-6 to SR-96.

UNIT NO. 15A - AVINTAQUIN

Wasatch, Duchesne and Carbon counties - Boundary begins at Highway US-40 and the Strawberry Valley, west bank road; then easterly on US-40 to Highway US-191; southwesterly on US-191 to Highway US-6; northwesterly on US-6 to the Left Hand Fork of the White River Road; northerly on this road to the Indian Creek Road; northeasterly on this road to the Strawberry Valley, west side road (USFS 131); northerly on this road to US-40.

UNIT NO. 15B - RANGE CREEK

Duchesne, Carbon, Uintah and Emery counties - Boundary begins at Duchesne and Highway US-40; then easterly on US-40 to the Uintah River; southerly along this river to the Duchesne River; easterly along this river to the Green River; southerly along this river to Highway US-6; northwesterly on US-6 to Highway US-191; northeasterly on US-191 to US-40.

UNIT NO. 16 - BOOK CLIFFS

Uintah and Grand counties - Boundary begins at US-40 and the Utah-Colorado state line; then westerly along US-40 to the Green River; then Southwesterly along the Green River to I-70; Easterly on I-70 to the Utah-Colorado state line; North along this state line to US-40.

UNIT NO. 17 - SAN RAFAEL

Carbon, Emery, Wayne and Garfield counties - Boundary begins at the junction of Highways US-6 and SR-10; then southerly on SR-10 to Muddy Creek; southeasterly along this Creek to the Dirty Devil River; southerly along this river to the Colorado River; northeasterly along this river to the Green River; northerly along this river to I-70 and US-6; northeasterly on US-6 to SR-10.

UNIT NO. 18A - LASAL MOUNTAINS

Grand and San Juan counties - Boundary begins at the Green River and I-70 near the town of Green River; easterly on I-70 to the Utah-Colorado state line; south along this line to the Colorado River; southwesterly along the river to its confluence with the Dolores River; southwesterly along this river to the Utah-Colorado state line; south along this line to the Big Indian Road; southwesterly on this road to Hatch Wash; northerly along this wash to the Colorado River; southwesterly along this river to its confluence with the Green River; northerly along this river to I-70.

UNIT NO. 18B - DOLORES TRIANGLE

Boundary begins at the Utah-Colorado state line and the Colorado River; south along the state line to the Dolores River; northwesterly along this river to the Colorado River; northeasterly along this river to the Utah-Colorado state line.

UNIT NO. 19 - SAN JUAN

San Juan and Grand counties - Boundary begins at the Utah-Colorado state line and Big Indian Road; then south along this state line to the Navajo Indian Reservation boundary; westerly along this boundary to the San Juan River; westerly along this river to the east shore of Lake Powell; northerly along the east shore to the Colorado River; northeasterly along this river to Hatch Wash; southerly along this wash to the Big Indian Road; east on this road to the Utah-Colorado state line.

UNIT NO. 20 - HENRY MOUNTAINS

Wayne, Garfield and Kane counties - Boundary begins at the Dirty Devil River and Highway SR-24; then westerly on SR-24 to the Notom Road; southerly on this road to Highway SR-276; southerly on SR-276 to Lake Powell; northeasterly along the western shore of Lake Powell to the Dirty Devil River; northwesterly along this river to SR-24.

UNIT NO. 21A - FISH LAKE

Sevier, Emery, and Piute - Boundary begins at Muddy Creek where it crosses Highway 10; southwest along Highway 10 to Highway 72; southwest along Highway 72 to its junction with Highway 24; west and north on Highway 24 to U.S. 89; north on U.S. 89 to the Willow Creek Road (Forest Road 001); east on the Willow Creek Road to the Sanpete/Sevier County line; east along the Sanpete/Sevier County line to Muddy Creek; southeast along Muddy Creek to Highway 10.

UNIT NO. 21B - THOUSAND LAKES

Wayne - Boundary begins at Muddy Creek where it crosses Highway 10; southeasterly along Muddy Creek to Highway 24; westerly along Highway 24 to Highway 72; northeasterly along Highway 72 to Highway 10; northeasterly along Highway 10 to Muddy Creek.

UNIT NO. 22 - OAK CREEK

Millard, Juab, Sanpete, and Sevier counties - Boundary begins at the junction of Highways US-89 and SR-132 in Nephi; then westerly on SR-132 to Highway US-6; southerly and westerly on US-6 to the junction with Highway SR-257; southerly on SR-257 to the Black Rock-Cove Fort road; easterly on this road to I-70; easterly on I-70 to US-89; northerly on US-89 to Gunnison; then northerly on SR-28 to Nephi

UNIT NO. 23A - MONROE PEAK

Sevier, Piute, and Garfield counties - Boundary begins at the junction of Highways US-89 and SR-24 in Vermillion; then southerly on Highway SR-24 to Highway SR-62; southerly on Highway SR-62 to the junction of Highway SR-62 and the Antimony-

Widtsoe Road (Johns Valley Road) at Otter Creek Reservoir; westerly on Highway SR-62 to Highway US-89; northerly on SR-89 to the junction of Highways US-89 and SR-24.

UNIT NO. 23B - DUTTON

Sevier, Piute, and Garfield counties - Boundary begins at the junction of Highway SR-62 and the Antimony-Widtsoe Road (Johns Valley Road) at Otter Creek Reservoir; southerly on this road to Highway SR-12; westerly on Highway SR-12 to Highway US-89; northerly on Highway US-89 to Highway SR-62; easterly on Highway SR-62 to the junction of Highway SR-62 and the Antimony-Widtsoe Road (Johns Valley Road) at Otter Creek Reservoir.

UNIT NO. 24 - BOULDER MOUNTAINS

Piute, Wayne and Garfield counties - Boundary begins at Highway SR-24 and the Notom Road; then southerly on this road to the Burr Trail; westerly on this road to Highway SR-12; south and westerly on SR-12 to the Antimony-Widtsoe road; northerly on this road to Highway SR-62; northerly on SR-62 (east of Monroe Peak) to SR-24; southeasterly on SR-24 to the Notom Road.

UNIT NO. 25 - PAUNSAUGUNT

Kane and Garfield counties - Boundary begins at the junction of Highways US-89 and SR-12; then southerly on US-89 to the Utah-Arizona state line; east along this state line to Lake Powell; northeasterly along its western shore to Bullfrog and Highway SR-276; northerly on SR-276 to the Notom Road; northerly on this road to the Burr Trail; westerly along this road to SR-12; westerly on SR-12 to US-89.

UNIT NO. 26 - PANGUITCH

Iron, Garfield and Kane counties - Boundary begins at the junction of I-15 and Highway SR-20; then easterly on SR-20 to Highway US-89; southerly on US-89 to Highway SR-14; westerly on SR-14 to Cedar City; northwesterly on Sr-130 to the Parowan Gap Road; easterly on this road to I-15; northerly on I-15 to SR-20.

UNIT NO. 27 - BEAVER

Beaver, Piute, Iron and Garfield counties - Boundary begins at the junction of I-70 and Highway US-89 near Sevier; then southerly on US-89 to Highway SR-20; westerly on SR-20 to I-15; southerly on I-15 to the Parowan Gap-Paragonah road; westerly on this road to SR-130; northwesterly on SR-130 to SR-21; northwesterly on SR-21 to the Union Pacific railway; northeasterly along this railway to the Black Rock-Cove Fort road; easterly on this road to I-70; easterly on this road to US-89.

UNIT NO. 28 - MILLARD

Millard, Beaver and Iron counties - Boundary begins at the Utah-Nevada state line and Highway US-6; then easterly on US-6 to the junction with Highway SR-257; then southerly on SR-257 to Milford to the Union Pacific Railway; southwesterly along this railway to the Utah-Nevada state line; north along this state line to US-6.

UNIT NO. 29A - PINE VALLEY MOUNTAINS

Iron and Washington counties - Boundary begins at the Utah-Nevada state line and the Union Pacific Railway near Uvada; then northeasterly along this railway to the Lund-Cedar City road; southeasterly on this road to Cedar City and I-15; southwesterly on I-15 to the New harmony Road; westerly along the New Harmony road to the Pine Valley Trailhead in New Harmony; southwesterly from the trailhead along the Anderson Valley trail to Anderson Valley and the Summit Trail; southerly along the Summit Trail to the Cottonwood Creek drainage and the Cottonwood Creek road; south along the Cottonwood Creek road to the Black Gulch road; south along this road to I-15 at Middleton; southwesterly along I-15 to the Utah-Arizona state line; west along the Utah-Arizona state line to the Utah-Nevada state line; north along the Utah-Nevada state line to the Union Pacific railway.

UNIT NO. 29B - BROWSE

Iron and Washington counties - Boundary begins at New harmony road and I-15; westerly along the New Harmony road to the Pine Valley Trailhead in New harmony; southwesterly from the trailhead along the Anderson Valley trail to Anderson Valley and the Summit Trail; southerly along the Summit Trail to the Cottonwood Creek drainage and the Cottonwood Creek road; south along the Cottonwood Creek road to the Black Gulch road; south along this road to I-15 at middleton; northeasterly on I-15 to the New Harmony road. (Hunters who draw a permit for Unit 29A will also be hunting within this unit).

UNIT NO. 30 - CEDAR MOUNTAIN

Iron, Kane and Washington counties - Boundary begins at Cedar City; then easterly on Highway SR-14 to Highway US-89 at Long Valley Junction; southerly on US-89 to Kanab; southerly on Highway Alt. US-89 to the Utah-Arizona state line; west along this state line to I-15; northerly on I-15 to Cedar City. (This unit consists primarily of private land. Landowner permission should be obtained before applying. The division cannot guarantee access).

22. APPLICATION PROCEDURE AND DEADLINES

A. General Information (R657-10-27)

(1) A person must obtain or apply for either a 1994 or 1995 small game or combination license before the division may issue a cougar permit.

(2) A person may not apply for or obtain more than one cougar permit for the same year, except as provided on page 6, A. Pursuit Restrictions, Subsection (3).

(3) Limited entry cougar permits are valid only for the management unit and for the specified season designated on the permit.

B. Waiting Period (R657-10-28)

(1) Any person who purchased a permit valid for the 1994 season, may not apply for a permit in the 1994/1995 season's drawing.

(2) Any person who draws a permit for the 1994/1995 season may not apply for a permit for the 1995/1996 season.

C. Application Procedure (R657-10-29)

(1) Applications are available October 3, 1994, from license agents and division offices.

(2) Applicants may select up to three choices of areas when applying for limited entry cougar permits. Areas must be listed in order of preference.

(3) Applications may be submitted by mail to the Salt Lake division office from October 10, 1994, through October 28, 1994, and must be addressed to:

Utah Cougar Applications
1596 West North Temple
Salt Lake City, Utah 84116

(4) Incomplete applications or applications completed incorrectly or postmarked later than October 28, 1994, are rejected.

(5) Dual or party applications are not accepted, all applications are processed individually.

(6) All applications are final.

(7)(a) A person may apply for a license and a permit at the same time by including the following information: full name, complete mailing address, phone number, date of birth, weight, height, sex, color of hair and eyes, proof of hunter education certification (for hunters born after December 31, 1965), and driver license number if available.

(b) Residents must provide proof of residency.

(c) Licenses and permits are mailed to applicants December 9, 1995.

D. Fees (R657-10-30)

(1)(a) Residents must include a personal check, certified check, or money order in the correct amount with the resident application.

(b) Nonresidents must include a certified check or money order in the correct amount with the nonresident application.

(2) A $5 application fee is added to the price of the permit on the application form. The $5 fee must be included and is nonrefundable.

(3) Checks returned unpaid from the bank automatically cancel the application.

E. Public Drawing (R657-10-31)

(1) If more applications are received for limited entry permits than the number of permits available, a public drawing will be held at the Salt Lake division office, 1596 West North Temple, Salt Lake City, Utah on November 18, 1994, at 9:00 a.m. to determine successful applicants.

(2)(a) Permits remaining after the drawing are available from the Salt Lake division office by mail-in application beginning November 28, 1994. These permits are sold on a first-come, first-served basis.

(b) Applications received prior to November 28, will be processed after the applications received on November 28.

(c) Beginning December 5, 1994, residents or nonresidents may purchase any of the remaining permits by mail-in application from the Salt Lake division office.

(3) Any cougar permit purchased after the season opens is not valid until seven days after the date of purchase.

(4) Waiting periods do not apply to purchase permits after the public drawing.

F. Bonus Points (R657-10-32)

(1)(a) Bonus points are used to improve odds for drawing limited entry cougar permits.

(b) Each applicant is entered into the drawing once for each bonus point collected. (Example: If a hunter has two bonus points, his name will be entered in the drawing three times, once for the current application and once more for each bonus point.)

(2) A bonus point is awarded for a valid unsuccessful application in the drawing.

(3) Bonus points are forfeited if the person skips three consecutive years in applying or the person obtains a permit.

(4) Bonus points are not transferable.

(5) Bonus points are tracked by using the applicant's social security number.

(6) The number of bonus points accumulated will be noted on the refund check.

G. Refunds (R657-10-33)

(1)(a) Nonresidents may specify whether they want to be issued a small game license if they are unsuccessful in obtaining a permit.

(b) Residents may specify on the application whether they want to be issued a pursuit permit if they are unsuccessful in obtaining a permit.

(2) Unless a license or permit is specifically requested, the total amount, minus the postage and handling fee, is refunded.

(3) Refunds are mailed within six weeks after the drawing.

(4) Any permit applied for or obtained unlawfully is void and will be seized.

DIVISION OFFICES

SALT LAKE
1596 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
(801) 538-4700

CENTRAL REGION
1115 NORTH MAIN STREET
SPRINGVILLE, UTAH 84663
(8081) 489-5678

NORTHERN REGION
515 EAST 5300 SOUTH
OGDEN, UTAH 84405
(801) 479-5143

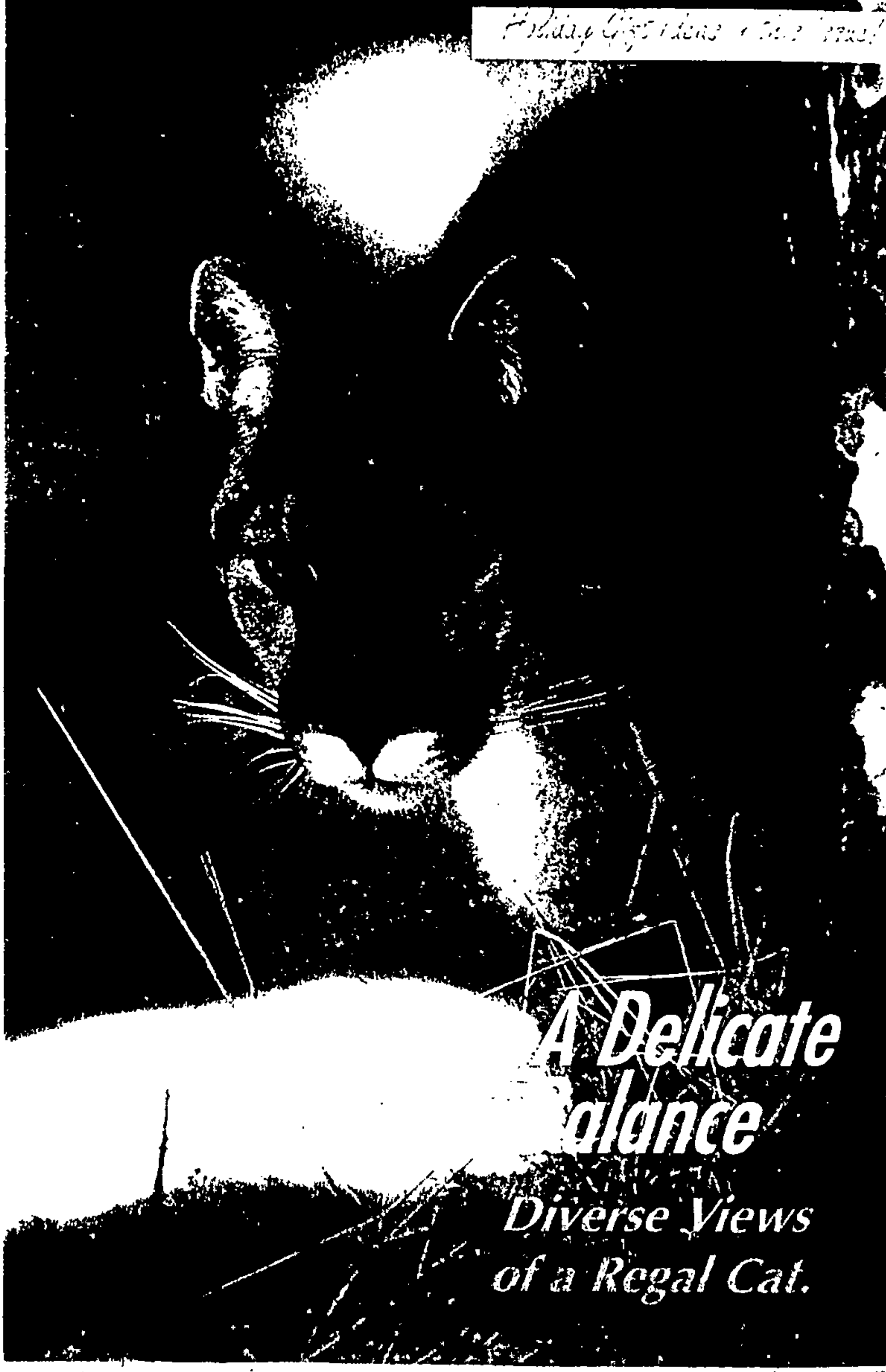
SOUTHERN REGION
622 NORTH MAIN STREET
CEDAR CITY, UTAH 84720
(801) 586-2455

NORTHEASTERN REGION
152 EAST 100 NORTH
VERNAL, UTAH 84078
(801) 789-3103

SOUTHEASTERN REGION
455 WEST RAILROAD AVENUE
PRICE, UTAH 84501
(801) 637-3310

WINTER 1994/1995

UTAH Wildlife Review



A Delicate Balance

Diverse Views of a Regal Cat.

of the most prudent predators. They have coexisted for centuries with a very narrow focus of prey selection.

There are about two to three thousand cougar in Utah. The state has a healthy and productive cougar population. Cougars are a renewable resource, but they must be managed carefully to insure stability of the population. Sudden changes in habitat, prey base or population dynamics may have significant effects on a population. Cougar population numbers need to be regulated considering the ecosystem as a whole. The Division of Wildlife Resources' (DWR) goal is to balance manageable wildlife populations with other resources and resource users, which includes consideration for landowners and livestock producers.

The DWR uses recreational sport hunting and animal damage control as a tool to manage cougar populations throughout the state. The only effective method available to agencies to manage cougar populations responsibly is by using trained hounds. The dogs are used to track and pursue the big cats, which often retreat up a nearby tree with very little coaxing. At this point the hunter can be selective and take a a large male cougar or a cougar without kittens. This is selective hunting, and it is a valuable tool in managing cougars. Selective removal allows the DWR to manage populations by controlling not only the number of cats taken, but also the sex and age of the animals taken. By having a hunting season and limiting the permits available for selected areas, the DWR can effectively manage cougars in the state of Utah.

CAT FACTS:

- The mountain lion is also known as cougar, puma, panther, painter and catamount. It is a member of the cat family, Felidae.
- Mountain lions were once found in all lower 48 states, as well as in Canada and Mexico. Today they are found only in western North America, with the exception of a small population of endangered lions, known as Florida panthers, that exist in florida.
- Other members of the Felidae family in Utah include bobcats and Canada lynx.
- Because mountain lions usually know you are in the area well before you are aware of them, sightings of lions are very rare.
- Colors of mountain lions vary, and may be gray, dark brown, cinnamon or tawny. The ears and tail are tipped with black.
- Males may attain a length of nine feet, including tail, and weigh as much as 200 pounds. Females generally weigh between 100 and 125 pounds and measure nearly seven feet in length.
- Mountain lion young, called kittens, weigh one to one-and-one-half pounds at birth and have blackish-brown spots and a dark-ringed tail. Young lions reach adult size by the time they are 3 to 5 years old.
- Mountain lions are highly specialized predators. Their eyesight includes both diurnal and nocturnal vision. In order to protect the lions' eyes during daylight hours, their pupils contract to a vertical slit or "cat's eye" in bright light.
- Mountain lions' diets consist of 80% mule deer, but they will also eat rabbits and hares, rodents (especially porcupines!), elk, bobcats, coyotes and, occasionally, livestock. They will also eat some grasses.
- Movement attracts lions, and prey species tend to "freeze" after detecting a predator.
- Lions will consume about 70% of a large carcass (such as mule deer) before making another kill.
- Kittens are born about 13 weeks after breeding. Female lions give birth in simple dens found in caves, rock crevices, brush piles or secluded areas in tall vegetation. Young lions stay with their mother for 12 to 20 months.
- Mountain lions often climb trees to avoid detection and danger.
- Generally, lions avoid areas of sagebrush and low-growing shrubs, areas used for agriculture and pasture lands, and any other areas without adequate tall cover.
- The Mountain lion has been a protected wildlife species in Utah since 1967

SAFETY IN CAT COUNTRY:

Attacks by mountain lions are very rare, but can occur. The following guidelines are provided to help ensure your safety when you're in mountain lion country.

- DO NOT feed deer, raccoons or other wildlife on which mountain lions prey. Doing so may attract lions, encouraging them to remain in the area and increasing the possibility of conflicts with humans.
- DO NOT leave pet food out where lions or other wildlife have access to it.
- DO NOT allow pets to run freely. Lions will prey on dogs and cats, quickly learning that they are easy to take. If pets are left outside, they should be in covered cages. A lion can easily leap over an 8-feet fence.
- DO NOT leave doors of barns or sheds open. Lions are inquisitive and may go inside for a look.
- DO NOT allow children to play alone in foothill areas, particularly at dawn and dusk when lions are most active.

IF YOU ENCOUNTER A COUGAR:

– Do not panic. Most lions will try to avoid confrontation.

– Raise your arms to make yourself appear as large as possible. Lions prefer smaller prey.

– Slowly back away. NEVER RUN and NEVER TURN YOUR BACK toward the cougar. Yell at the lion and wave your arms as you back away.

– Do not make direct eye contact. Lions perceive eye contact as aggressive behavior.

– If you are attacked, fight back! Prevent the lion from getting behind you.

Other members of the Felidae family in Utah include bobcats and Canada lynx.

Maintaining A Delicate Balance

Feline Diversity

by
Boyde Blackwell
Wildlife Program Coordinator

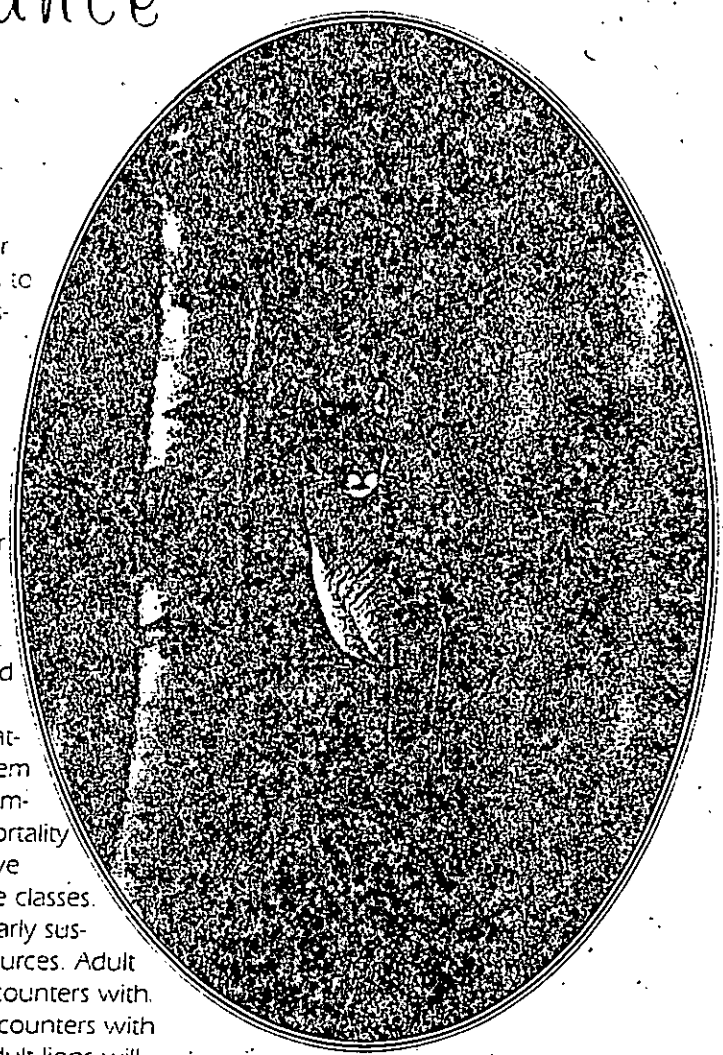
The mountain lion (*Felis concolor*) occurs only in the western hemisphere and has had the most extensive range of any terrestrial mammal. In North America, substantial mountain lion populations occur in suitable habitat in the western United States and Canada. Typical lion habitat in western North America is open woodland such as oak scrub, pinion pine, juniper, mountain mahogany, snow bush and mountain brush zones which are found in most parts of Utah. Within these habitat types, lions prefer rocky cliffs, ledges, or other areas that provide cover.

Rather than a true territory, cougars have a land tenure system in which home ranges are maintained by resident lions but not transients. Home range size in Utah varies by sex and age of the lion. The use of scratched areas on the ground or small piles of dirt is a signal to other lions and to mark home range boundaries. In North America, the mountain lion depends almost exclusively on deer for its food, although other species of big game and small mammals are eaten, depending on abundance. Mountain lions are known to prey on both healthy animals and those in poor physical shape. This helps to maintain a healthy ecosystem for many wildlife species.

The large cats first breed when they are about two and one-half years old. The cougar kittens will remain with their mother for two years before the mother will breed again. Litter sizes average between one and six, with three as the normal litter size. Mortality patterns of mountain lion seem to follow that of most mammals, with the highest mortality rate in the pre-reproductive young and the oldest age classes. Young kittens are particularly susceptible to all mortality sources. Adult lions may be killed by encounters with both prey species and encounters with other lions, but usually adult lions will attempt to avoid each other. One of the largest sources of mortality in mountain lions is hunting.

The Division of Wildlife Resources uses recreational sport hunting as the major tool to manage mountain lion populations around the state. In their strategic plan for managing cougars, the Division identifies their goal to "manage cougars consistent with prey base, habitat and other biological constraints to meet the needs of the resource and the resource users."

The state of Utah is divided into 39 cougar management areas, with a limited number of hunting permits available for each area. It is required by law that successful hunters take their cougar to a Division of Wildlife Resources office within 48 hours. This allows the Division to collect valuable information and biologists are able to determine how many cougars are killed in any of these areas of the state at any time.



Questionnaires are also sent to all licensed cougar hunters to obtain additional relevant information. The age and sex of every cougar taken is used to determine the percent of females taken and percent of success in every management area.

The Hunting Issue

The state of Utah is at the center of the cougar's western range with the most contiguous cougar habitat of any other state.

Estimates of consumption rates and kill frequency for cougars are inconsistent and vary from state to state. In Utah it is estimated that a cougar will kill an average of one deer or elk every 10 to 14 days in the winter, less in the summer because of reduced energy needs. Deer and elk are also less vulnerable during the summer because small mammals are more available to cougars. Cougars are considered one

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Australian Nature Conservation Agency

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Fax (06) 250 0399

ref: 95/00725

30 August 1995

Mr/Ms Walker
North Coast Environment Council Inc
Pavans Road
Grassy Head
via STUARTS POINT 2441

Dear Mr/Ms Walker

Thanks for your comments dated 24 July 1995 on the extension of the approval of the South Australian kangaroo management program under the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* until 31 December 1995.

The Minister has decided to approve the extension. For your information I am enclosing a copy of the declaration which will be published in the 6 September 1995 Commonwealth Government Notices Gazette.

Yours sincerely

Cindy Steensby
Population Assessment Unit

COMMONWEALTH OF AUSTRALIA

WILDLIFE PROTECTION (REGULATION OF EXPORTS AND IMPORTS) ACT 1982

Declaration of an Approved Management Program

I, JOHN PHILIP FAULKNER, the Minister for the Environment, Sport and Territories, having considered public comments as required by sub-section 9b(3) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* (the Act) and being satisfied on those matters set out in paragraphs 5(1)(a) - (d) of the Wildlife Protection (Regulation of Exports and Imports) Regulations 1984 in relation to a management program entitled 'The Kangaroo Conservation and Management Program in South Australia Part A Management of the Large Kangaroos' which was submitted by the South Australian National Parks and Wildlife Service, South Australian Department of Environment and Natural Resources and has been carried out in South Australia since 1 January 1994 is being carried out, and will continue to be carried out until 31 December 1995, hereby declare in pursuance of sub-section 10(1) of the Act that management program to be an approved management program for the purposes of the Act in relation to the three species, *Macropus rufus*, *Macropus fuliginosus* and *Macropus robustus*.

This declaration is valid until 31 December 1995 and replaces declaration number 9401269 gazetted on page 794 of the Commonwealth of Australia Gazette, No GN 11, 23 March 1994.

Dated this 18th day of August 1995

Minister for the Environment, Sport and Territories

Subject to the *Administrative Appeals Tribunal Act 1975*, a person or persons whose interests are affected by this declaration may, within 28 days, make an application in writing to the Australian Nature Conservation Agency for the reasons for the decision. An application for independent review of the decision may be made to the Administrative Appeals Tribunal, on payment of the relevant fee, by or on behalf of the person or persons whose interests are affected, either within 28 days of receipt of the reasons for the decision, or within 28 days of this declaration if reasons for the decision are not sought. Further information may be obtained from:

Director, Population Assessment Unit
Australian Nature Conservation Agency
GPO Box 636
CANBERRA ACT 2601
Telephone: (06) 250 0200 Facsimile: (06) 250 0303

FLF

27 June 1995

North Coast Environment Council Inc
C/-J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am writing to you as the Australian Nature Conservation Agency (ANCA) received a request from the South Australian Department of Environment and Natural Resources (DENR) to extend its existing kangaroo management program to 31 December 1995.

The ANCA received a preliminary draft of a kangaroo management program from the DENR. The draft management program is a substantial rewrite of the existing program and was the result of the work of a task force set up by the DENR to review kangaroo management in South Australia.

Examination of the preliminary draft by the ANCA indicated that some work still is required to meet the requirements of the Act. In addition, the DENR has to complete the formal process of endorsement of the proposal prior to its official submission to this agency. In order to allow sufficient time for revision, endorsement and public comment, DENR has requested that their current program be approved to operate for an additional 6 months to 31 December 1995.

I am attaching a copy of the current management program. In accordance with the provisions of section 9B. (2) of the Act, you are invited to comment on the proposal to extend the current program for an additional 6 months. As this proposal is simply a short extension of the existing approval upon which comments have previously been made, I would appreciate an early response on your views on this matter.

The proposed replacement program will be sent out for public comment as soon as the DENR has completed its revision and submitted it for approval.

Yours sincerely

C Maynes

for Gerry Maynes
Director
Population Assessment Unit

Australian Nature Conservation Agency

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An agency of the Federal Environment Portfolio

THE KANGAROO CONSERVATION AND MANAGEMENT PROGRAM IN SOUTH AUSTRALIA

PART A

MANAGEMENT OF THE LARGE KANGAROOS

Prepared by P. Alexander and L. Best

RESOURCE CONSERVATION AND MANAGEMENT DIVISION

Department of Environment and Natural Resources

(To Apply from 1 January 1994)

1. INTRODUCTION

The South Australian Department of Environment and Natural Reources is a manager and guardian of land, wildlife and sites of natural and historical significance throughout South Australia. The Department's policy on wildlife is where possible, to maintain viable populations of native wildlife both on its reserves which represent approximately 20% of the land area of South Australia and on land with other designated land uses. This policy is sympathetic to the three main objectives of living resource conservation accepted by "A National Conservation Strategy for Australia" in June 1983, namely:

a. to maintain essential ecological processes and life-support systems,

b. to preserve genetic diversity,

c. to ensure the sustainable utilisation of species and ecosystems.

The distribution and abundance of most species of native animals have been changed since European settlement of South Australia. The clearing and modification of native scrub, changes in water supply and the introduction of domestic and feral animals have had significant impact on the ecological balances of the environment. The Red Kangaroo, the Western Grey Kangaroo and the Euro are three species that appear to have benefited, in the main, from these changes over significant portions of their ranges. These modifications are not uniform across the State and consequently neither are their ecological impacts.

In the northern portion of the State, the 2,000 km dog fence and the provision of surface waters appear to be major contributing factors in improving the habitat for Red Kangaroos, and for Euros and Western Grey Kangaroos where their range extends into this area. The modification of native pastures as a result of consistent sheep grazing also appears to be a factor in improving the habitat for these species.

In the southern portion of the State improved pasture in and adjacent to extensive areas of native scrub and woodlands has benefited populations of the Western Grey Kangaroo in some areas. On the other hand intensive agriculture, improved dry-land farming techniques, extensive clearing of native vegetation and urban development appear to have had detrimental effects on the Western Grey Kangaroo through significant portions of its range.

Part A of the program, the Management of the Large Kangaroos, deals with the three most widespread and most numerous of the large kangaroo species: The Red Kangaroo (*Macropus rufus*), The Western Grey Kangaroo (*Macropus fuliginosus*), and the Euro, Wallaroo or Hill Kangaroo (*Macropus robustus*). It has been prepared to fulfil the requirements of the Commonwealth Wildlife Protection (Regulations of export and imports) Act 1982 and Regulations and to meet legislative and other requirements of the South Australian Government.

The management program necessarily emphasizes the conservation and management of kangaroos in the 28% of South Australia where commercial exploitation of these species is permitted. It does not seek to diminish the importance of ongoing development of adequate conservation and management efforts directed towards kangaroos in the other 62% of the State. It is recognised that in the 28% of the State where commercial exploitation is permitted, the overriding concerns are for sound ecological management of the semi-arid rangelands and marginal agricultural areas. This program strives to be an integral part of the overall effort towards the conservation of and sustainable use of these

areas.

Other species of the family Macropodidae that did, or still do, occur in South Australia are listed below. The management of these species is not dealt with in this program but the indicated (*) species are or have been subject to active management or research programs to assist with their conservation in South Australia.

* Kangaroo Island Grey Kangaroo - *Macropus fuliginosus fuliginosus*

Eastern Grey Kangaroo - *Macropus giganteus*

Red - necked Wallaby - *Macropus rufogriseus*

* Toolache Wallaby - *Macropus greyi*

* Yellow-footed Rock Wallaby - *Petrogale xanthopus*

* Brush-tailed Rock Wallaby - *Petrogale penicillata*

Cresent Nailtail Wallaby - *Onychogalea lunata*

* Tammar Wallaby - *Macropus eugenii*

Red-bellied Pademelon - *Thylogale billardierii*

* Desert Rat-kangaroo - *Caloprymnus campestris*

Rufous Hare-Wallaby - *Lagorchestes hirsutus*

Eastern Hare-wallaby - *Lagorchestes leporides*

* Brush-tailed Bettong - *Bettongia pencillata*

Burrowing Bettong - *Bettongia lesueur*

Long-nosed Potoroo - *Potorous tridactylus*

2. REVIEW OF THE STATUS OF THE KANGAROOS

2.1 RED KANGAROO (*Macropus rufus*)

In South Australia Red Kangaroos occur in almost a continuous distribution but with varying densities over all of the pastoral areas and a very large part of the arid interior (Fig.1). The southern limits of the Red Kangaroo's distribution overlaps with that of the Western Grey Kangaroo (*Macropus fuliginosus melanops*) but generally the two species tend to occupy quite different habitats.

Essentially the Red Kangaroo is a plains animal favouring the open but better watered country inside the official dingo proof fence used primarily by pastoralists for sheep grazing. Outside the dog fence densities of the Red Kangaroo tend to be much lower. A state wide survey by Caughley *et_al* (1983) demonstrated the difference to be about ten-fold.

The distribution of the Red Kangaroo covers habitat of two distinct categories (Fig 2):

a. Where the natural habitat is relatively unchanged;

   Red Kangaroos are more or less continuously distributed throughout this area at low average densities but favour the country used for cattle grazing over the more arid habitats.

b. Where the habitat has largely been altered as a result of land use:

   This area includes the major portion of the semi-arid sheep grazing areas of South Australia inside the official dog fence. Here the habitat changes associated with sheep grazing (i.e. closely spaced stock water, shrubland with ephemeral grasses, and the exclusion of the dingo) are presumed to favour the Red Kangaroo populations.

   The density of the Red Kangaroo population in the area covered by the semi-arid sheep grazing country has been the subject of extensive debate. It was the intensity of this debate that prompted the National Parks and Wildlife Service to place a priority on collecting sound population data on the Red Kangaroo.

   The killing of kangaroos under supervision of the National Parks and Wildlife Service or its predecessor, has operated continuously since 1966 covering climatic periods giving excellent environmental conditions during the mid 1970's and droughts during the 1960's, early 1970's and early 1980's.

   Aerial monitoring of kangaroo numbers from 1978 to the present has encompassed the last severe drought of 1982-83. The information obtained from monitoring the Red Kangaroo populations and number of animals killed indicates that not only is it a numerous animal in the sheep pastoral area of South Australia, but also, under the present environmental conditions and land use, it is secure as a species.

2.2 WESTERN GREY KANGAROO (*Macropus fuliginosus*)

The distribution of the Western Grey Kangaroo extends across the southern part of South Australia from the Western Australian border to the eastern extremity of the State [1]. This kangaroo species occurs widely through the southern agricultural area of the State and extends into the northern pastoral areas. Its distribution overlaps that of the Red Kangaroo in the areas north of the River Murray, southern Flinders Ranges and in the salt lakes country north of Eyre Peninsula (Fig 3). Indications are that the range of the Western Grey Kangaroo retracts southwards during periods of drought and extends northward in seasons of above average rainfall.

The Western Grey Kangaroo is basically a scrub and woodland dwelling animal that grazes on grass clearings in or on the edge of these areas. Some of the habitat of the Western Grey Kangaroo has been lost by modifications due to farming practices and European settlement.

The Western Grey Kangaroo has a distribution within three specific categories of habitat (Fig. 4).

a. Where land use has largely improved the habitat.

   The greater proportion of the distribution of this species comes within this category. Here the provision of stock watering points and associated grazing by stock has greatly improved habitat.

b. Where the habitat has been greatly modified but the provision of food has improved habitat in some areas.

   Some of this region has been completely lost to the species due to clearing for agricultural purposes, but there still remain areas of uncleared scrub and forests. The cleared land adjacent to these uncleared areas has provided an abundance of pasture. Parts of this region are subject to further clearing of native vegetation so that further loss of habitat is anticipated (Fig. 5).

c. Where the habitat has been adversely modified and is now largely unsuitable.

   This part of the range has been lost due to clearing of land for agricultural and industrial purposes as well as for urban and suburban development. Small populations still occur within this area, particularly within the Mount Lofty Ranges.

   Population counts for the Western Grey Kangaroo have been carried out in the northern extremes of its range within the sheep pastoral area. Over the whole of the area surveyed, the average density of the population appears to oscillate around 0.5 to 1.5 kangaroos per square kilometre. Regional variation in population density for this species is evident with densities of more than 6 per square kilometre being observed.

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1 The Kangaroo Island Grey Kangaroo (*Macropus fuliginosus fuliginosus*) is of the same species but it is given separate consideration in terms of management because of its sub-species status and its island habitat. Kangaroo Island falls within the Restricted Area (see Section 5.2) and the Kangaroo Island Kangaroo is managed within the parameters set down for that area.

In the southern portion of the range of the Western Grey Kangaroo reliable population counts are few. As a result of agriculture and intensive human settlement in this area, its distribution has become fragmented. Localized build ups in number occur in this area.

2.3 EURO OR HILL KANGAROO (*Macropus robustus*)

The Euro occurs where-ever suitable habitat exists over a wide but discontinuous area of South Australia. It is basically a hill-dwelling species but can also occur in the plains country. The most favoured habitat in South Australia is the rocky hill country of the Gawler and Flinders Ranges.

Figure 6 shows the range of the species in South Australia and the land use within that range. Again three categories of habitat can be discerned:

a. Where the natural habitat is relatively unchanged and where populations have been largely unaffected by man's activities.

   Populations of Euros are sparse throughout this area, but occur where-ever suitable habitat exists. This situation can be expected to continue into the foreseeable future.

b. Where the natural habitat has been largely improved by land use.

   This area includes a major proportion of the sheep pastoral areas of the State. The provision of stock watering points within the hill country has been of great benefit to the species. Sparse populations also occur on the plains in this area.

c. Where the habitat has been greatly modified and is now largely unsuitable for the species.

   Only a very small portion of the habitat of this species has been lost, and it is not considered that this area ever contributed significantly to the distribution of the species.

   The very nature of the species' preferred habitat is unlikely to attract widespread changes of land use.

3. AIMS AND OBJECTIVES FOR THE MANAGEMENT OF LARGE KANGAROOS

3.1 Aims for Management of Large Kangaroos

1. To maintain viable populations of the three species of kangaroo over their existing range;

2. To minimise the deleterious effects that high density populations of these three species of kangaroo can have upon other accepted land use priorities;

3. To be able to respond to changes in South Australia's physical or social environment in order that the conservation of each species is ensured.

3.2 Management objectives for Large Kangaroos:

OBJECTIVES RELATING TO AIM 1 :

i. Monitor population trends of each species to reveal the status of and detect any major changes in abundance of the species.

ii. Provide for the conservation of the three species on National Parks and Wildlife Service reserves in a manner that is compatible with other conservation objectives of the reserves on which they occur.

iii. Develop a set of guidelines that will provide for the conservation of the three species off the National Parks and Wildlife Service reserve system such that conflict with other accepted land-use practices is minimized.

iv. Review management strategies that deal with the various situations and environmental conditions that can occur through each species range.

v. Clearly identify population levels at which it is appropriate to apply different management strategies.

vi. Identify factors that are likely to cause significant changes in the abundance of a species.

vii. React quickly and appropriately to indications of a species undergoing a dramatic change in abundance.

viii. Maintain a suitable legislative basis to support the implementation of the Kangaroo Conservation and Management Program.

ix. Maintain an operational organization that is capable of carrying out the requirements of the Kangaroo Conservation and Management Program.

x. Maintain an administrative system that can administer the requirements of the National Parks and Wildlife Service Act and Regulations and enable the operational section to perform its duties.

xi. Collect information on the biology and ecology of each species and evaluate the significance of this information.

OBJECTIVES RELATING TO AIM_II

xii. Recognise where population levels of the three species are causing serious economic or environmental damage.

xiii. Where population levels are judged to be causing serious economic or environmental damage, make provisions to allow suitable population control measures to be implemented.

xiv. Regulate the taking of the three species of kangaroos by the commercial industry so that commercial harvesting is an effective management strategy to achieve objective (xiii).

OBJECTIVES RELATING TO AIM_III

xv. Review the appropriateness of current management strategies regularly.

xvi. When revising or developing management strategies, consult with all organisations and individuals with a legitimate interest in kangaroo conservation and kangaroo management.

xvii. Provide interpretational and educational information to the public.

4. DESCRIPTION OF MANAGEMENT MEASURES

4.1 LEGISLATION

All species of kangaroos in South Australia are protected animals under the National Parks and Wildlife Act 1972.

There is a penalty of up to $2,500 for taking a protected animal. This refers to hunting, killing, injuring, catching, restraining or attempting to do this. (Section 51 of the Act). Where more than one animal is involved, there is an additional penalty of up to $250 for each animal (Section 74).

Under Section 53(1) of the Act, permits may be issued for taking protected animals for the following purposes:

- For scientific research.
- For banding, marking or tagging and their subsequent release back to the wild.
- For the destruction of animals that are causing damage or likely to cause damage to the environment or to crops, stock and other property.
- For other purposes (other than for sale) that the Minister considers proper and not inconsistent with the objectives of the Act.

These permits are issued for periods up to 12 months. The Minister may at any time revoke a permit to take a protected animal.

A limit may be placed on the areas from which the protected animals may be taken and on the number of animals that may be taken.

Where a royalty is payable on the animals concerned (i.e. all kangaroos that enter the commercial trade) the Kangaroo Sealed Tag Regulations 1974-1976 must be adhered to. Unless a sealed tag is attached to a carcass, that carcass may not be removed from the property on which it was destroyed.

The sealed tag is a self locking plastic tag which must be attached to all Red Kangaroo, Western Grey Kangaroo and Euro carcasses that enter the commercial trade. The sealed tag was introduced to enable the National Parks and Wildlife Service to trace every kangaroo carcass that is removed from its place of destruction, in order that the property from which it was taken and the person who took the animal can be identified. The sealed tags indicate South Australia as the State of origin and are colour coded for distinction between the three species: orange for Red Kangaroos, white for Western Grey Kangaroos and blue for Euros. This enables the Service to determine whether any animal being utilized by the kangaroo industry was taken legally under a current permit to destroy.

4.2 LOGISTICS

The State is divided into two major management areas for the management of the large species of kangaroo. The Commercial Utilization Area and the Restricted Area (Fig.7). In addition there is the National Parks and Wildlife Service reserves system which forms another distinct management unit.

4.2.1 THE COMMERCIAL UTILIZATION AREA

An area of 282,300 km^2 where sheep grazing is the dominant land use is classified as the Commercial Utilization Area (CUA). In this area kangaroo populations reach densities that apparently compete with the sheep grazing industry for fodder and water on a consistent basis. Kangaroos also cause significant damage to the Dog Fence that bounds the northern edge of the area. The carcasses of kangaroos killed under a Section 53 permit in this area may be taken under the Kangaroo Sealed Tag Regulations and the skins and meat used for commercial gain (refer to Section 4).

The CUA is divided into 11 Kangaroo Management Zones (KMZs), based on biophysical characteristics (Fig.7). Each KMZ is an independent management unit within which kangaroo populations are monitored, and management strategies are determined for each species in each zone on an annual basis.

4.2.2 COMMERCIAL QUOTA

The Commercial Quota is the maximum number of individuals of a designated species of kangaroo that may enter the commercial trade during a specific calendar year after having been taken in accordance to this management program.

To calculate the Commercial Quota, a tracking strategy, based upon 11 Kangaroo Management Zones is used. As no cyclicity is apparent in climatic conditions, pastoral conditions or kangaroo densities, the "Commercial Quota" is set as a best estimate of the maximum number of kangaroos of each species that is likely to be required to contain deleterious effects on stock, crops or property without jeopardising the viability of populations under average conditions. The release of the Commercial Quota takes place as judged appropriate during the calendar year to which it applies.

Management strategies are developed for each Kangaroo Management Zone independently for each species. Release of the quota and its application on a property basis is also based on other information collected in the field, such as: breeding success; size classes; the extent of clumping; and the observed variation in kangaroo densities between properties.

These quota allocations are designed to give flexibility to field staff to react realistically to -

a) a stable population level in the calendar year to which the Management Program applies

b) a moderately increasing population level in the calendar year to which the Management Program applies

or

c) severe drought pressure drawing numbers of kangaroos in on limited resources in the calendar year to which the Management Program applies.

The annual commercial quotas are presented to the South Australian Minister for Environment and Natural Resources, for approval. It is then forwarded to the Commonwealth Minister for the Environment for consideration and approval to permit export of products arising from animals taken subject to this management program.

4.2.3 CALCULATING THE QUOTA

The following key points form the basis of setting quotas:

1. In Kangaroo Management Zones where kangaroo densities are consistently high management of culling efforts are related to mean kangaroo density as recorded from data collected from all years of aerial survey. In these zones, a "moderate" kangaroo density is considered to be any density falling within one standard deviation of the mean of the densities of all years for each zone. A "low" density is considered to be anything below one standard deviation less than the mean for all years. A "high" density is any density more than one standard deviation above the mean for all years for each particular Kangaroo Management Zone.

2. If average kangaroo densities are "moderate" for a Kangaroo Management Zone and rainfall history for the zone is "good" (average to 50 mm above average) to "very good" (greater than 50 mm above average) in the years leading upto the year the quota is to apply to, then the quota allocated to a zone will be set at 17%-20% of the estimated population for the zone for Red Kangaroos or 13%-15% for Western Grey Kangaroos.

   If average kangaroo densities are "high" for a Kangaroo Management Zone and the rainfall history for the zone is "good" to "very good" a quota allocation of greater than 20% for Red Kangaroos and 15% for Grey Kangaroos will be considered.

   Greatest emphasis is placed on the rainfall records for the two year period leading up to the year for which the quota is being set.

3. If average kangaroo densities are low for a Kangaroo Management Zone and/or rainfall history within the past 2 years has been "moderate" (greater than 50mm below average) or "poor" (less than 50mm below average),then the recommended quota is set at a level below 18% for reds or 13% for greys. The quota percentage depends on the perceived severity of the situation.The percentage quota may vary from 0% to 17% or 0%-12% respectfully.

4. In Kangaroo Management Zones where the average density is below 1 per square kilometre for a species there is no quota allocated unless there are some extenuating circumstances that may warrant the application of permits.

5. Management of Euros is based on the knowledge that they are numerous throughout suitable habitat within the C.U.A. and place considerable pressure on watering points and probably on grazing resources during hotter times of the year. The basis for the current Euro estimates is an estimate of an average density of 5 Euros/sq km over 67,000 sq km of favorable habitat within the C.U.A. This equates to a minimum population of 335,000 Euros in the CUA.

4.2.4 Strategies for the release of the Commercial Quota

The quota is released in stages so that management can respond to changes in kangaroo populations and climatic conditions throughout the year.

Management strategies are monitored against changes in the population density of kangaroos using the aerial census data obtained in August of each year and the ground survey data collected between May and October each year. During years where the climatic conditions and/or kangaroo populations appear to alter dramatically within the twelve month period between population censuses, widespread surveys (either ground or aerial) within KMZs are used to reassess the density and the management strategy.

Regular monitoring through ground surveys and property inspections enable field staff to fine tune the release of quota on a property basis.

In closely settled areas where property sizes are less than 100 square kilometers and land use incorporates farming practices, destruction permits are issued to incorporate a number of properties in one block (usually equivalent to district council areas) and a single permit is issued to that block.

4.3 THE RESTRICTED AREA

The Restricted Area consists of two parts (Fig. 7).

a. Mostly north of the CUA in the dominantly cattle grazing area of the State.

b. South of the CUA in the cropping-improved pasture area of the State.

In the Northern Restricted Area the Red Kangaroo occurs in low average densities but can cause localised problems where animals concentrate upon stock waters. In the Southern Restricted Area the Western Grey Kangaroo is present in a disjointed distribution that relates to the amount of country present with a cover of native vegetation. Here, Western Grey Kangaroos can have localised increases in population density that can and do cause damage to crops, pasture and fences. The Euro occurs in scattered populations through both these areas.

4.3.1 Population Monitoring

Kangaroo populations are monitored within the Restricted Area on a less regular and generally more localised basis than within the Commercial Utilization Area.

4.3.2. Management Strategies

In the Restricted Area a property owner can apply for a non-commercial destruction permit to destroy an approved number of kangaroos to alleviate the damage they are causing or likely to cause. A property owner may purchase up to 10 sealed tags per year to allow the personal use of 10 animals destroyed under a non-commercial permit. All other carcasses and skins must remain on the property.

The number of kangaroos approved per permit is generally less than fifty animals. In exceptional circumstances the property or his nominee may purchase sealed tags to allow the use of skins only.

4.4 NATIONAL PARKS AND WILDLIFE SERVICE RESERVES

The State has approximately seventeen million hectares of land reserved for conservation management, dedicated as National Parks, Recreation Parks, Game Reserves or Regional Reserves.

4.4.1 Population Monitoring

Selected reserves within the CUA are surveyed annually by the ground survey method to count Red Kangaroos, Western Grey Kangaroos and Euros. Reserves within the Flinders Ranges are excluded from the annual aerial survey because of rugged topography (one third of the total reserved area within the CUA), but reserves on the plains country are included in the annual aerial survey.

Kangaroos living in reserves in the Restricted Area are monitored by ground survey and/or property inspection in the course of Rangers' general duties.

4.4.2. Management Strategies

The National Parks and Wildlife Act 1972, has as its main purposes the establishment and management of reserves for public benefit and enjoyment, and the conservation of wildlife in a natural environment. The Act specifies that the preservation and management of wildlife is an objective of the Service. In relation to kangaroo species, the major management strategy adopted to achieve this objective is: manipulation of populations of kangaroos on reserves will not occur unless proposals to do so are supported by sound data which indicates that either, kangaroos are so numerous they are threatening the ecological integrity of the reserve or that the kangaroos' survival upon the reserve is itself threatened.

4.5 ADMINISTRATION

4.5.1 ADMINISTRATION OF KANGAROO MANAGEMENT IN THE COMMERCIAL UTILIZATION AREA

A summary of the administrative processes appears as Fig. 9.

4.5.1.1 Kangaroo sealed tags and permits

On 1 August 1974, the Kangaroo Sealed Tag Regulations came into force, thereby implementing the recommendation of the Ministerial Working Party on Kangaroo Conservation.

Under the provisions of the Kangaroo Sealed Tag Regulations, it is an offence to remove from a property the carcass or skin of any animal taken in pursuance of a permit granted under Section 53 of the Act, unless it has an official sealed tag, current for that permit and property, attached to the carcass or skin in the approved manner.

4.5.1.2 Property owners

Property owners who consider that kangaroos are causing or are likely to cause damage to crops, stock or other property may apply in writing to the Director of National Parks and Wildlife Service for a permit to take kangaroos (Fig.10). The application for a permit has a nomination form attached. This form must be

completed by the property owner if the kangaroos taken on his property are to be used for commercial purposes. The property owner nominates which of the registered processing firms may harvest the animals. Only one firm will be permitted to operate at any one time on each property. The nomination form must be returned to the National Parks and Wildlife Service with the permit application. An owner may charge the processor for his nomination if he wishes.

If a property owner does not wish to utilise the kangaroos causing damage to his property, tags will not be required, but it is an offence to remove any of the products of untagged kangaroos from the property.

In situations where a commercial take is a usual feature of kangaroo management for an area , where property sizes in that area are less than 100 square kilometers and where farming practices of cropping and improved pastures are a feature, a number of properties are grouped together in a unit usually defined by a district council boundary and are treated under a single destruction permit. The destruction permit is held by the kangaroo processor that services that area and access to individual properties is controlled through wriiten permission that must be obtained from landholders before a shooter can operate on a given property.

4.5.1.3 Kangaroo Shooters

Kangaroo shooters are registered with the National Parks and Wildlife Service. A shooter may have a restricted permit to shoot on one specific property or a general permit to shoot in any part of the State for which a commercial permit is valid. Shooters receive tags from the processor and are required to affix an appropriately numbered and coloured tag to each carcass in the manner set out in the Kangaroo Sealed Tag Regulations. Shooters furnish quarterly returns (Fig. 11).

4.5.1.4 Processors

All firms processing kangaroo meat or skins must possess a permit to Keep and Sell Protected Animals (Carcasses and Skins). Processors approved to utilise kangaroo carcasses in South Australia are required to satisfy the South Australian Health authorities as to their work's cleanliness and suitability.

No tags may be used on any property unless the property owner has nominated a processor to take protected animals and the processor has forwarded the completed nomination form to the National Parks and Wildlife Service. Each processor must submit a monthly return to the Service (Fig. 12). Processor returns are used to monitor the take of each species and ensure that quota allocations are not exceeded.

4.5.1.5 Skin Tag Policy

Where kangaroos are taken for commercial purposes, processors are generally expected to utilise the carcass and the skin. However, where properties are located in an area in which processors cannot utilise the carcasses for logistical reasons or where population levels or climatic conditions are such that it is not feasible to utilise the carcass, the issue of tags to allow the utilisation of skins only may be permitted.

4.5.2 ADMINISTRATION OF KANGAROO MANAGEMENT IN THE RESTRICTED AREA

Any area of the State outside of the Commercial Utilization Area is considered to be a Restricted Area.

If a property owner in a restricted area considers that kangaroos are causing damage on his property, he submits an application for a destruction permit to the District Ranger. The application is checked and, in critical areas, the property is inspected. Where permits are issued it is for a maximum period of twelve months and expire at the end of December. A property owner is required to submit a return to the National Parks and Wildlife Service within 14 days of the expiry of his permit. A summary of the administration of Kangaroo Destruction Permits in the Restricted Area appears as Fig. 13.

4.6 MOVEMENT OF KANGAROO PRODUCTS

4.6.1 Entry into South Australia

The entry of kangaroo products (meat, carcasses, skins) into South Australia is monitored in three ways depending upon the intended use of the products.

All unprocessed kangaroo products entering South Australia require a permit under the National Parks and Wildlife Act 1972. This permit will not be issued until the applicant has established that the kangaroo products were obtained from kangaroos acquired from a legal source. Permits will be valid for multiple shipments of up to declared maximum amount for a maximum period of three months. The trader is required to advise the National Parks and Wildlife Service at least 48 hours before a consignment enters South Australia, and to provide monthly summaries of the amount of product imported.

Kangaroo meat entering into South Australia in appropriately labelled packages of 2kg or less with the total consignment less than 100kg per month will be considered a processed article and will not require a permit. Kangaroo meat entering in packages greater than 2kg weight or where the total consignments exceed 100kg per month will require a permit.

Kangaroo meat or carcasses entering for use as pets meat must also be accompanied by a certificate stating source of origin and destination. A duplicate copy must be lodged with the Meat Hygiene Authority, Department of Agriculture. Kangaroo meat or carcasses entering for human consumption use must also comply with standards set by the South Australian Health Commission.

4.6.2 Interstate movement -

If it is required to deliver kangaroo meat or carcasses interstate, a permit will be granted to a registered processor providing the kangaroos are legally acquired. The trader will then have to obtain permission for entry of the product from the state receiving the goods.

4.6.3 International movement -

The export of kangaroo products from Australia is permitted only for products obtained under an approved management program and is subject to approval under the Wildlife Protection (Regulation of Exports and Imports) Act 1982 administered by the Australian National Parks and Wildlife Service.

4.7 MONITORING AND ASSESSMENT

4.7.1 DIRECT MONITORING

Population densities and changes in densities (trends) within the CUA are monitored on a broad scale basis by use of aerial survey in August each year (The transects flown are shown in Fig. 8).

Ground surveys and/or aerial surveys of kangaroo numbers are used to assess specific situations and reveal property variations within Kangaroo Management Zones. The ground surveys are carried out either by vehicle or on foot and the densities obtained are not adjusted by use of correction factors.

Property inspections are used to evaluate specific problems and maintain operational familiarity with local trends in kangaroo populations.

The size make-up of kangaroo populations is monitored during ground surveys but further research is neccessary before this information can be used in making management decisions.

4.7.2 INDIRECT MONITORING

The returns furnished by licensed shooters give details on catch per night, sex ratio and average weight of carcass by sex for the animals shot of each species. This information is consolidated on a property and Kangaroo Management Zone basis and is used as background information when releasing the quota. As yet there is no accepted methodology for using this information in population management of Red Kangaroos, Western Grey Kangaroos or Euros. The appropriate use of this information is an area of ongoing research.

4.8 LAW ENFORCEMENT

The National Parks and Wildlife Service Act and Regulations are enforced by Wardens under the National Parks and Wildlife Act and the South Australian Police.

Enforcements takes two basic forms:

i. National Parks and Wildlife Service field staff carry out routine inspections in areas where kangaroos are permitted to be killed. In the Commercial Utilization Area routine checks of kangaroo shooters' records, chillers and overall operations and kangaroo processors' works are carried out to ensure that the Act and Regulations are being adhered to.

ii. Field staff and specialized Law Enforcement staff of the National Parks and Wildlife Service and the South Australian Police maintain surveillance to detect illegal killing and illegal trading in kangaroo products.

5. ANIMAL WELFARE

The prime concern of the National Parks and Wildlife Service is the conservation of viable populations of native animals across their range. Overall population dynamics are influenced by the number of animals killed and not by the method of killing. However, where population control is necessary, the National Parks and Wildlife Service encourages maintenance of the highest standards of humanity possible in the method of killing animals. The killing of kangaroos is encouraged to be carried out under the guidance of the "Code of Practice for the Humane Shooting of Kangaroos, 1985."

All acts of cruelty can be prosecuted under the Prevention of Cruelty to Animals Act 1985. This Act is policed by Inspectors under that Act. While the policing of that Act is primarily the responsibility of the Royal Society for Prevention of Cruelty to Animals, and the South Australian Police, there is a good deal of interchange of information between the National Parks and Wildlife Service and the R.S.P.C.A. Some of the Wardens under the National Parks and Wildlife Act are Honorary Inspectors under the Prevention of Cruelty to Animals Act 1985.

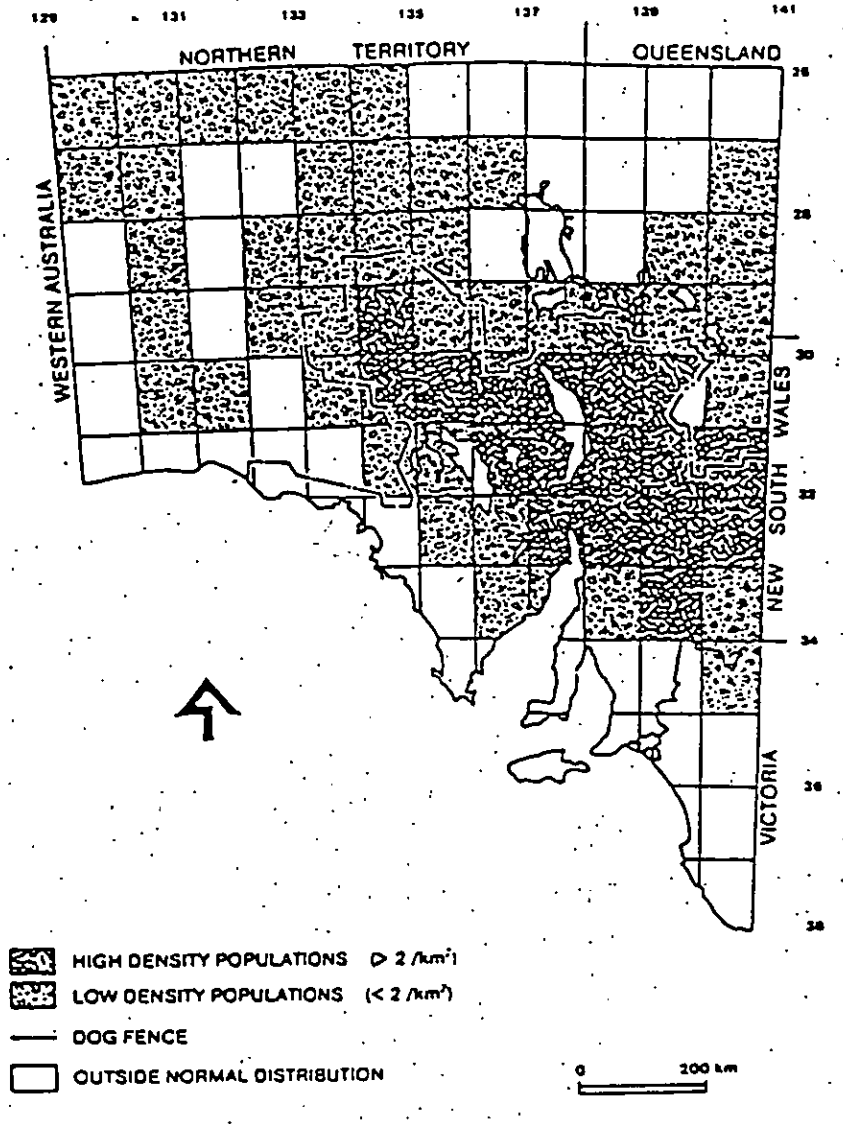


Figure 1

DISTRIBUTION OF RED KANGAROOS IN SOUTH AUSTRALIA

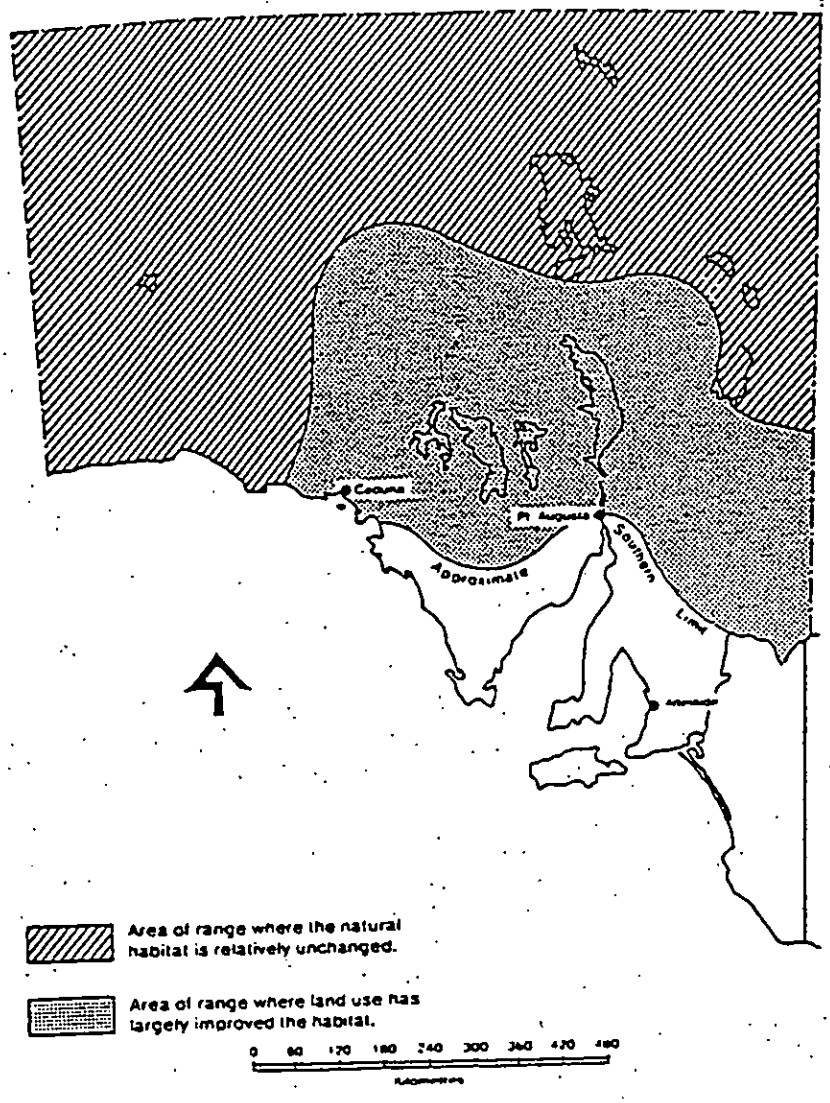


Figure 2

HABITAT MODIFICATION AFFECTING THE RED KANGAROOS

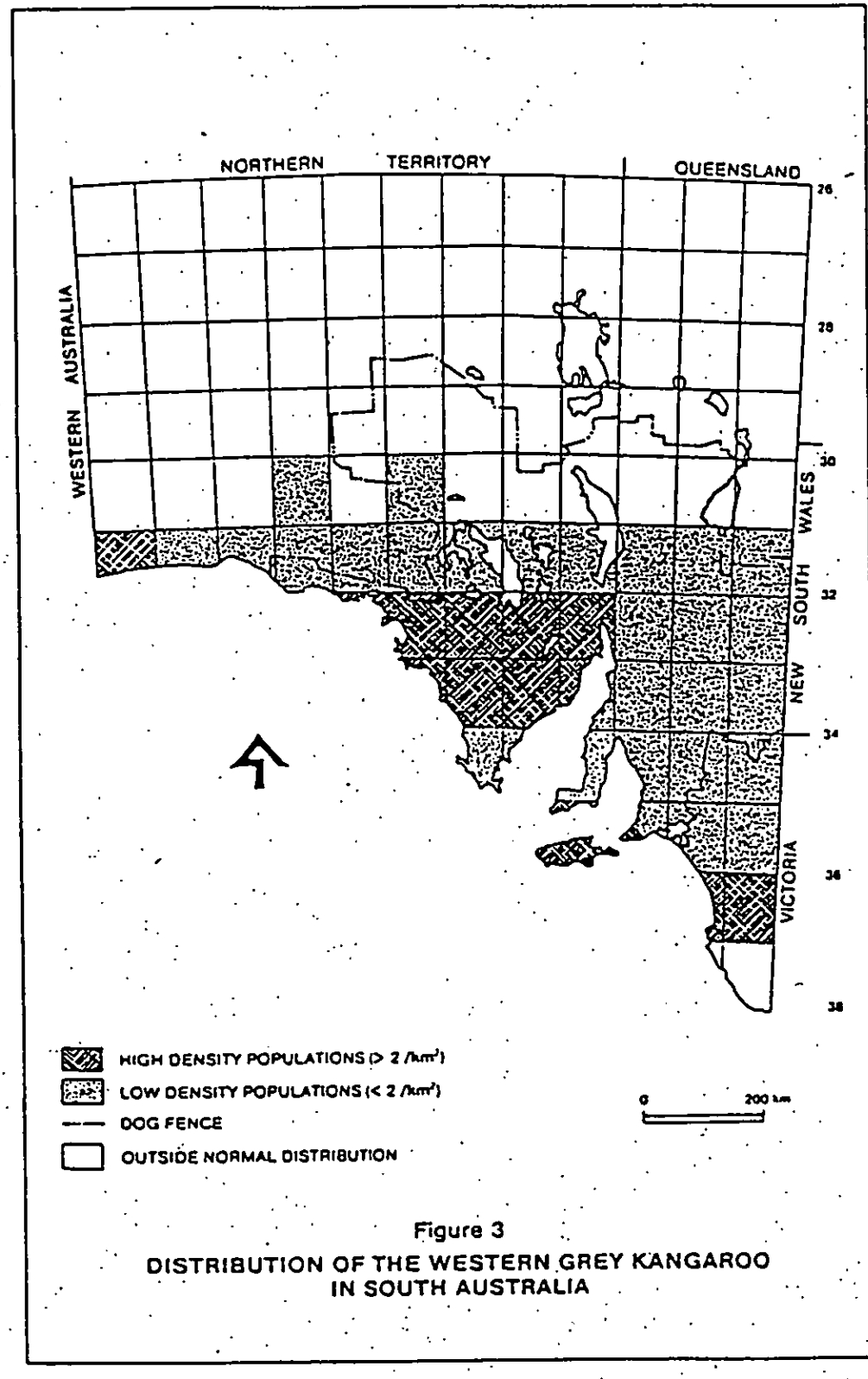


Figure 3

DISTRIBUTION OF THE WESTERN GREY KANGAROO IN SOUTH AUSTRALIA

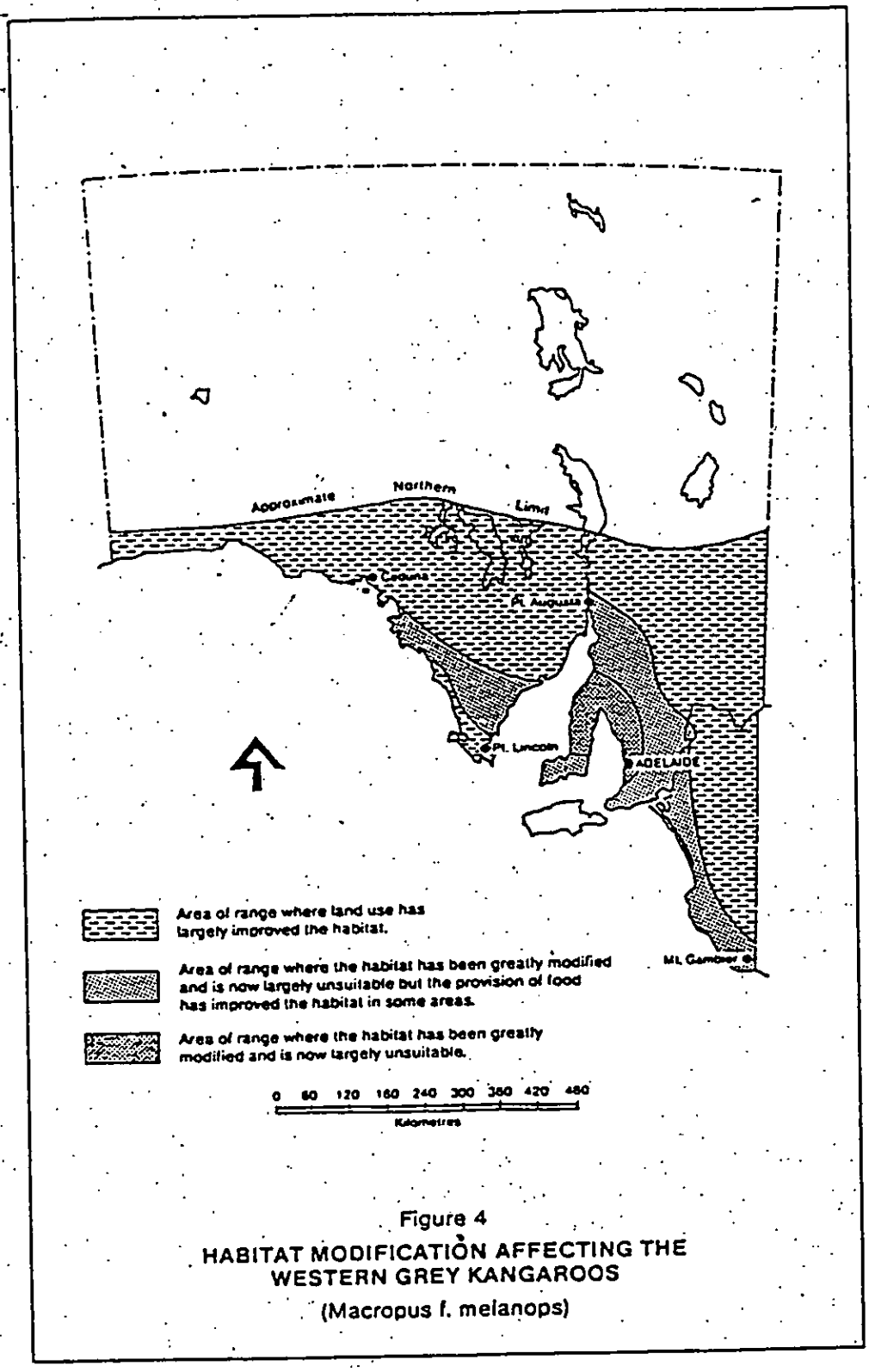


Figure 4

HABITAT MODIFICATION AFFECTING THE WESTERN GREY KANGAROOS

(Macropus f. melanops)

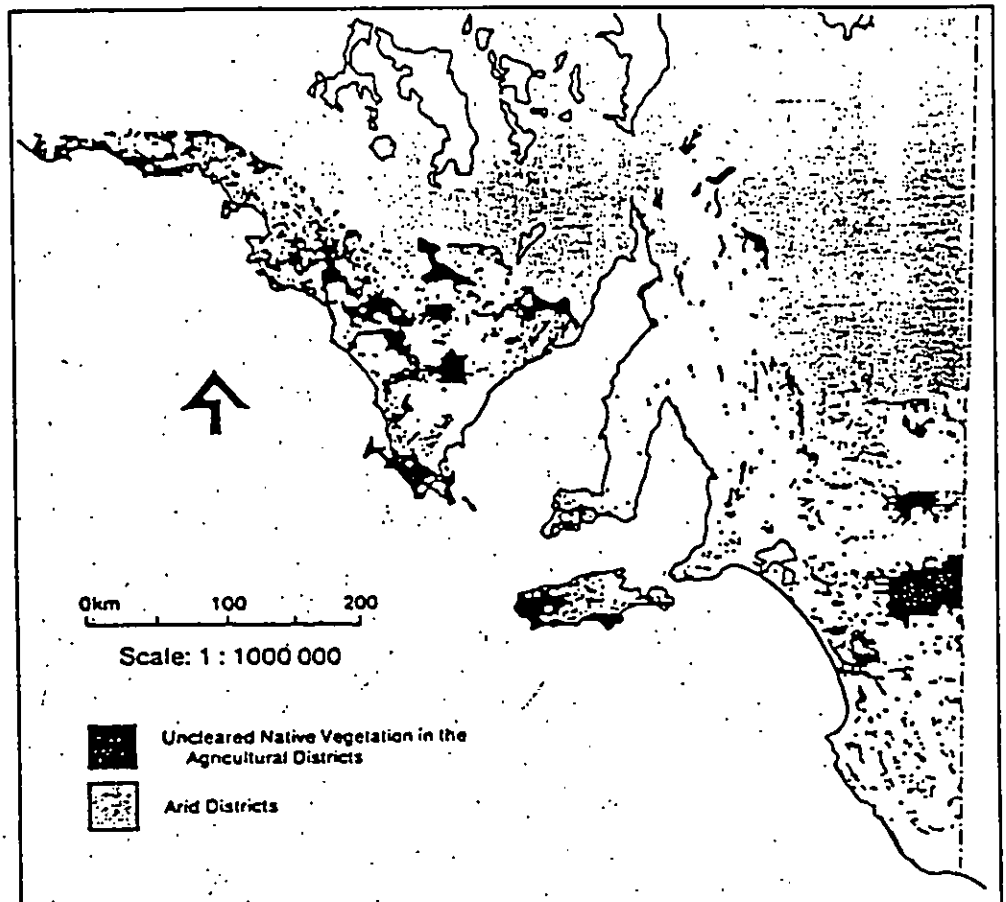


Figure 5

REMAINING NATIVE VEGETATION (>100 HECTARE) BLOCKS IN THE AGRICULTURAL REGIONS OF SOUTH AUSTRALIA, JUNE, 1980

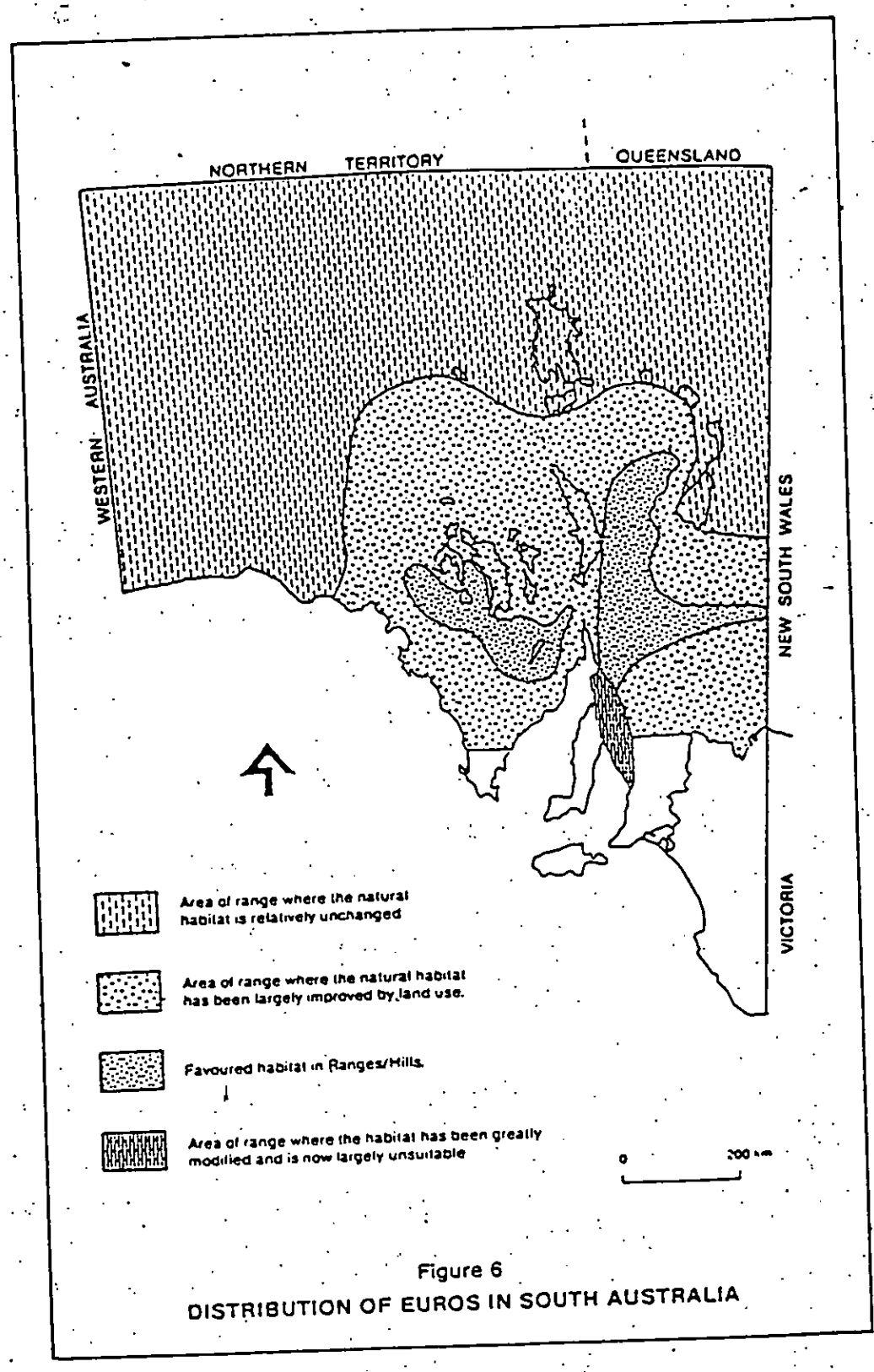
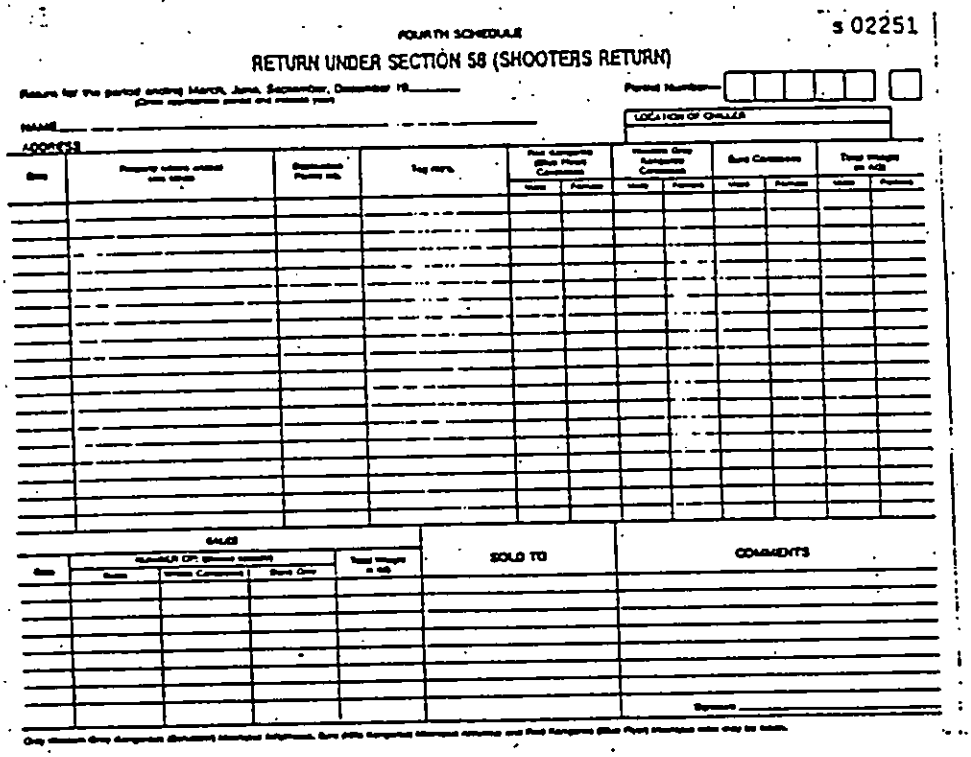


Figure 6
DISTRIBUTION OF EUROS IN SOUTH AUSTRALIA

FIGURE 11



FOURTH SCHEDULE

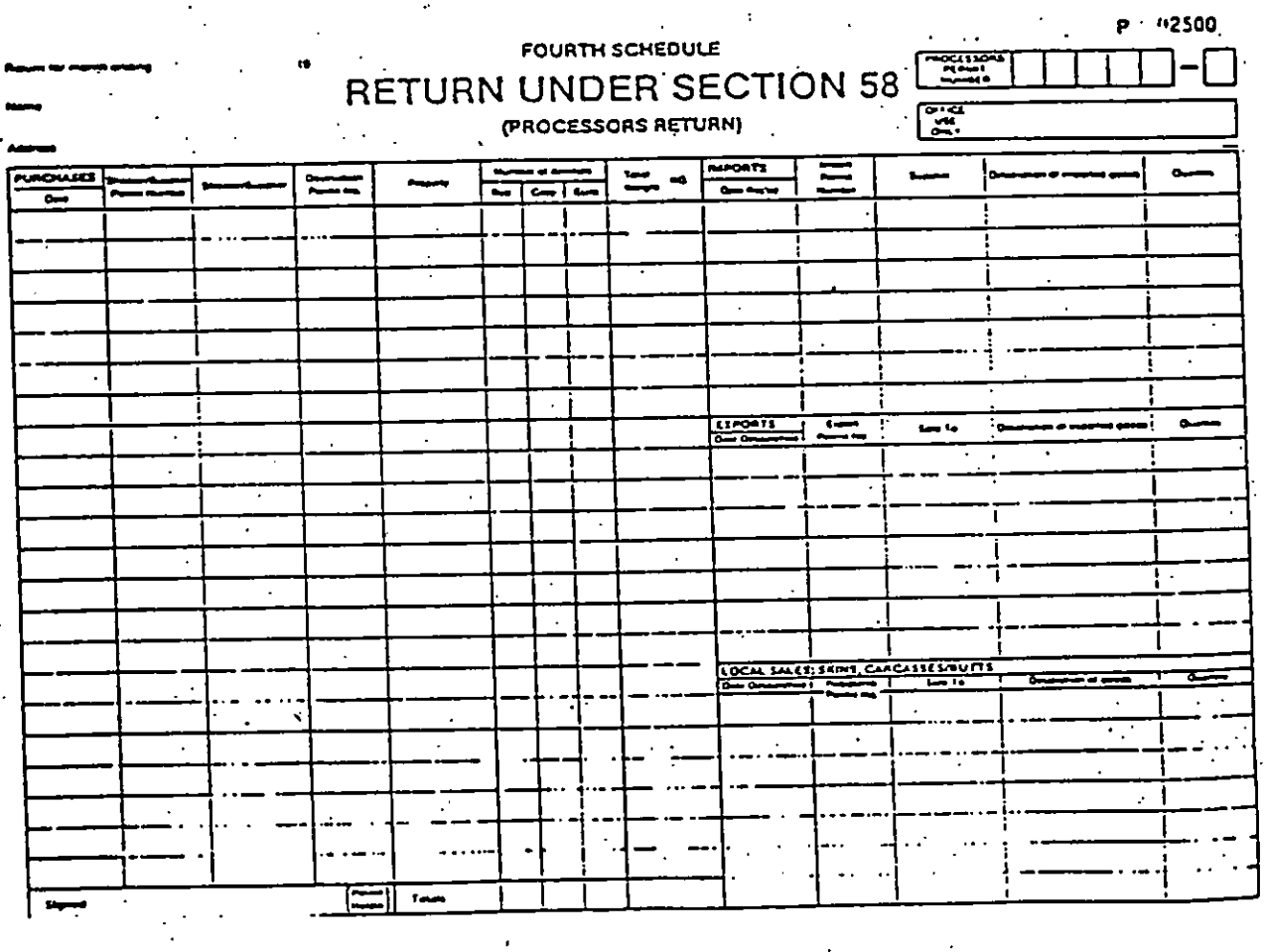
S 02251

RETURN UNDER SECTION 58 (SHOOTERS RETURN)

SOLD TO

COMMENTS

FIGURE 12



P 02500

FOURTH SCHEDULE

RETURN UNDER SECTION 58

(PROCESSORS RETURN)

PURCHASES

IMPORTS

EXPORTS

LOCAL SALES: SKINS, CARCASSES/BUTTS

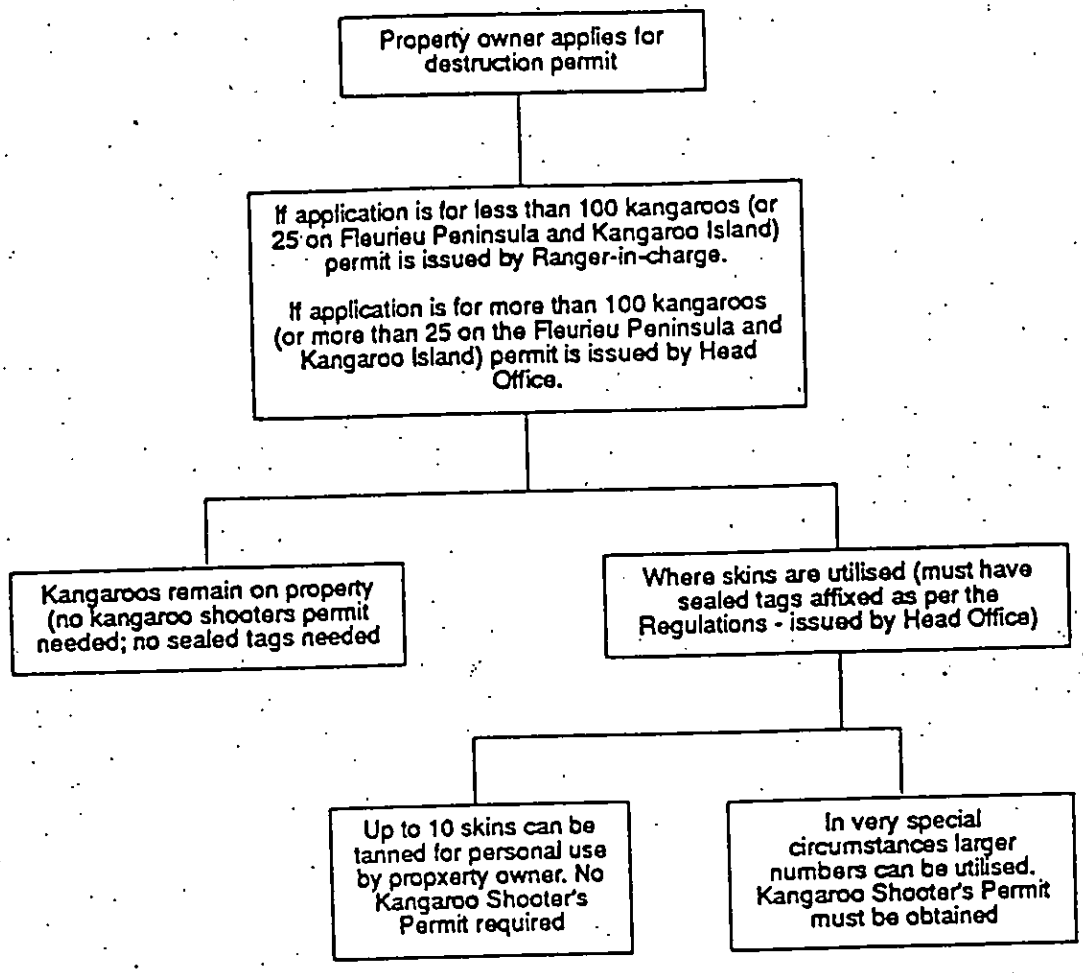
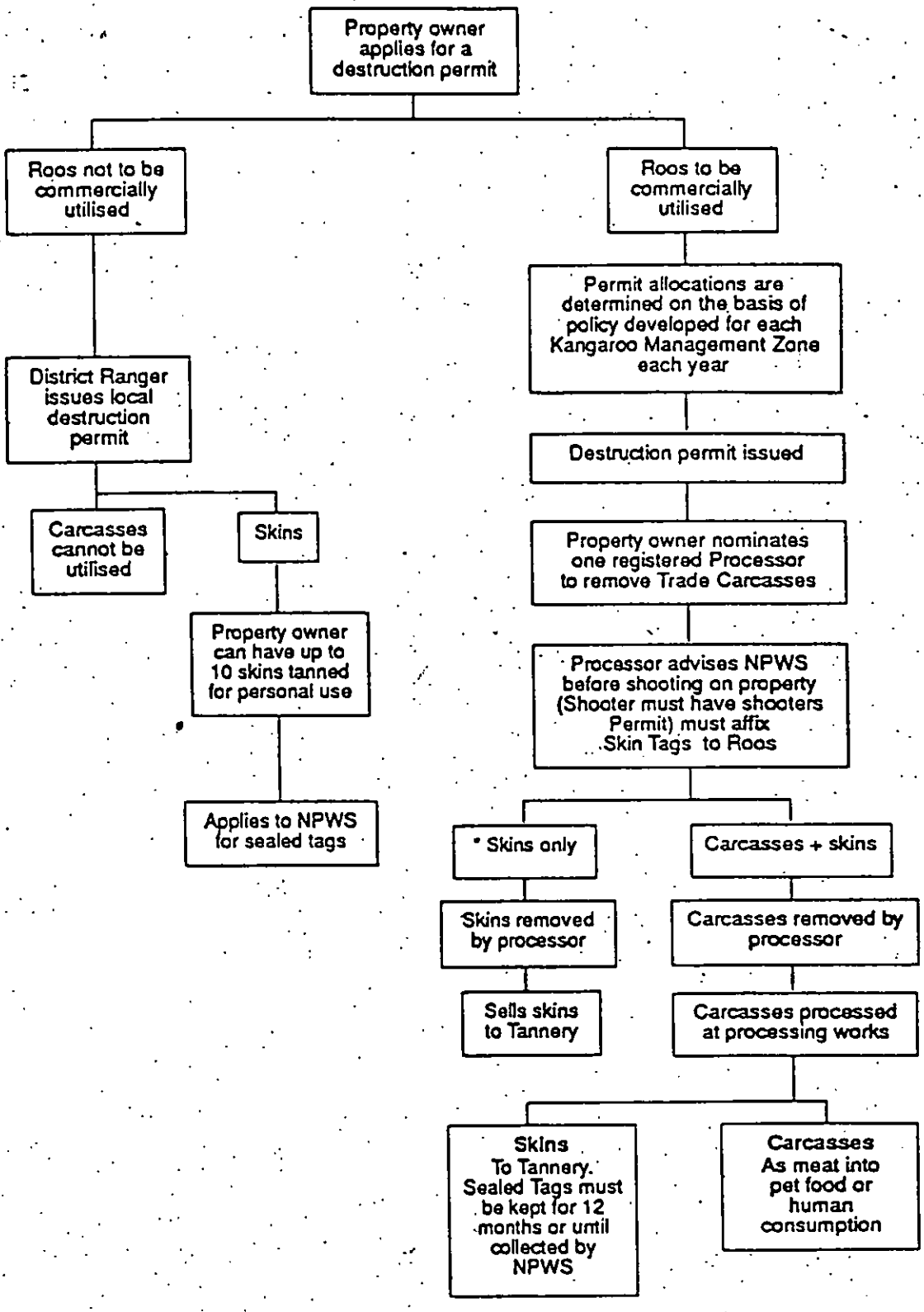


Figure 13
ADMINISTRATION OF KANGAROO DESTRUCTION PERMITS IN THE RESTRICTED AREA



* Not normally permitted. Only permitted on Eyre Peninsula and in some remote areas where there is difficulty in acquiring services of processor.

Figure 9
ADMINISTRATION IN THE COMMERCIAL UTILIZATION AREA OF SOUTH AUSTRALIA

NATIONAL PARKS AND WILDLIFE SERVICE

(A Division of the Department of Environment and Planning)

9th Floor, 55 Grenfell Street, Adelaide 5000. Telephone (08) 216 7777

APPLICATION FOR A DESTRUCTION PERMIT

Name _____ Surname _____

Address _____ Postcode _____

Property Name _____

hereby apply for a permit to take protected animals under the provisions of section 53(1)(r) of the National Parks and Wildlife Act, 1972-1981.

WHEN ANSWERING THE FOLLOWING QUESTIONS PLEASE USE BLOCK LETTERS

1. What species is to be destroyed? _____
2. How many animals do you wish to destroy? _____
3. What is your estimate of the numbers of animals on your property? _____
4. What is the nature of damage being caused by these animals? _____
5. Where is your property? _____
   Property size (in hectares) _____
   Please mark in approximate location on the map which appears on the reverse.
6. What percentage of your property remains uncleared? _____
7. Have you ever held a permit issued by this Department to destroy pest protected animals? YES/NO
8. Who will be destroying these animals should a permit be issued?
   Please indicate names and addresses.

Name _____ Address _____

Date _____ Signature of Applicant

This portion is only to be completed where the commercial use of carcasses and skins is proposed, and returned along with the above application to the National Parks and Wildlife Service.

NOMINATION FORM
AUTHORITY TO REMOVE KANGAROO CARCASSES OR SKINS

I, _____ First Name _____ Surname _____

of _____ Postal Address _____

Property Name _____

hereby authorise the following registered processor

Name _____

Address _____

to take and remove from the property named above the carcasses and skins of any kangaroo for which a permit to destroy is issued under section 53(1)(r) of the National Parks and Wildlife Act, 1972-1981.

The above authority shall be cancelled where seven days notice is given to the Director of National Parks and Wildlife and the nominated farm.

Date _____ Signature of Applicant

Figure 10

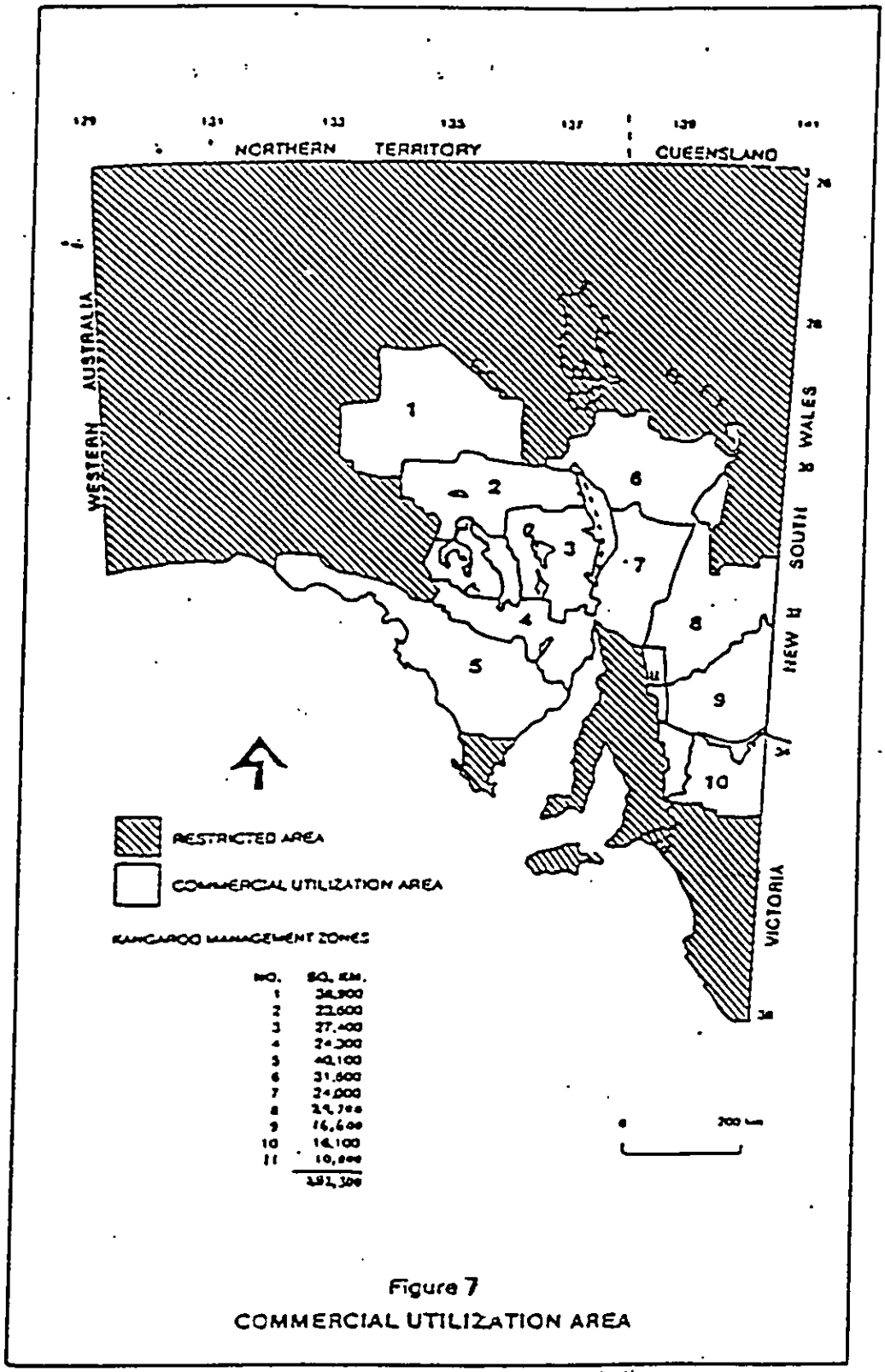


Figure 7
COMMERCIAL UTILIZATION AREA

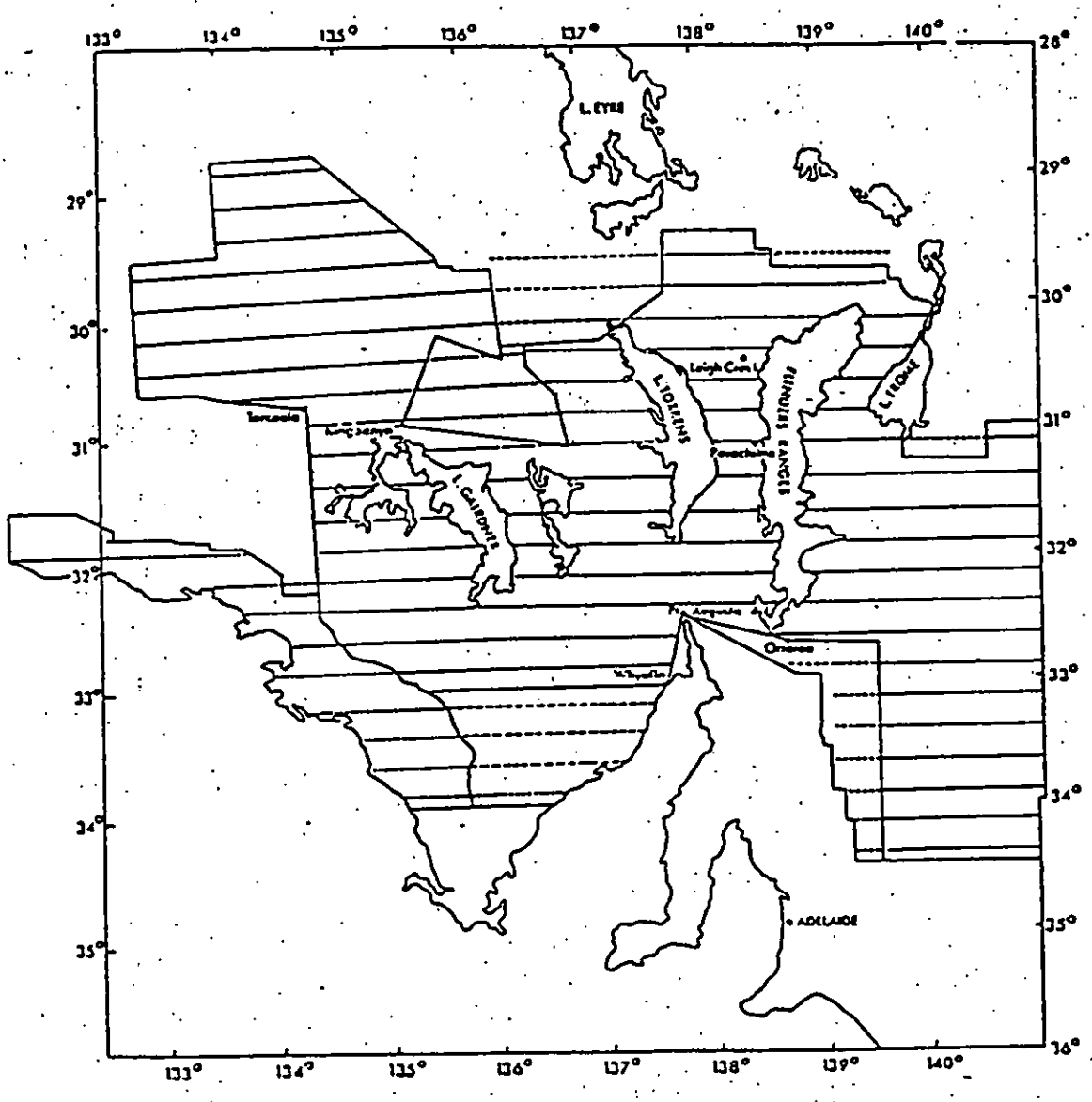


Figure 8.

TRANSECTS (Flignt Lines) FOR AERIAL KANGAROO COUNTS

Solid lines show transects flown annually since 1978. Broken lines show extra transects flown in some years.

Ref: 290/1/20

13 December 1994

North Coast Environment Council Inc
C/-J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing a copy of the document, *The Short-tailed Shearwater Management Program In Tasmania* which was submitted to this Agency by the Tasmanian Parks and Wildlife Service.

Consideration is being given to declaration of these management programs under section 10 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on these proposals. Please submit your comments within one month.

Yours sincerely

for Tom Aldred
Deputy Director
Population Assessment Unit

Australian Nature Conservation Agency

Canberra Office
GPO Box 636
Canberra ACT 2601
Ph (06) 250 0200
Fax (06) 250 0399

THE SHORT-TAILED SHEARWATER

MANAGEMENT PROGRAM

IN TASMANIA

To apply from 1 January 1995 to 31 December 1996

PARKS AND WILDLIFE SERVICE
Department of Environment and Land Management

INTRODUCTION

1. The short-tailed shearwater *Puffinus tenuirostris* (Temminck, 1835) commonly known as the Tasmanian muttonbird, is the most abundant of the eleven seabirds in the order Procellariiformes that breed in Australia.

2. Before European contact, Aborigines in Tasmania harvested small numbers of short-tailed shearwaters from colonies on islands in southwest and northwest Tasmania. Following the discovery of the large seal colonies in Bass Strait in the late 1790s, exploitation of shearwaters, or muttonbirding as it has become known, was commenced by sealers for financial gain. The industry initiated by them has continued to the present day with commercial harvesting of chicks presently occurring in the Furneaux Group in eastern Bass Strait and in the Hunter Group in western Bass Strait. Non-commercial harvesting developed alongside the industry, particularly since the 1950s. Commercial operators sell the meat for human consumption, and feathers and oil for commercial use, while non-commercial hunters are allowed to take chicks for personal consumption only.

3. Under Section 6 of the Tasmanian *National Parks and Wildlife Act 1970* the Director is responsible for the effective enforcement of wildlife regulations to protect native wildlife, the identification, reservation and management of land for conservation purposes, the carrying out of research to promote conservation of the fauna and flora of the state, and the dissemination of information and educational material to promote their conservation.

4. This management program for the short-tailed shearwater *Puffinus tenuirostris* has been developed to detail the legislative requirements of the Tasmanian Government as well as fulfil the requirements of the Commonwealth *Wildlife Protection (Regulations of Exports and Imports) Act 1982*, and its regulations. It has been endorsed by the Tasmanian State Government Minister for Environment and Land Management who is responsible for wildlife conservation in Tasmania.

5. The Program has been prepared by the Parks and Wildlife Service Division within the Tasmanian Department of Environment and Land Management (DELM) which is the State management authority and is submitted for approval under Section 10 of the Commonwealth *Wildlife Protection (Regulations of Exports and Imports) Act 1982*.

6. This document supersedes all previous short-tailed shearwater management programs for Tasmania, and will apply for the period 1 January 1995 to 31 December 1996.

AIMS AND OBJECTIVES OF MANAGEMENT

7. The aims of this management program for short-tailed shearwaters in Tasmania are:

   (a) to conserve the existing populations over the present range of colonies; and

   (b) to allow harvesting of muttonbirds on specific colonies at safe harvest levels.

8. , Objectives for furthering these aims are to:

(a) establish a monitoring regime to provide information on —

- distribution, population numbers, and trends;
- any changes in land use (particularly on islands) likely to impact on shearwater conservation;
- non-harvesting mortality and its impact; and
- commercial and non-commercial harvesting and their impacts;

(b) identify and provide relevant protection to selected colonies under the Act;

(c) periodically review the level of protection provided to breeding colonies;

(d) identify and review the effects of any significant changes in the distribution and abundance of shearwaters;

(e) identify safe annual harvest limits for the harvested colonies;

(f) conduct research on the population biology of short-tailed shearwaters relevant to their management;

(g) develop conservation management models using harvesting, population biology and census data, and any other relevant parameters;

(h) maintain sufficient resources to administer the regulations, law enforcement and research;

(i) promote humane harvesting of short-tailed shearwaters by both commercial and non-commercial harvesters through education and communication with them;

(j) provide public accountability of the program through reporting media publicity, development of interpretation material, and encouraging community awareness of the life of short-tailed shearwaters; and

(k) implement, as required, changes to legislation, harvesting guidelines, licences and educational material for the management of short-tailed shearwaters

MANAGEMENT PROCEDURES

9. The taking or killing of short-tailed shearwaters is authorised under Part V (conservation of fauna and flora) of the *National Parks and Wildlife Act 1970* and regulated under the Wildlife Regulations 1971. Under the Regulations, short-tailed shearwaters are defined as a partly protected species in Tasmania which means that the species may only be harvested under defined conditions during a short open season.

10. Commercial and non-commercial harvesting are subject to the same provisions of the Regulations although the period of the non-commercial open season may be less than that for the commercial season. Details of the open season are determined by annual amendments to the Wildlife Regulations 1971.

11. As partly protected wildlife, short-tailed shearwaters may only be taken by licensed harvesters during the defined open season. Commercial dealings in muttonbirds is restricted to licensed commercial muttonbird catchers and commercial muttonbird operators or persons who have purchased muttonbird products from a commercial operator. Non commercial harvesting is also restricted to licensed persons only.

12. The following conditions apply to all licensed harvesters unless specifically exempted by the Director:
    - harvesting is restricted to juvenile birds only;
    - harvesting is prohibited during the period commencing one hour after sunset and ending one hour before sunrise on the following day;
    - the possession or use of any pointed, barbed, or sharpened implement to take any muttonbird from a burrow is prohibited;
    - dogs may not be used to assist in harvesting; and
    - muttonbird burrows may not be damaged or destroyed in any way.

13. The regulations provide for colonies to be closed, and season dates, bag limits, licence fees and number of licences sold to be varied to protect colonies from over-exploitation. There is also provision for seasons not to be opened at all if circumstances require this action.

Commercial Harvesting

14. The commercial harvesting of short-tailed shearwater chicks is from 27 March to 30 April each year. There is no quota or daily bag limit. During this period commercial harvesting is restricted to Babel Island and Great Dog Island in the Furneaux Group in eastern Bass Strait, and Trefoil Island, Hunter Island, Three Hummock Island, Steep Island and Walker Island in the Hunter Group in western Bass Strait.

15. Commercial operators are required to have a commercial operator's licence and this can only be brought from the DELM in Hobart. The licence specifies the island from which birds can be taken. For colonies on reserve land, commercial operators also require an annually renewable temporary licence from the DELM to enable them to build and occupy processing sheds. The health standards of these processing sheds are inspected, and must be passed, by the Department of Health before the DELM will issue licences.

16. A catcher is required to have a commercial catcher's licence. This can be issued from the Flinders Island or Hobart DELM office. The licence may be used for any colony open for commercial harvesting, but in practice is only used for the colony where the person is employed by a commercial operator.

17. Licensed commercial catchers are permitted to sell their catch only to licensed commercial operators. Licensed commercial operators are permitted to sell to anyone within Tasmania.

18. A permit issued by the DELM is required for the movement of muttonbirds or products derived from them out of Tasmania for sale within continental Australia. The permit will show the quantity, date, name of the seller and name and address of the recipient of the fauna. To move the products overseas from Australia a permit is required under the Commonwealth *Wildlife Protection (Regulation of Exports and Imports) Act 1982*. This permit provides the same details as the DELM interstate movement permit.

Non-commercial Harvesting

19. Non-commercial muttonbirding is only permitted on colonies on the west coast of Tasmania, and in the Furneaux Group in eastern Bass Strait, and the Hunter Group and King Island Group in western Bass Strait. The colonies subject to non-commercial harvesting on the west coast cover an area of 4 ha; Furneaux Group 83 ha; Hunter Group 25 ha; and King Island Group 177 ha. They represent 20% of the total area of 1422 ha of short-tailed shearwater colonies in Tasmania. Non-commercial harvesting is not permitted on colonies open to commercial harvesting.

20. The non-commercial season will open on the last Saturday in March or first Saturday in April and close in mid-April. The daily bag limits for non-commercial harvesting are set at 25 birds on Bass Strait islands and 15 birds on the west coast of Tasmania. On the West Coast colonies subject to non-commercial harvesting are only accessible by boat. This has tended to restrict the number of muttonbirders on the colonies.

21. Press releases are prepared before the non-commercial season, and with every licence sold, a leaflet is handed out detailing regulations, prohibited colonies and management details. Procedures to kill birds in a humane wayare set out in the leaflet.

22. Under Section 35 of the *National Parks and Wildlife Act 1970* permits may also be issued for the taking or killing of short-tailed shearwaters or their eggs for scientific or educational purposes. The numbers taken under this provision of the Act will be considered when assessing the impact of harvesting on colonies. In the last five years a total of 350 birds and eggs have been taken under permits issued for these purposes.

MONITORING AND ASSESSMENT

Commercial Harvesting

23. Under Regulation 20 of the Wildlife Regulations 1971, the holder of a commercial operator's licence must provide a return giving details of the number of chicks and quantity of feathers and oil taken from each commercially harvested colony, within 14 days of the end of the open season to which the licence relates.

24. Data from the records provided by commercial operators will be used to estimate the total number of chicks taken during the commercial harvest season and as a measure of the effects of commercial harvesting. Accurate surveys of the size of each commercial colony are available so the seasonal data will be used to estimate the proportion of the total population taken during the commercial season.

25. On Great Dog Island in the Furneaux Group, burrow occupancy by breeding adults in December and chicks just prior to the opening of the harvest season will be measured annually using transect techniques. These surveys will provide information to determine egg-laying success and later, breeding success for comparison against the harvest records provided by the commercial operators.

26. Details of the number of short-tailed shearwaters permitted to be removed from Tasmania will be maintained by the DELM, based on permit records.

Non-commercial Harvesting

27. Licence sale records will be maintained by the DELM and used to monitor harvest levels in the specific regions of Tasmania where non-commercial harvesting occurs. An estimate of the maximum non-commercial harvest will be obtained by multiplying the number of permit holders in an area by the bag limits applicable to the colonies in that area.

28. Transect counts of the number of burrows occupied by chicks before and after the non-commercial season will be conducted annually on selected colonies to determine the number of chicks taken in comparison to the total population of chicks in each colony. These data will be compared with the estimated maximum harvest permitted for those colonies.

29. Trends in the estimated take on the selected colonies will be analysed for indications of unsustainable levels of harvesting. Comparisons between the estimated take and the sustainable harvest, calculated using a population model, will be undertaken to assess further the sustainability of the harvest on selected colonies.

MANAGEMENT STRATEGIES

30. Management of short-tailed shearwaters is aimed at providing a harvest while keeping the population at a stable level. Because some colonies are subject to heavy exploitation it is necessary to review the impact of harvesting on these colonies and identify appropriate corrective action if a population decline is detected.

31. Measures that may be employed in response to evidence of declines in population numbers include:
    - the placing of more restrictive daily bag limits on the number of birds which may be taken from colonies in which there has been a decline;
    - limiting the number of harvesters that may operate on specific colony;
    - restricting future open seasons for the colony to a shorter time period than other colonies;
    - closing colonies to further harvesting until monitoring data indicate population recovery;
    - determination of specific colony quotas to restrict harvesting to sustainable levels and closure of the colony once the quota has been taken; or
    - rotation of colonies open to harvesting.

32. Because evidence of population decline can take many years to manifest itself, proactive management using the above measures will be employed to maintain population levels where population models indicate overharvesting.

33. Determination of the management strategy which will be adopted will be based on ensuring population recovery in the minimum time possible.

COMPLIANCE

34. The provisions of the *National Parks and Wildlife Act 1970* and Wildlife Regulations 1971 are enforced by wildlife rangers, frequently assisted by park rangers and enforcement officers from other government departments.

35. To ensure compliance with the Act and its regulations wildlife rangers carry out the following tasks:
    - police colonies prior to the open season to prevent poaching;
    - patrol closed colonies during the open season;
    - check bag limits, inspect licences and ensure adherence to the Wildlife Regulations on colonies open to non-commercial harvesting;
    - verify that catchers working on commercial colonies hold current licences;
    - check commercial operations for any breaches of the Wildlife Regulations;
    - conduct random checks to ensure compliance with regulations relating to movement of muttonbird products from and within Tasmania;
    - respond to information from the public; and
    - prosecute offenders

36. Non-compliance with the Act or Regulations renders the person liable to prosecution and fines of up to $5000 for illegally taking or possession of muttonbirds and $10,000 for illegal trade and export of muttonbirds.

REPORTING

37. An annual report summarising the Short-tailed shearwater Management Program will be provided to the Designated Authority, the Chief Executive Officer of the Australian Nature Conservation Agency under the Commonwealth *Wildlife Protection (Regulation of Exports and Imports) Act, 1982.*

36. The annual report will provide information on:

(a) the population data from the Fisher Island research station;

(b) burrow occupancy counts in December during the incubation stage and in March during the latter part of the chick stage from Great Dog Island in areas not worked by commercial operators;

(c) the number of juvenile shearwaters taken from each colony, and the amount of feathers and oil produced during the commercial season;

(d) burrow occupancy counts before and after the season from selected colonies harvested by non-commercial muttonbirders;

(e) the number of licences sold for the non-commercial season;

(f) information on prosecutions; and

(g) changes to management strategies on particular colonies or regions of Tasmania.

CALCULATION OF SAFE HARVESTING LEVELS

To maintain a stable population, the breeding birds must replace themselves during their life span that is, 2 out of the 15 eggs must hatch and the chicks return to breed. On this basis the safe harvest limit is calculated as follows:

15 x breeding success (%) x recruitment (%) x birds left after harvesting (%) = 2.

Breeding success, the number of chicks fledged to eggs laid, is usually between 60 and 70%. On Fisher Island the mean breeding life is 15 years and 35% of chicks are recruited to breed.

Using the formula:
15 x 60/100 x35/100 x birds left after harvesting = 2 birds left = 63%

At 35% recruitment, the safe harvest limit is 37% of chicks present just prior to the opening of the season.

BACKGROUND INFORMATION FOR THE MANAGEMENT PROGRAM FOR SHORT-TAILED SHEARWATERS

INTRODUCTION

1. This document of background information for the management program for short-tailed shearwaters is a generalised summary of information relevant to management. It provides details on the biology of the short-tailed shearwater on which management decisions are based. It then includes historical background — Aboriginal and European use, that places in context the involvement of both ethnic groups in the industry at the present day. Contemporary social factors are also described because muttonbirding has been described as "...a traditional seasonal activity, with origins in the pre-history of Tasmania which developed into an annual happening of significant importance to the Aboriginal communities in Tasmania (Tasmanian Parliamentary Paper 1978. Number 14: 16).

2. The short-tailed shearwater weighs about 500 g and has a wing span of 1 m. It is wholly dark brownish-black above and slightly paler below. Sexes are alike and immature or pre-breeders are identical to adults. It is one of about 100 species in the relatively small order Procellariiformes (*Procella* = storm) whose members range in size from 30 g storm petrels to 10 kg albatrosses (Warham 1990). Most are strictly marine birds coming to land only to breed. Biologically most are long lived, breed annually and seasonally and have a slow rate of population increase (Skira 1991). The family Procellariidae is the most diverse group in the order and contains about 61 species of petrels and shearwaters (Serventy *et al.* 1971). Without exception all are colonial breeders and communal feeders often gathering in huge numbers in 'rafts'. These rafts are common in calm weather and birds may assemble when either feeding or resting. The majority of petrels and shearwaters are nocturnal and nest in holes, burrows or crevices, which serve to protect them and their young from predators.

3. The broad extent of their feeding grounds and the limited range of suitable nesting areas have resulted in many colonies (also termed rookeries) of petrels becoming extremely large. The genus *Puffinus* consists of some fifteen medium-sized species that are among the world's most numerous seabirds. Their high nesting densities and their fidelity to a particular site have meant that they are highly vulnerable to exploitation.

STATUS AND CONSERVATION

Marine Distribution

4. The short-tailed shearwater is a marine pelagic bird ranging to 65° South in the Antarctic zone in the breeding season, to the far North Pacific Ocean in the non-breeding season. In its breeding range it occurs mainly over continental shelf waters, both inshore and offshore (Cheshire 1982, Warham 1990, Montague *et al.* 1986), but is also found in pelagic waters (Cox 1976). It is a circum-Pacific migrant (Figure 1) spending the boreal summer in the northern Pacific region (Gould and Piatt 1993). The shearwaters migrate rapidly (Serventy 1956) and arrive in the northern hemisphere on a broad front across the central Pacific Ocean (Shuntov 1974, Maruyama *et al.* 1986). On passage, they cross pelagic tropical waters. The food supply in these warm waters is

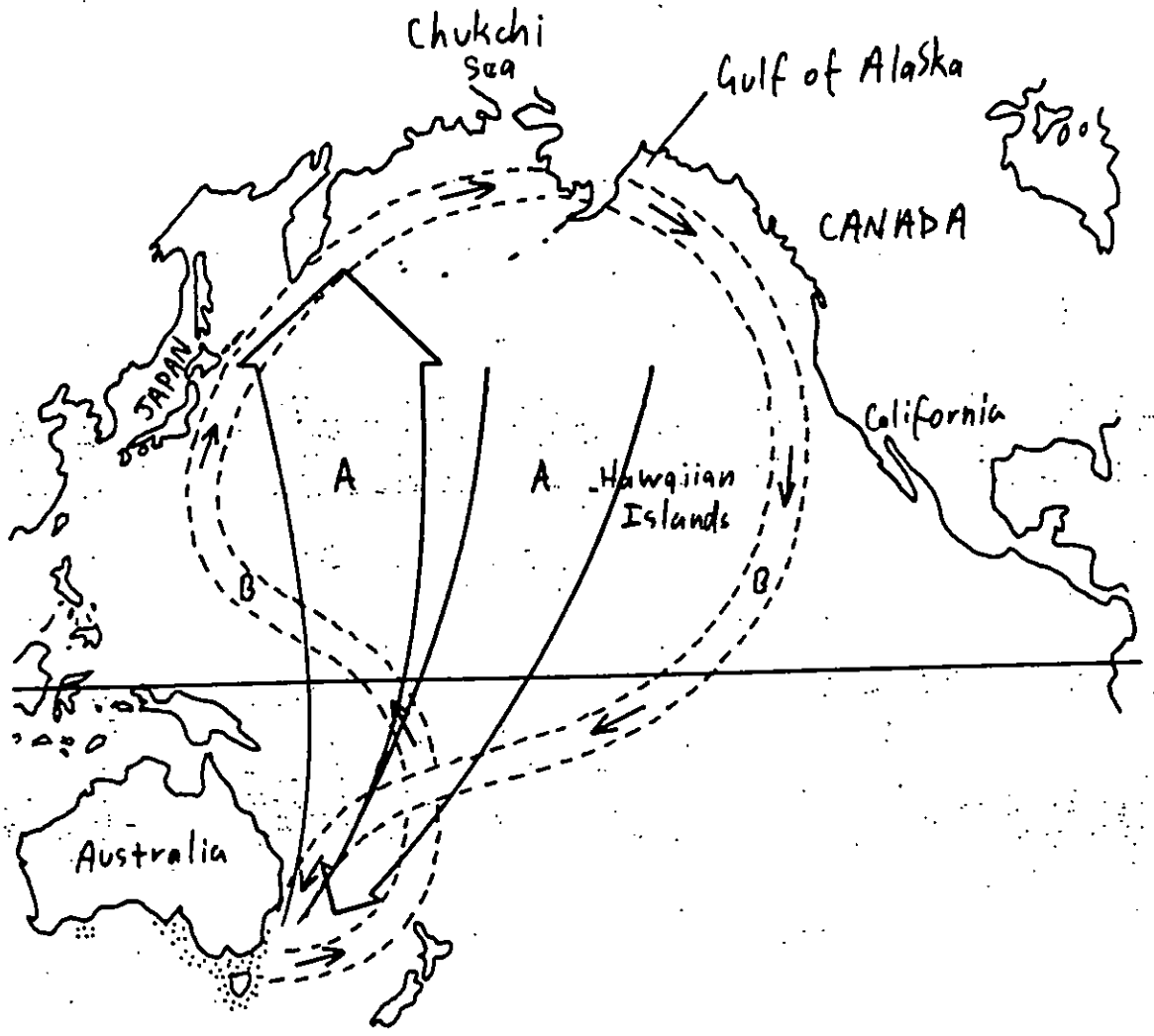


FIGURE 1: Map comparing new migration route (A) of Short-tailed Shearwaters based on Japanese ship-board surveys to Serventy (1953) figure of eight movement (B). Breeding areas are stippled.

limited and birds, particularly chicks that are unable to reach cool productive seas occasionally suffer mass mortality (Oka 1986).

5. Most arrivals to the northern part of the Pacific Ocean are observed from the end of April to the end of May or the beginning of June. The largest flocks can be observed in the eastern part of the Bering Sea in the northern hemisphere spring and the beginning of summer. In the second half of summer many pass into the Chukchi Sea and while birds are still dispersing into the Chukchi Sea, southwards migration begins. Some birds also migrate up the North American coast and some across the Pacific between the Hawaiian Islands and North America (Shuntov 1974). This results in very large flocks occasionally occurring off the west Canadian coast in May under certain wind conditions (Guzman and Myres 1983).

6. In the Gulf of Alaska the short-tailed and sooty *P. griseus* shearwaters are the dominant birds in spring and prefer the continental shelf which extends between 100 and 150 km offshore (Harrison 1982). Numbers are greatest in May. By June their estimated density drops to half of that in May. In the northeast of the Gulf, the Kodiak area, short-tailed shearwaters outnumber sooty shearwaters by about 1.2:1 with flock sizes numbering 32,000 (Gould *et al.* 1982).

7. The return journey commences at the beginning of September. Many shearwaters have been observed moving through the western sector of the Pacific (Maruyama *et al.* 1986). Some flocks pass south and well offshore through the Gulf of Alaska to California before heading across to Australia but the lack of sightings indicate that there is no migratory movement along the Canadian coast from August onwards. Some birds remain in the northern hemisphere during their first boreal winter (Forsell and Gould 1981). The presence of birds along the coasts of Japan and North America led Serventy to postulate a figure-of-eight migration (Serventy 1953). Data from seabird surveys by Japanese ornithologists however, indicate that migration occurs on a broad front across the Pacific Ocean (Maruyama *et al.* 1986). It is possible that the route followed varies with the age or specific behaviour of the bird, but regardless of route, it is apparent that the movement of shearwaters between the two hemispheres occurs on a broad front. In Australian waters mass movements of up to 120,000 shearwaters per hour have been reported in late September or early October, but these large aggregations are highly variable in location (Wood 1990).

Feeding

8. Short-tailed shearwaters are one of the most aquatic of the *Puffinus*, with long narrow pelvis and compressed tarsum, well developed knee joint process, long sternum, short thick compressed humurus and a short smooth body plumage (Brooke 1990, Kuroda 1954). They have been seen up to 10 m below the surface pursuing prey (Skira 1979). Their feeding methods, as described in Ashmole (1971) and ranked in order of importance, are pursuit plunging, surface seizing, pursuit diving, scavenging, hydroplaning and bottom feeding (Morgan 1982, Morgan and Ritz 1982, Ogi *et al.* 1980, Skira 1979, Wood 1993).

9. In the southern hemisphere shearwaters forage over vast areas (Serventy 1967, Naarding 1980). Kerry *et al.* (1983) collected them at 65° South and found local organisms such as the Antarctic krill *Euphausia superba* in the stomachs. The time and duration spent by the birds in Antarctic waters is not known nor whether they are breeding or immature birds. During the breeding season the shearwater is a local or neritic feeder obtaining its food close to the colony. The main food items in order of

importance (percent frequency of occurrence) are the krill *Nyctiphanes australis*, the arrow squid *Notodarus sloani gouldi*, and other squid, fish and crustaceans (Montague *et al.* 1986, Skira 1986). *N. australis* is abundant in large swarms, particularly when breeding between October and December, and is restricted to the continental shelf (Blackburn 1980). The diet of the birds changes when eggs hatch in January from predominantly krill to a mixture of fish, squid and crustacean. The transition could be due to reduced swarming and periodicity of krill (Oka *et al.* 1987), and an increase in the numbers of schooling post-larval fish (Montague *et al.* 1986).

10. There is evidence that the abundance of *N. australis* fluctuates from year to year, as the distribution of the species is tied to water masses and major current systems. Of seven water masses moving along the shores of northern and eastern Australia (Rochford 1957) four govern the food regime of the shearwater. They are the Subantarctic, derived from the Southern Ocean; the Southwest Tasman from the eastern approaches to Bass Strait; the North Bass Strait from the South Australian Gulfs; and the East Tasmanian-West Tasmanian from the central Tasman and Subantarctic. Their mixing during movement from the source regions and changing pattern of distribution determine their major physical and chemical characteristics (Harris *et al.* 1987), factors that affect the abundance and availability of the food of shearwaters.

Habitat Description

11. The short-tailed shearwater breeds on islands, and on headlands and promontories of the mainland. It burrows where soft soil of at least 30 cm depth occurs, usually stabilised by vegetation in native and modified grasslands, herbfields, bracken fern, scrubland, open forest. Occasionally it nests in cliffs of consolidated sand or on bare ground (Naarding 1980, White 1980, Harris and Norman 1981). Some breeding colonies close to human settlement have been eliminated (Lord 1908) or breeding habitat has been modified by introduced pasture grasses and weeds. The annual weeds die back leaving areas susceptible to erosion and collapse of burrows (Harris and Norman 1981, Fitzherbert 1985). On some colonies, areas are vacated that are covered by densely growing introduced plants like boxthorn *Lycium ferocissimum*, blackberry *Rubus fructicosus* and kikuyu grass *Pennisetum clandestinum*, or pasture unsuitable for burrowing (Bowker 1980, Brothers 1983, Brothers and Milledge 1979, Skira and Brothers 1988a, 1988b).

12. Physical damage during the harvesting season by amateur muttonbirders has been of major concern but is now more controlled due to the reduction in the number of muttonbirders. Grazing (cattle, rabbits), fires and trampling by stock denude vegetation and cause erosion and sand-drifts (Harris and Bode 1981, Harris and Norman 1981). These have been perennial problems on the commercial colonies in the Bass Strait islands ever since muttonbirding commenced. Grazing by sheep is said not to have affected breeding success (the ratio of chicks fledged to eggs laid) on Big Green Island in the Furneaux Group (Norman 1970), although trampling by sheep is a problem on colonies generally. After programs to control rabbits on breeding islands, birds recolonise revegetated areas (Norman *et al.* 1980, Skira unpublished). Predation by foxes (continental Australia only as foxes are currently absent from Tasmania) and feral cats, and occasionally, by domestic dogs, is a problem at many colonies. In particular, damage by feral cats can be severe, as witnessed by the extermination of 193 cats from Great Dog Island in 1991-92 (Skira unpublished). During the period when shearwaters were present, they were a major component in the diet of the cats (Hayde 1992). Winter firing of silver tussock *Poa poiformis* exposes the soil to westerly gales, reduces soil depth for burrowing and allows fire-invading plant species to colonise. The

principal invader is *Senecio capillifolius* which is endemic to the islands of the Furneaux Group. It has good soil holding qualities and eventually allows silver tussock to re-colonise. *Senecio* dries out in summer and splinters, but this does not appear to affect the shearwaters, although it makes it uncomfortable for muttonbirders to reach inside burrows for chicks. In natural situations, shearwaters themselves influence modify the habitat (Brown *et al.* 1993, Pemberton 1992).

Distribution of Colonies and Abundance

13 The short-tailed shearwater only breeds in Australia. Victoria has 1.45 million burrows in about 30 colonies (Harris and Norman 1981), South Australia 600,000 burrows in 33 colonies (A. C. Robinson, South Australia Parks and Wildlife, personal communication), New South Wales 25,700 breeding pairs in 13 colonies (Lane 1979) and Western Australia 10,000 burrows in several colonies (Johnstone *et al.* 1990a, 1990b, Lane 1983). It is estimated that in Australia, 23 million birds breed in about 250 colonies (Skira *et al.* 1985).

14. There are known to be 167 colonies around the coast of Tasmania and its near offshore islands, and another 14 in eastern Bass Strait from Craggy Island to Rodondo Island which are thought to contain half a million burrows (Tables 1 and 2; Figures 2-5). It is unlikely that many more colonies remain to be discovered. The largest colonies are on Babel Island with 2.86 million burrows and Trefoil Island with 1.54 million burrows (Towney and Skira 1985a, 1985b). Between 1978-81 all of the 7 commercial colonies and 18 of the 92 non-commercial colonies in Tasmania were measured (see Section. 45 for methods). By knowing the area of a colony and burrow density the total number of burrows present can be calculated. The mean burrow density on twelve colonies was 0.75 burrows/m^2. The total area of colonies is 1522 ha, therefore the estimated number of burrows is 11.4 million (Skira *et al.* 1985). Ongoing surveys of colonies are still being carried out.

Table 1. Size distribution of short-tailed shearwater colonies in Tasmania.

	Size (ha)			
	<1	1-10	11-100	>100
Number of colonies	62	76	25	4

15. The distribution of short-tailed shearwater colonies in the past appears to have been vastly different to that of today. The interval from 25,000 to 10,000 Before Present was a period of great faunal and climatic change in Australia. Climatic disruptions would have effected the location of shearwater colonies through changes in sea levels. At times the coastline was up to 50 km away from its current position (Blom 1988, Jennings 1971). There is much evidence that prior to the arrival of non-Aborigines in Australia there were no colonies on the Tasmanian mainland. The first part of the twentieth century also corresponds with a general expansion of the breeding range of the shearwater in Tasmania (Sharland 1956). The present day commercial colonies on Walker, Robbins and Three Hummock Islands were non-existent or very small until the turn of the century (Paddy Maguire, ex-lessee of Hunter Island, personal

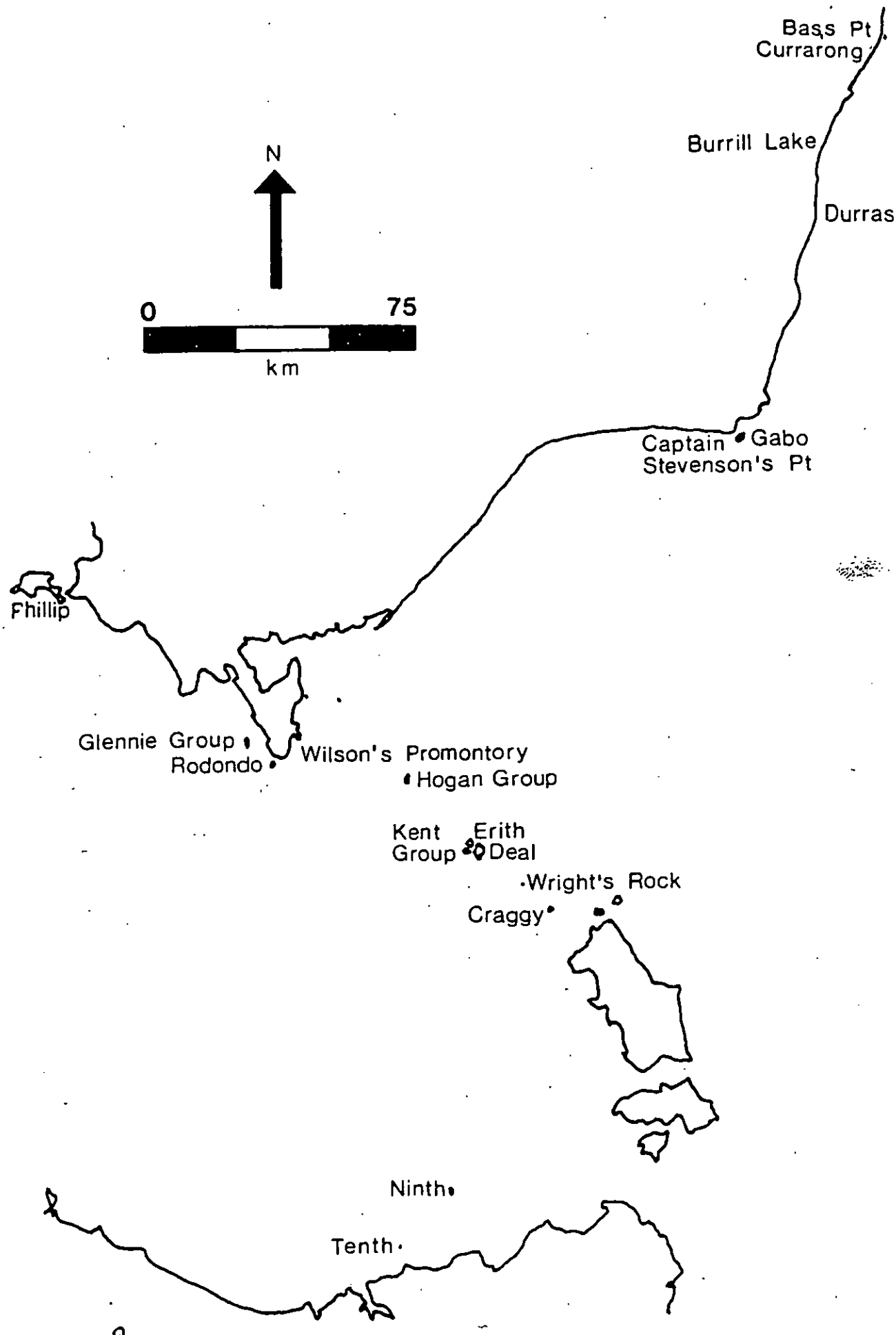
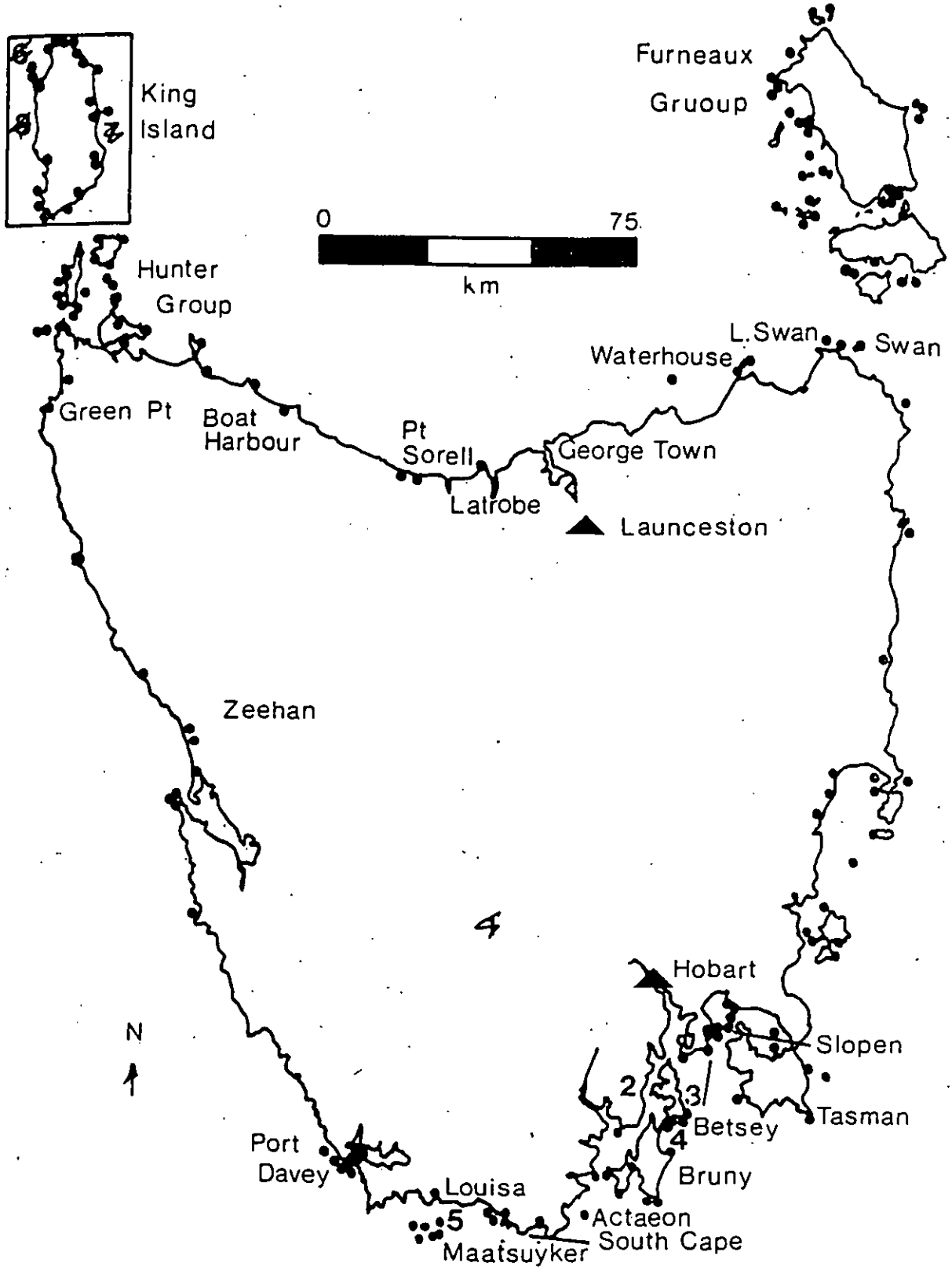


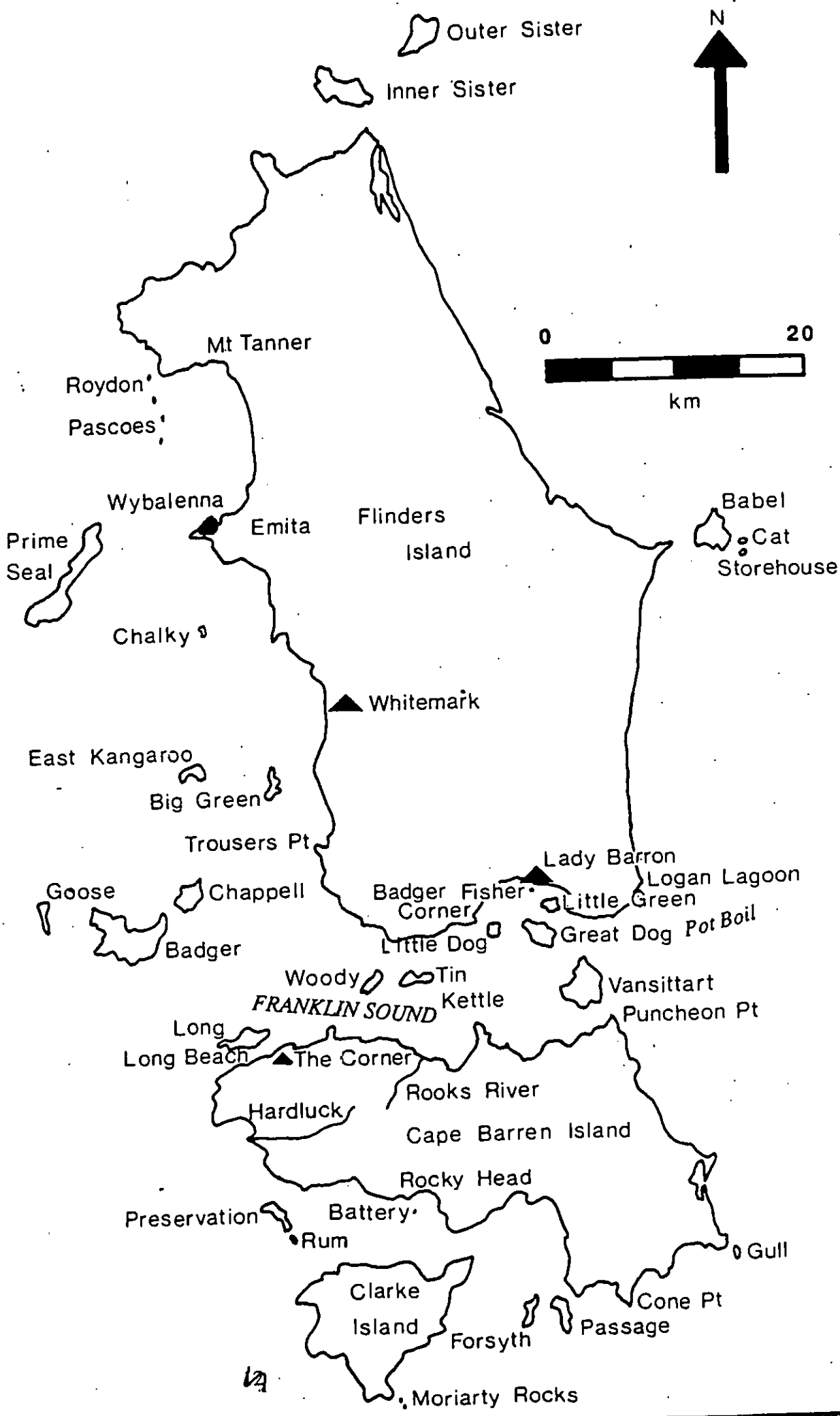
Figure 1. Location of place names in Bass Strait and mainland Australia.



3 short-tailed shearwater

Figure 2. Location of ~~muttonbird rookeries~~ colonies and place names in Tasmania.

Figure 6 Location of place names in the Furneaux Group.



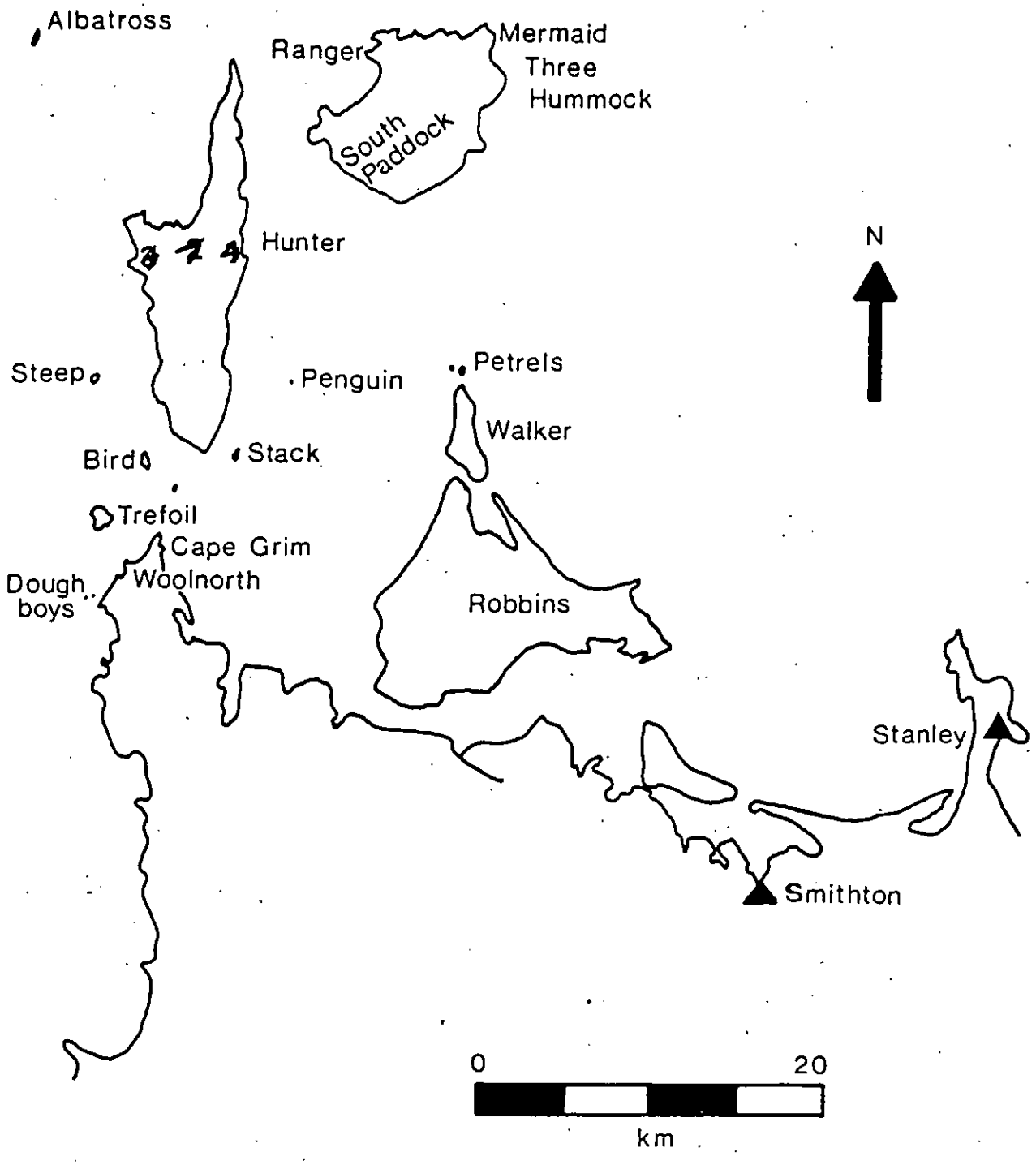


Figure 1 Location of place names in the Hunter Group.

communication; Burnie *Advocate* 26 March 1977; *The Coastal News and North-Western Advertiser* 11 May 1892). The colonies at Green Point on the West Coast and Point Sorell near Devonport are also of recent origin. Those on Betsey Island in southeast Tasmania were first noticed about 60 years ago (Bryden 1966), while there were none on Sloping Island last century (Hobart *Mercury* 18 January 1876). There is also evidence that the colonies at The Neck and Cape Queen Elizabeth on Bruny Island are also of recent origin, as a Tasmanian Field Naturalists excursion in 1907 does not report seeing any (Lord 1907).

16. The cause of the expansion is not known. It could have been brought about either by deterioration of existing rookeries or an increase in numbers. Sea levels reached their present level 6,000 to 7,000 BP (Blom 1988, Jennings 1971). There is some dispute whether fluctuations have occurred in sea levels since (Sutherland 1973). Falls of only 1 or 2 m would serve to connect several offshore islands to Flinders Island in the Furneaux Group and Robbins and Walker Islands in the Hunter group. At the present day these last two islands are joined at low tide. Until several hundred years ago muttonbirds were probably in equilibrium with their environment. Their breeding limit in terms of distribution and numbers was probably reached. In the last 200 to 300 years there has been an unprecedented slaughter in both the southern and northern hemispheres of seals, whales and fish stocks, disrupting the food chain. This may have made more food available for muttonbirds which feed predominantly on krill, squid and fish (Ogi *et al.* 1980, Skira 1986) with a consequent increase in population.

Reserve System in Tasmania

17. In Tasmania, of the 167 colonies, 83 (1041 ha) are reserved under the reserve regulations of the *National Parks and Wildlife Act 1970*, to protect habitat and to control, where necessary, land use and activity of visitors (Table 2). Of these, commercial harvesting is permitted on 7 (585 ha); non-commercial harvesting on 24 (206 ha), and harvesting is not permitted on the remaining 52 (273 ha). Most of the 84 colonies (481 ha) not reserved are on islands secure from interference. The majority of these islands are privately owned, and contain mostly small colonies less than 5 ha in area. All colonies are situated close to the shore and the majority are in tussock grassland whilst other colonies occur in coastal salt bush *Rhagodia candolleana,* manuka *Leptospermum scoparium,* and other coastal species.

Table 2. Status and area of short-tailed shearwater colonies in Tasmania.

Conservation Status	Comercial (ha)	Non-commercial (ha)	Prohibited (ha)
Conservation Area		16	52
State Reserve		27	146
Nature Reserve	40	24	75
Game Reserve	25	74	
Muttonbird Reserve	520	42	
Unreserved	127	354	
	712	537	273

18. State and Nature Reserves provide the highest form of land protection in Tasmania. National Parks are just a name for State or Nature Reserves that have special scenic or other features. Muttonbirding is permitted in these Reserves by ministerial approval providing it was a traditional activity before proclamation. A Game Reserve has equal status to Sate or Nature reserves except that the land is protected to enable the taking of wildlife, including shearwaters. A Muttonbird Reserve is a Conservation Area where the habitat is protected but the taking of wildlife such as short-tailed shearwaters is permitted in set hunting seasons. Muttonbirding is prohibited in Conservation Areas, except where it was a traditional activity prior to proclamation, and now allowed to continue through ministerial approval provided harvesting is at safe levels.

BIOLOGY

19. The Tasmanian Department of Environment and Land Management (DELM) has on-going short-tailed shearwater programs of biological research, population monitoring and surveys on the distribution and size of colonies. The shearwater has long fostered fascination (Davies 1845, Elwes 1859, Gould 1866, Littler 1910, Montgomery 1891, 1892, 1896 1897, Wood Jones 1934), and was one of the first Australian birds to be banded in large numbers (Serventy 1957, 1961) and to be subjected to a long-term scientific study (Guiler *et al.* 1958). This study was commenced on Fisher Island in the Furneaux Group in March 1947 by the late Dominic Serventy of the CSIR (Council for Scientific and Industrial Research) and continues today (Serventy 1977). The small size of the island (1 ha) enables all breeding pairs (70-100) to be studied each year through recording breeding pairs in November-December, and banding chicks in March. Strayer *et al.* (1986) have reviewed the essential qualities of long-term studies and most of them are exemplified in the shearwater research on Fisher Island (Bradley *et al.* 1991). These qualities include a low turnover of dedicated staff and a consistent and simple sampling program with unambiguous methods. Serventy last visited Fisher Island in December 1976 and remained involved with the project up to his death in August 1988. Due to the long-term nature of the study, together with the banding of some 92,000 birds in Australia, the life history of the muttonbird is one of the best documented of any bird in the world (Bradley *et al.* 1989, 1990, Serventy 1974, Serventy and Curry 1984, Wooller *et al.* 1988, 1989, 1990).

Reproduction

20. The short-tailed shearwater returns to its breeding grounds in Australia between 16-25 September. Most birds arrive within 1-4 days with local breeding numbers completed between 20-25 September (Naarding 1980). The pair bond is re-established and burrows are refurbished. Breeding shearwaters tend to occupy the same burrow as in previous years or one in close proximity. During October the colonies are a hive of noisy social activity. Three factors influence the numbers of birds coming ashore: the stage of the breeding cycle at that time, the activities of pre-breeding birds, and the phase of the moon (Warham (1960). In the early years of commercial exploitation when adult birds were killed for their feathers, all three factors would have influenced the number of birds caught each day. For three weeks in November prior to egg-laying the colonies are deserted (Marshall and Serventy 1956). This pre-laying absence enables female shearwaters to build up body reserves to produce the egg which weighs sixteen% of the female's body weight (Fitzherbert 1985). In the case of male shearwaters the body reserves are for incubating the egg.

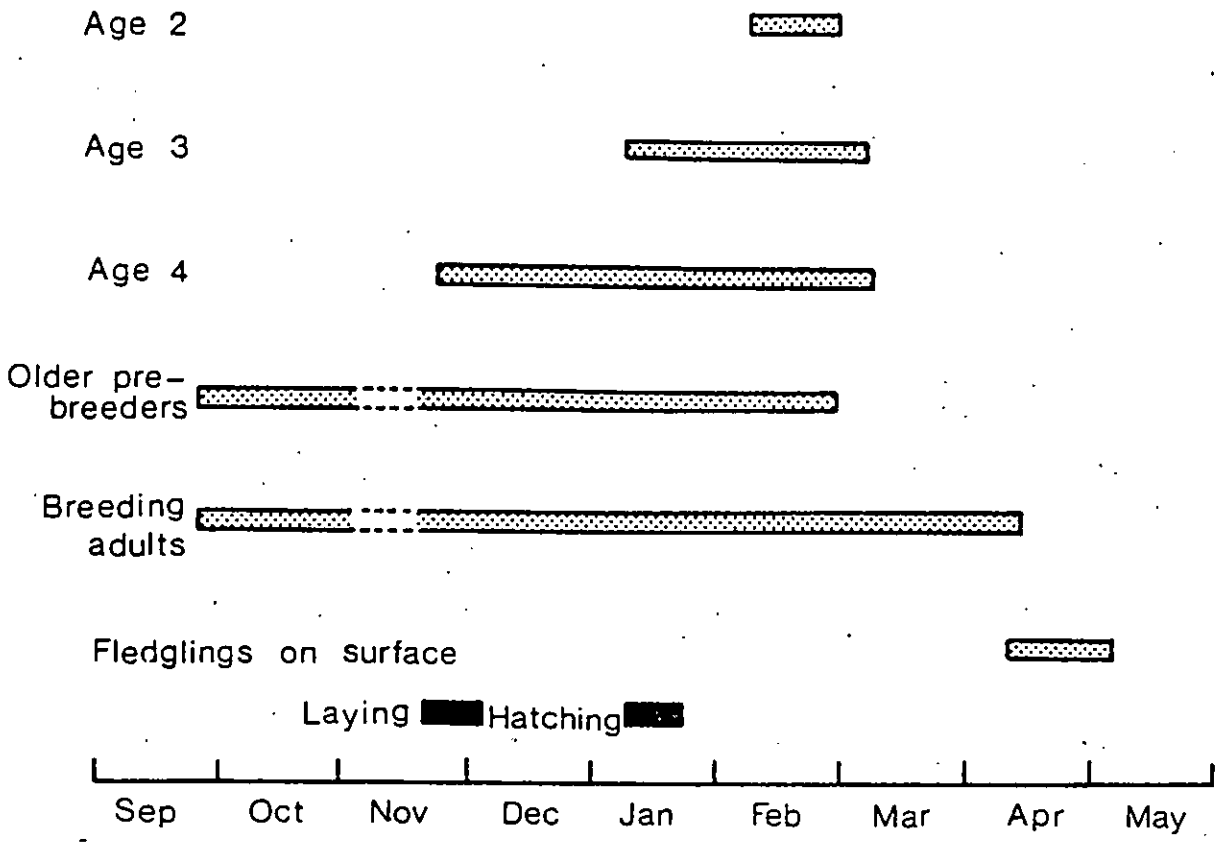
21. Eggs are laid from 19 November to 2 December, with 85% within 3 days on each side of the mean laying date, 24-26 November (Serventy 1963). There is no variation in this pattern throughout the range and between years, and none is known to be caused by climatic factors or availability of food. Only one egg is laid and no re-laying occurs if the egg is lost. Mean egg size (n=583) is 71.4±0.1 x 46.9±0.1, and mass 85.0±0.3 (Meathrel *et al.* 1993a). Sometimes eggs are laid on the surface, in some years in very large numbers, referred to as the 'glut' by muttonbirders. These are apparently laid by immature pre-breeders. The incubation period varies between 52 and 55 days (mean 53 days). Both partners incubate the egg in alternative shifts, the male usually taking the first shift. The length of the shifts varies from 10 to 16 days and occasionally up to 20 days. Eggs can be left unattended for up to seven days and still remain viable, as is the case with other shearwaters such as the Manx shearwater *P. puffinus* in Britain (Brooke 1990, Matthews 1959). Nearly all breeding failures occur during the egg stage as only 3% of successfully hatched chicks on Fisher Island died or disappeared before banding (Serventy and Curry 1984).

22. The majority of chicks hatch between 10-23 January (Oka 1989), with a mean date of 19 January (Naarding 1980). They are brooded by the parents for the first few days then left unattended during the day. The chick is fed nightly for the first week then at longer intervals with up to sixteen days between meals. The parents alternate in the feeding. The final visit of the parents is from 1 to 23 days (mean 14) before the chicks depart (Serventy 1967). The time between the final feed and departure is termed the 'starvation' or 'desertion' period. The chick is in the burrow from 88 to 108 days (mean 94 days). During that time it grows quickly, forming large fat deposits and attaining a maximum mean weight of 800 g, nearly twice that of its parents, in the second week of April (Lill and Baldwin 1983).

23. Sexually immature birds depart from Australia near the end of March. Breeding adults leave around 9-10 April. In the second week of April the chicks begin to emerge from burrows at night to attempt to fly. They wander around and may enter any burrow during the day, generally moving closer to the sea prior to departure. This 'travel' phase is recognised by muttonbirders who may go over the same area up to three times during the season. Chicks leave during the night from the third week in April to the first week in May at night, swimming out to sea if conditions are calm. The presence of strong winds facilitates departure but also results in chicks that are not yet fully developed leaving too early and later perishing at sea.

24. Chicks tend to return to their natal colony (Serventy *et al.* 1989), but there is probably much exploration of other areas by young birds before they breed. For example, in any year only 40% (range 16-61) of the breeding population on Fisher Island is made up of birds hatched on Fisher Island (Serventy and Curry 1984). However, once they begin to breed at a specific rookery, muttonbirds have a very strong tendency to return to breed in that rookery until death (Serventy 1967). Birds are first recorded at colonies from the age of two years in February. As they become older prior to breeding, their numbers increase, and they arrive with breeding birds in October to join in the social activity of attracting a mate (Figure 6).

25. Short-tailed shearwaters breed for the first time at 4-15 years of age, the mean for males being 7.3 and females 7.0 years. Mate retention appears related to reproductive performance. Some 33% of all pairs which failed to produce an egg in the preceding season changed partners by divorce. However, the divorce rate was down to 23% in pairs which produced an egg but which failed to hatch and 15% in birds which fledged young (Bradley *et al.* 1990, Wooller *et al.* 1988). During the completed lifetimes of



6 short-tailed Shearwaters

Figure 6. Seasonal composition of ~~muttonbirds~~ at ~~rookeries~~ colonies according to age categories (after Serventy 1967: 174).

418 male and female shearwaters, 27% of all individuals produced no young and 19% only one young. Overall, 71% of birds produced no offspring that returned to breed. In fact 8% of all birds that had completed their reproductive careers produced 53% of all young that returned to Fisher Island to breed and 26% of all birds were responsible for all reproducing offspring. Overall, 25-29% of birds that have breed previously do not breed in one or more years thereafter (Wooller *et al.* 1990, Wooller *et al.* 1992). Shearwaters that formed known pairs produced on average 5.3 eggs, 3.1 fledglings, and 0.43 reproducing offspring each on Fisher Island (Wooller *et al.* 1988).

26. The breeding success of young birds 6 years old or younger during their first attempt (38%) was markedly lower than that of birds starting at 7 or more years (58%) (Wooller *et al.* 1988). Thereafter breeding success improved with increasing familiarity with a particular partner, and the number of previous mates (Wooller *et al.* 1989). Throughout Tasmania, annual breeding success is about 60% (Naarding 1979, 1980, 1981, Skira and Wapstra 1980). Hatching and fledgling success are independent both of egg-size and of the body condition of the attending parents, and breeding success in short-tailed shearwaters may be more closely related to the behavioural traits of parents than to physiological factors (Meathrel *et al.* 1993b).

Mortality

27. Mortality is age-related. Mean annual mortality (± SE) is 7.8 ± 1.5% in male and 10.6 ± 1.8% in female shearwaters in the year of first recorded breeding, decreasing to 6.6 ± 2.1% and 7.6 ± 2.3% after 9 years, rising to 12.7 ± 1.9% and 15.6 ± 1.8% after 18 years. The median survival time is 9.3 years after first breeding (Wooller *et al.* 1988), although three birds on Fisher Island are known to have been at least 36, and one 38 years old (Murray 1991). More vigorous birds, as measured by their survival and reproductive success, may tend to have a greater reproductive output earlier in life, whereas individuals of lower vigour may produce less offspring and die earlier. However, among birds which have bred for fifteen years, those that had fledged fewer young had a slight, but significantly higher survival rate over those that had produced more offspring (Bradley *et al.* 1989, Wooller *et al.* 1990).

28. The greatest mortality (52%) occurs in the first year of life (Serventy 1967). In some years large numbers of shearwaters are beach-washed onto Japan as easterly winds blow weakened birds westward off their normal route. Autopsies have established that death is due to starvation and that the majority are fledglings (Nishigai *et al.* 1981, Oka and Maruyama 1986). On the return trip annual mortalities are inversely proportional to fluctuations in plankton abundance in the Tasman Sea (Serventy *et al.* 1971). Autopsies on fourteen shearwaters found dead along one Tasmanian beach in December 1983 showed that death was due to starvation (Skira unpublished).

29. Natural causes of mortality are predation, disease, starvation and flooding of low-lying nesting areas. Quite severe mortality among chicks occurs in some years by a condition known as 'limy-bird disease'. This is caused by blockage of the lower part of the alimentary canal by concretions of sodium urate (Mykytowycz 1963). Other threats are the Oriental gillnet fisheries in the North Pacific. Currently, shearwaters are being drowned in large numbers in driftnet and hook fisheries in both the northern and southern hemispheres (Everett and Pitman 1993, Johnson *et al.* 1993). Since December 1992 driftnet fishing has been banned on the high seas outside the 300 km Exclusive Economic Zone (EEZ) of individual countries. The short-tailed shearwater is the dominant seabird on the salmon driftnet fishing grounds, and it is estimated that more than 40,000 are drowned annually in all the driftnet fisheries in the North Pacific. In

one of these fisheries, 70-80% of incidental kills are fledgling birds. On account of this mortality, the average rate of decrease in the shearwater population is estimated at 0.02% per year (Ogi *et al.* 1993). Although considered negligible, the effects of past bycatch mortality were greater. Prior to the banning of driftnetting on the high seas, it is estimated that between 132,000 and 281,000 short-tailed shearwaters were drowned annually (King 1984, Ogi 1984). This equates to a population decrease of around 0.2% per annum. If the present level of mortality continues to occur in the future, the cumulative effects over the years would be somewhat greater. In the southern hemisphere, an unknown, but large number of shearwaters are being caught on the southern bluefin tuna fisheries within Australia's 300 km EEZ. The majority of these birds are adult breeders (Rosemary Gales, Tasmania Parks and Wildlife Service, personal communication).

30. Small plastic particles are commonly found in stomachs of seabirds (Azzarello and Van Vleet 1987). A high proportion of short-tailed shearwaters contain plastic particles in their stomachs on their return to the southern hemisphere but lose them as the season progresses (Skira 1986). The effects of plastic ingestion are unknown but there is some suggestion of a link between high amounts of plastic ingested and decreased physical 'health' in shearwaters, particularly when in the northern hemisphere (Day *et al.* 1985). This 'impairment' has not yet been measured. Shearwaters also accumulate PCBs and DDE mainly during the period of stay in the northern North Pacific feeding grounds than those in the southern South Pacific, reflecting on the status of global marine pollution by PCBs (Tanaka *et al.* 1986). The toxic effects of the chemicals could be manifested under specific biological processes, such as migration.

RELATIONSHIP WITH HUMANS

31. Today's taking and processing of short-tailed shearwaters is based on tradition and has not changed for over 170 years except for the influence of modern health regulations (Beaton 1990, Carter 1965). Chicks are taken from burrows by hand and their necks broken. They are then threaded by the lower mandible on to a long spit which holds about 50 birds and carried to the processing shed. There the proventricular oil is drained into a drum and the birds are dry-plucked, scalded and any remaining down and feathers brushed off. The bodies are then allowed to cool before being cleaned. They are then packed in cartons and sent away fresh while a small number are salted and packed in casks. In recent years special orders have been taken for skinned birds in which the skin with much of the fat is removed and the birds are then frozen. Contemporary muttonbirding is one of the best examples in the world of a traditional culture with commercial outcome for indigenous people (Diamond 1987, Feare 1984, Meek and O'Brien 1992).

Muttonbirding in Pre-History

32. At the time of European contact, the total Aboriginal population of Tasmania was probably about 4,000 people, organised into 9 tribes (Jones 1977). They had been in occupation for over 30,000 years (Allen *et al.* 1988). The Aborigines were a hunter/gatherer people whose technology was simple and adequate to enable successful adaptation to the wide range of Tasmanian environments. Their economy was marine orientated for at least certain periods of the year, and the coast was visited by every tribe at some stage of its seasonal movements. Their food sources can be discerned through surveying archaeological sites, particularly middens (Bowdler 1984, Vanderwal and Horton 1984). In particular, Aborigines who lived along the northwest and southwest coats, perhaps camping at times near shearwater colonies on the islands,

relied on foods such as seals, birds and land mammals that were available all year round, and used short-tailed shearwaters when in season. Environmental and cultural adaptations through time by the Aborigines led to a type of settlement pattern and selective coastal hunting strategy similar to that of the Maoris in New Zealand, and Morioris in the Chatham Islands (Sutton and Marshall 1980). In all these regions hunting strategies centred on the exploitation of fatty, meat-bearing resources at the time of year when they were most aggregated, easily taken and fattest. In broad terms, the hunting strategies focussed on seals, albatrosses, petrels and penguins.

32. Tribal Aborigines had several distinct names for the muttonbird (Plomley 1976), of which 'Yolla', seems to have been the most commonly used. In Tasmania remains of short-tailed shearwaters have been discovered in archaeological sites on Hunter Island in northwest Tasmania, and Maatsuyker Island and Louisa Bay in southwest Tasmania. Elsewhere, on continental Australia, New Zealand and Alaska, remains are rare and the birds were only taken apparently when beach washed. In fact, the oldest petrel and shearwater fossils occur in the late Pleistocene or Holocene from coastal deposits presumably left there by Aborigines (Rich and Van Tets 1982). Aborigines from the northwest tribes timed the return of the birds by the flowering of blackwood trees *Acacia melanoxylon* (Robinson 1966: 633). However, the archaeological evidence indicates that the taking of shearwaters was probably incidental to the hunting of more important prey such as seals or wallabies (Bowdler 1984; Vanderwal and Horton 1984). There is no evidence that Aborigines lived in the Furneaux Group during this period (Orchiston and Glenie 1978, Sim 1989).

Historical Muttonbirding

33. The beaching of the *Sydney Cove* in February 1797 near Preservation Island in the Furneaux Group in Bass Strait led to the exploitation and virtual extermination of hundreds of thousands of fur seals by 1810 (Cumpston 1973). The islands were then deserted except for itinerant sealers working on their own account, but by the mid-1820s several small islands in the Furneaux Group had been permanently settled. The present day Aborigines are the descendants of the original tribal-born women (whose people possessed the island of Tasmania when Europeans arrived), and the European sealers who remained in Bass Strait (Tindale 1953). The sealers sold wallaby skins, feathers from swans and other waterfowl, and burnt the natural saltbush vegetation for lime (Whinray 1981). However, trading of adult short-tailed shearwaters, eggs, chicks, feathers, fat and oil predominated. The strong reliance placed on shearwaters was because none of the other wildlife were as abundant, as easy to catch, as reliable in terms of body condition, or as resistant to over-exploitation as shearwaters. Additionally, the birds provided by-products of feathers and oil which were initially more valuable than the meat itself.

34. By the second half of the nineteenth century, sealing had so declined that muttonbirding had become the economic mainstay in the Furneaux Group. The first record of commercial harvesting was in 1831 when 2.5 tons of feathers were sold at 6d. per pound in Launceston (Backhouse 1843). This was estimated to be equivalent to 112,000 birds. In that year thousands of eggs were also gathered. There are very few figures for the number of birds caught in the nineteenth century, but it seems probable that less than 200,000 adults and chicks were taken annually (Table 3). By the turn of the century, annual takes were estimated to be over one million chicks in the Furneaux Group alone (Lord 1908).

35. Up to the 1930s labouring and hunting, including muttonbirding, were still the mainstays for the 200 Aborigines who made up almost one third of the total population of people in the Furneaux Group. So it was also for another 200 non-Aborigines from Flinders Island. Up to 58 sheds operated each season with 28 on Babel Island alone (Skira 1990). Muttonbirding expanded because it was the only activity which potentially offered a regular annual income, albeit for only one month.

Table 3. Muttonbird statistics for the Furneaux Group in the nineteenth and early twentieth centuries (2.5 tons of feathers were also gathered in 1831).

Year	Locality	Number of birds taken	Oil (gals)	Fat (gals)	Eggs	Source
1831	Furn. Gr.				1000's	Backhouse 1843
1858	Chappell I.	300,000	2000			Murray-Smith 1973
1864	Chappell I.				300,000	Lord 1908
1872	Furn. Gr.	'millions'	3000			Brownrigg 1872
1876	Chappell I.	400,000	1000	4000		*Examiner* 8.2.1876
1883	Chappell I.	300,000	3000			*Examiner* 25.5.1883
1890	Chappell I.	204,000			*100s of dozens	Montgomery 1891 **Examiner* 8.5.1890
1900	Furn. Gr.	500,000				*Examiner* 2.6.1900
1904	Furn. Gr.	379,804				Lord 1908
1905	Furn. Gr.	459,094				Lord 1908
1906	Furn. Gr.	493,777				Lord 1908
1907	Furn. Gr.	572,671				Lord 1908
1908	Furn. Gr.	1,030,000				Lord 1908
1911	Furn. Gr.	800,000				Mollison 1974

36. The importance of muttonbirding declined in the 1940s as people left Cape Barren and Flinders Islands to seek work on mainland Tasmania. This is clearly seen in Figure 7 where the number of birds caught falls from 800,000 in 1940 to around 500,000 and less during the rest of the decade. Today the benefits of muttonbirding are social and psychological in nature. Aborigines are looking back into history and discovering in muttonbirding a bond with their ancestors. The historical involvement of Aborigines continues to this day as most of the people in the industry, whether they are operators, catchers, pluckers, packers or do other jobs, are or Aboriginal descent (Skira 1987). Of the 16 operators in 1990 for example, 10 were Aboriginal and the rest non-Aboriginal. This contrasts with the non-commercial harvest where most participants are non-Aborigines.

37. Legislation to protect short-tailed shearwaters was first enacted almost one hundred years ago. A closed season was gazetted in December 1891 which did not allow anyone to take birds except between 20 March and 20 May (*Hobart Gazette* 15 December 1891: 2449). The taking of eggs was prohibited in 1902 but the taking of adult short-tailed shearwaters was not prevented until 1976. In 1949 regulations were introduced requiring commercial operators to put in returns showing the number of birds taken.

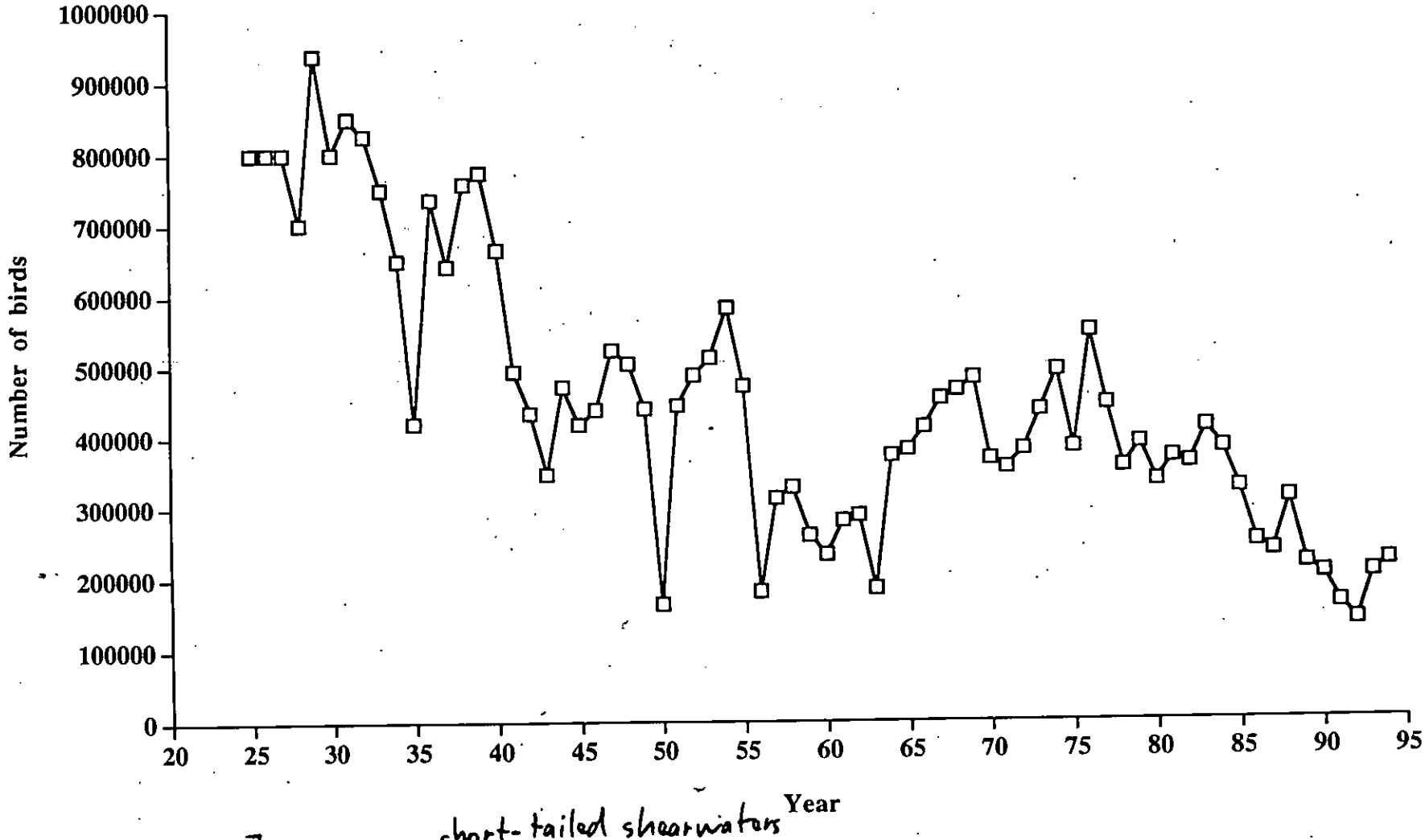


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Figure X. Number of ~~muttonbirds~~ short-tailed shearwaters caught, 1925-94.

PRESENT DAY HARVESTING OF SHORT-TAILED SHEARWATERS

Social Considerations

38. Present day harvesting is centred on 'the shed', which is a collection of buildings where people live and process the birds. These buildings are usually located near the coast because in past years all transport to and from the islands was by boats. Today some islands have airstrips. The person in charge of all the operations, the operator, is also called the 'shed boss', a job without gender. The technology used in the industry is basic and based on a labour intensive process that requires skills that can only be picked up through practice.

39. For the remainder of the year the majority of people are unemployed. Of the 12 operators in the 1994 season all of the 3 non-Aboriginals had full-time employment, but only 1 of the 11 Aboriginal operators. Most catchers and shed hands are unemployed and receive social benefits whether it is unemployment or pension benefits. According to the 1986 census there were 6,719 Aboriginal Tasmanians or 1.5% of the total Tasmanian population. Of these 47.9% aged 15 and over were employed while 12.8% were unemployed (Tasmanian Year Book No. 21 1988). These figures however, are misleading because the majority of employment is piecemeal and not permanent. It includes not only muttonbirding but fishing, fruit picking, and other unskilled work, generally labouring.

Commercial Harvest Data

40. An operator on a commercial colony employs a number of catchers for gathering birds and shed hands to process them. One operator may have more than one site, as with Three Hummock and Steep Islands which have been with the same operator since 1976 (Table 4). Boundaries of sites or colonies with several operators such as Great Dog and Trefoil Islands are well known to operators. Since 1978 there have been 9 to 17 operators and altogether, approximately 120 people, of whom 40 are catchers are employed in the industry each season.

Table 4. Number of sites and operators on commercial colonies in 1993.

Colony	Number of sites	Number of operators
Great Dog Island	7	7
Three Hummock Island	2	1
Walker Island	1	1
Steep Island	1	1
Trefoil Island	1	4

41. Most sheds employ 2 or 3 catchers and 2 or 3 shed hands. On Trefoil Island, up to 20 catchers work in 4 sheds, and up to another 30 to 40 people are paid anything between $400 and $1500 for the season as shed hands. On Walker and Three Hummock Islands catchers only are employed, as birds are killed, bagged and flown off the two islands

daily for processing in the small country towns of Smithton and Boat Harbour respectively, where they are sold locally as 'fresh' birds.

42. Since the 1960s the industry has declined to the extent that there were only three sheds on Babel Island in a presentable state, by 1984 one, and by 1991, none. The construction of new sheds is expensive and DELM does not expect future annual total harvests to be greater than 300,000 birds. Since 1988 the total catch has been well below that (Table 5 and Figure 8). The low catches in 1991 and 1992 were because there was no muttonbirding on Trefoil Island. Also, sales for feathers and oil are almost non-existent. Until recently the feathers were purchased by Kimpton's feather mill in Melbourne, but the small amount of 3 tons collected each year was equivalent to one week's stock. It is lower in quality to duck and goose down and feathers. Combined with freight costs, muttonbird feather is now uneconomical to purchase for the company. Nevertheless, the feathers are still collected and bagged, but are left outside by the sheds to deteriorate. The oil is a wax-ester (Warham *et al.* 1976), and has reputedly, medicinal value (Holloway 1936, Purdy 1900, Woodward *et al.* 1995), but it lacks vitamins (Davies 1935).

Table 5. Commercial harvest statistics, 1981-1993.

Year	Furneaux Group	Hunter Group	Total Catch	Oil (l)	Feathers (kg)	No. of Operators	No. of Catchers
1981	150,645	218,440	369,085	4,654	4,968	15	69
1982	148,888	212,417	359,305	4,842	7,344	15	64
1983	162,100	250,545	412,645	4,781	6,102	15	70
1984	143,349	238,870	367,219	4,805	5,535	16	69
1985	136,329	188,250	324,579	2,945	5,233	16	64
1986	80,929	168,085	249,014	3,255	4,212	14	50
1987	20,774	215,116	235,890	1,210	3,276	13	41
1988	90,732	219,604	310,336	2,351	5,523	14	43
1989	92,648	124,990	217,638	4,112	4,104	15	54
1990	70,455	132,369	202,824	2,430	3,543	17	42
1991	78,497	82,500	160,997	2,857	3,202	11	34
1992	64,059	73,000	137,059	1,660	-	9	32
1993	65,991	137,714	203,705	2418	1188	9	35
1994	60,061	156,334	219,741	4600	252	9	42

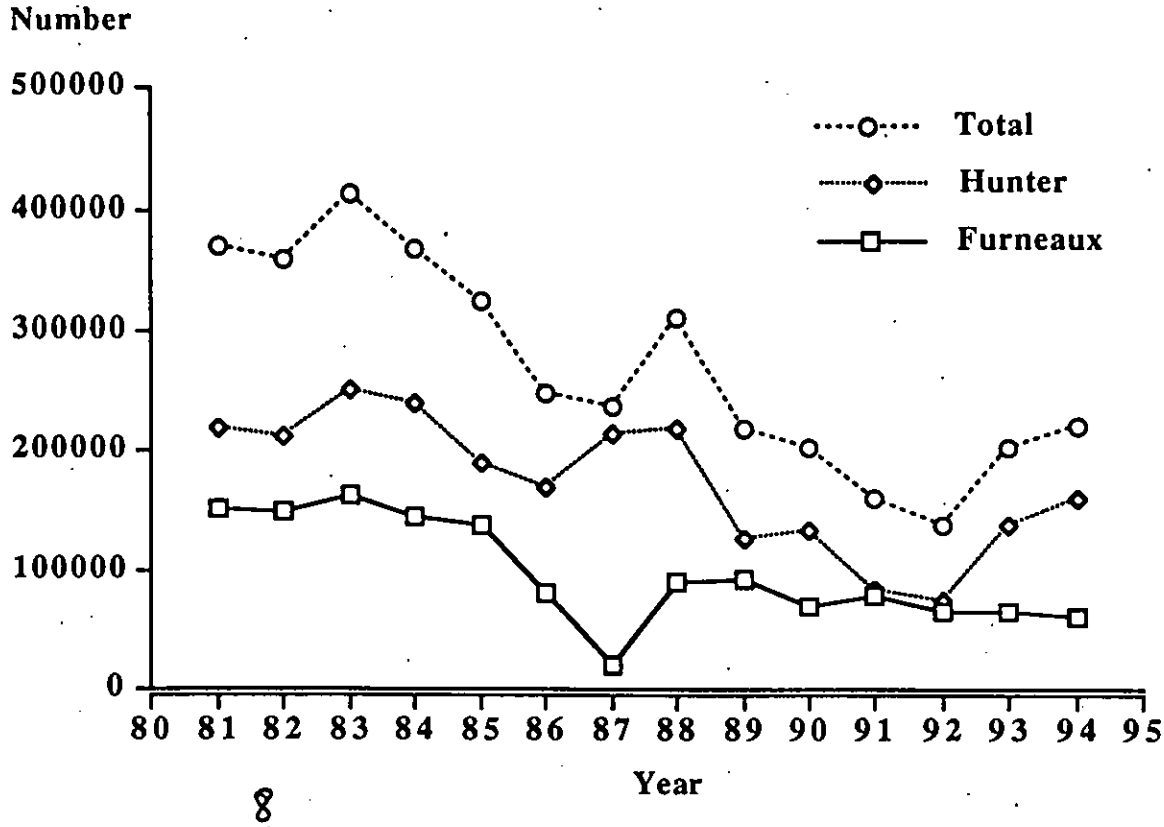

Figure 6. Number of muttonbirds caught 1981-94.

43. Muttonbirding is an expensive business because freight and labour costs are high. As a result many sheds have either closed or amalgamated with a consequent decrease in the number of operators and catches in recent years. Furthermore, as a direct result of the expense in setting up a muttonbirding enterprise, the recent Aboriginal assertion for land rights and self-determination has included requests from state and Commonwealth Governments for assistance in establishing sheds. As a step in this direction the Commonwealth Government in 1980 acquired Trefoil Island for Aboriginal Tasmanians. The state has also attempted to help individual Aborigines but without the offer of money.

44. Muttonbirds have been exported for many years overseas (Table 6), principally to New Zealand, which in the last ten years has been the only country to which they have been sent. The sale of other products is confined to feathers and oil of which the most recent was 453 kg of feathers in May, 1979 to New Zealand. Export quotas are not applicable to non-commercial muttonbirders as they are not permitted to sell their take which is strictly for home consumption.

Table 6. Number of birds caught commercially and exported, 1981-1993.

Year	Birds Caught	Birds Exported	%
1981	369,085	183,025	49.6
1982	359,305	186,120	51.8
1983	412,645	229,159	55.5
1984	367,219	163,590	44.5
1985	324,579	116,985	36.0
1986	249,014	123,865	49.7
1987	235,890	79,500	33.7
1988	310,336	120,880	39.0
1989	217,638	57,660	26.5)
1990	202,824	68,284	33.7
1991	160,997	20,166	12.5
1992	137,059	20,040	14.6
1993	203,705	51,680	25.4

SURVEYS AND MONITORING OF COMMERCIAL HARVESTING

Direct Monitoring-

45. To measure the annual harvest, the total number of occupied and unoccupied burrows in a colony ought to be counted before and after harvesting. Because this is impractical, these numbers are estimated by counting the occupied and unoccupied burrows along transects. Straight line transects are used to sample colonies because of their simplicity and low variability. By using them instead of randomly allocated plots, disturbance in the colony is reduced and risk that trampled plots would be exploited differently from untrampled areas; the amount of time required is also reduced. Plotting the standard error against increase in the number of randomly selected transects, each 100 m long, established that, to obtain accurate estimates of occupation, only 5 transects were required (Skira and Wapstra 1980). Beyond 5, the increased accuracy from counting was insufficient compared with the effort put into sampling as sampling one transect usually takes from 90 to 120 minutes. In addition, analysis showed that the optimal number of five transects was also independent of the different plant communities generally present on shearwater colonies. At present the number of transects used is three.

46. Transects are usually 100 m long, 2 m wide, and require 2 people to perform. For one person, the transect width is reduced to 1 m. Transects are placed at random except that areas with no burrows are excluded from a sample area. Counting is done by laying a surveyor's chain along a transect and inspecting each burrow within a metre of the chain. Generally two people each with a metre rule inspect burrows while a third person records. Burrows that touch the outer end of the rule are included only if the highest point of the entrance is within 1 m of the chain. Each burrow is investigated by feeling with a thin stick, approximately 75 cm long, to detect the movement of adults or chicks. Burrows with more than one entrance are recorded as one and the few burrows that are too long to feel to the end if the stick are recorded as empty. Accurate inspection of the burrows is required specially late in the day when sampling becomes

hot and tedious and observers tired. Most burrows appear suitable for laying eggs but surveys in the past and ongoing surveys on Fisher Island indicate that only between 75 to 90% are occupied during egg-laying (Skira and Wapstra 1980). The percentage of burrows occupied varies annually and less than full occupancy is probably a natural phenomenon and not an indication of a declining population.

47. Measurement of burrow density and burrow occupancy provides a direct estimate of the population of short-tailed shearwaters. The accuracy of the estimate depends on variance in the burrow density which are caused by variation in habitat. However, as pointed out in Section 45., performing the optimal number of transects overcomes the problem posed by variable habitat. Highest densities are recorded under *Poa* tussocks (Skira and Wapstra 1980) and *Tetragonia* succulent vegetation (Norman and Gottsch 1969). The maximum density recorded is 2.4 burrows/m^2 in Victoria (Norman and Gottsch 1969). Some densities (at 95% confidence limits ±2 SE) recorded at various colonies in Tasmania include Chappell Island 0.4±0.08 (Brothers and Skira 1987), Little Dog Island 0.21±0.03 (Brothers and Skira 1988), Little Green Island 0.46±0.06 (Skira and Brothers 1988a), Great Dog Island 0.56±0.08 (Skira and Brothers 1988b), Cape Queen Elizabeth 0.47±0.18 and Fort Direction 0.65±0.11 (Skira and Wapstra 1980), Trefoil Island 1.53±0.24 (Towney and Skira 1985b), Babel Island 0.75±0.12 (Towney and Skira 1985a), Bold Head 0.35±0.08, Whistler Point 0.44±0.13, Red Hut 0.45±0.12 (all on King Island *in* Skira and Davis 1987). The mean percentage variation in burrow density for the above colonies is 17% with the range between 14% (Little Dog Island) and 38% (Cape Queen Elizabeth).

48. To monitor each breeding season, burrow occupancy is measured along three permanent transects in areas that are not harvested on Great Dog Island. Monitoring is done in December at egg-laying and in March prior to the opening of the harvesting season. The results are then compared to those from the non-harvested colony of Fisher Island. The results give the measure of breeding success on Great Dog Island, allowing any management procedures due to poor breeding seasons to be put into place before the season opens.

Indirect Monitoring

49. In March before the harvesting season opens, usually between 50 and 60% of burrows contain chicks. For all the commercial colonies in Tasmania, as the total area covered by burrows, burrow density and number of birds caught by the operators are known, the level of harvesting is easily calculated. As a percentage of the total catch, harvesting success on each island has varied between 12 and 24% of the birds present. This represents approximately 7% of the total chicks available on the 7 commercial colonies assuming 50% of the 5.58 million burrows contain chicks just prior to the season (Table 7). This is well within the estimated safe harvest level of 37% (see Section. 60 below). Babel Island was last worked in 1990 when 3200 birds were taken. Because it is remotely situated, has no area suitable for construction of an airstrip, and does not have freezer facilities, birds can only be preserved in the salted form. The market for salted birds is limited at present, and this has hindered operators commencing operations on Babel Island again although the lease for muttonbirding on the island is still available.

Table 7. Size of commercial colonies and the number of birds taken in 1994.

Colony	Size (ha)	Number of occupied burrows at 50%	1994 Harvest	% Chicks Taken
Babel Island	380	1,430,000	0	0
Great Dog Island	100	375,000	60,061	18
Trefoil Island	100	520,000	106,386	15
Hunter Island	21	93,500	0	0
Three Hummock Island	40	118,000	17,850	14
Walker Island	56	98,100	17,720	24
Steep Island	25	155,250	17,724	12
Total	722	2,789,850	219,741	7

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NON-COMMERCIAL MUTTONBIRDING

History and Management

50. Under the *Animals and Birds Protection Act 1928*, only one type of muttonbird licence existed to take birds. People could either take birds to sell or for home consumption. However, few people took birds for home use until the 1950s following the expansion of colonies that commenced in the 1920s, combined with the more ready availability of cars and boats. It peaked in 1977 when 7924 amateur licences were sold, many of them bought by people going to colonies on Bruny Island and to other colonies in southeast Tasmania. For example, on the 1976 opening day of the season at Cape Queen Elizabeth on Bruny Island, there were 500 people including babies in pushers, and 200 cars at the colony, which was only accessible by a rough, 5 km long track (Skira, unpublished).

51. With such a large number of people concentrated on the colonies (many of which were less than 5 ha in area), problems were perceived of over-exploitation, physical damage to colonies by muttonbirders, and the presence of small children joining in the catching. Surveys in the 1970s of Cape Queen Elizabeth and colonies close to Hobart revealed harvesting rates of 90% and more (Skira and Wapstra 1980). These compared with a calculated safe harvest level of 37% (Skira *et al.* 1985). These problems led in 1979 to the season being shortened by two weeks, and an on-going publicity campaign giving possible solutions through the issue of a leaflet. These measures had little impact and further restrictions of closing colonies and reducing the daily bag limit were enforced during the 1980s.

52. Anti-amateur muttonbirding feeling grew from the early 1980s with articles in the press expressing that sentiment (Hobart *Mercury* 31 March 1981; *Weekend Australian* 24-25 March 1984), and a flood of protests to the government. In the mid-1980s concerns were expressed by the general public concerning alleged cruelty because of the methods used to kill chicks. The carnival atmosphere of the season, particularly on opening day when many muttonbirders were affected by alcohol and left their rubbish scattered around colonies, also brought the season into disrepute. In 1987 the government closed the season on mainland Tasmania except for the west coast. The Bass Strait islands

remained open. In 1991 more restrictions were placed on amateur muttonbirding. Amateur muttonbirding was only permitted in the Furneaux Group, the Hunter Group, the King Island group of islands and on the west coast of Tasmania (Callister 1991). Daily bag limits were halved from 50 to 25 birds on the islands, and from 25 to 15 on the west coast.

Monitoring

53. A survey and monitoring program of heavily exploited colonies commenced in 1977 (Skira and Wapstra 1980). Estimated takes for Cape Queen Elizabeth were 88.3±8.16% in 1977, 96.3±4.1% in 1978, and 83.2±12.7% in 1979. Other colonies in southeast Tasmania showed similar high harvesting levels (Skira unpublished). Several Bass Strait islands also showed high harvesting levels, with Big Green Island having a history of decline of colonies (Norman 1985). The information from the surveys eventually resulted in confining muttonbirding to the West Coast and Bass Strait islands since 1987. Since then the extent of harvesting over the safe harvest level of 37% is confined to the small colonies <5 ha in area. Non-commercial muttonbirders are not required to provide harvest figures but based on licence sales and bag limits it is estimated that less than 100,000 chicks are taken annually at the present time. Ongoing monitoring has shown that the level of harvesting varies from 1% on Little Green Island and 24% on Little Dog Island in the Furneaux Group to 70% on the West Coast. Recent management prescriptions of closing colonies and reducing bag limits, have resulted in levelling off to safer harvest levels.

54. Whether there has been recovery of bird numbers since harvesting ceased in 1987 is not known. To date no burrow occupancy counts have been done on any colonies previously over-exploited. This is because recovery can take up to 14 years to achieve, since short-tailed shearwaters take anywhere between 4-14 years to breed for the first time. Secondly, poaching is a major problem at many of Tasmania's mainland colonies, and on Bruny Island. Thirdly, interannual and seasonal variability of food resources and environmental conditionsdirectly affect breeding success. Monitoring over many years would be required to discern whether change is due to cessation of harvesting or naturally occurring.

Licence Sales

55. The sale of licences has declined in recent years (Table 8) due to closure of colonies and a cut in 1991 of the daily bag from 25 to 15 birds on the West Coast and from 50 to 25 on the Bass Strait islands. Also since 1991 colonies opened on the West Coast are only accessible by boat. This measure has resulted in a gradual decrease in the number of licences sold each year to around 500-600 annually, while the number of muttonbirders going to the colonies on the West Coast has been reduced from approximately 140 in 1988 to less than 75 in 1993.

Table 8. Number of non-commercial licences sold, 1982-94.

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Licences	3039	2865	918	1157	1053	470	634	622	675	

needs 1982-84 figures

LAW ENFORCEMENT

Legislation

56. Non-commercial harvesting is generally not permitted on commercial colonies. There is no regulation governing this, but the lease of a commercial operation by tradition gives exclusive rights to the operator and catchers. Each year a number of muttonbirders are charged with offences. Fines are set by magistrate courts, and although the average fine per conviction is $50, the majority of offenders are convicted of more than one charge (Table 9).

Table 9. Summary of offences for the 1982-93 non-commercial muttonbird season.

Year	Number of offenders	Number of charges	Number of convictions	Number of dismissals	Fine ($)
1982	21	47	44	3	1952
1983	70	147	137	10	5835
1984	32	58	42	9	2547
1985	35	88	76	2	4943
1986	37	75	70	0	4752
1987	45	94	81	0	5220
1988	10	23	18	4	2894
1989	10	21	17	0	703
1990	6	15	15	0	1772
1991	14	29	24	3	771
1992	11	33	27	0	2432
1993	10	30	28	0	2583

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FVF

Australian Nature Conservation Agency

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FBSA/94/03053

6 December 1994

North Coast Environment Council Inc
C/-J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing a copy of the management plan for the black bear *Ursus americanus* in the Province of British Columbia, Canada. The plan has been submitted by the British Columbian Ministry of Environment, Lands and Parks, and represents the current management practices for the species, despite being dated June 1980 and entitled "Preliminary Black Bear Management Plan for British Columbia."

The Ministry of Environment, Lands and Parks has advised that the "preliminary plan received extensive public review in British Columbia and because there were few major changes it was not published as a final document, although it has been treated as one. We have been following that plan for several years. Since the plan was written several changes have occurred. The population of black bears in British Columbia is now about 140,000. The average annual harvest since 1981 has been about 3500, significantly less than the sustainable harvest level of 8%. We have banned the possession, use, sale, trade, import or export of bear gall bladders and genitalia and the import or export of bear paws separate from the hide. It is illegal to kill a two year old or younger bear or any bear in its company, thus protecting family units. Hunters must retrieve the meat of black bears they kill."

Consideration is being given to declaration of the plan under the controlled specimens provision (section 10A) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* to allow for the non-commercial importation of hunting trophies. Importation will naturally also be conditional upon the presentation of a valid Canadian CITES export permit.

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

Frank Antram
Population Assessment Unit

F15

Australian Nature Conservation Agency

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ref: 94/01806

17 November 1994

North Coast Environment Council Inc
C/-J Tedder
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STUARTS POINT NSW 2441

Dear Sir/Madam

The Australian Nature Conservation Agency obtained the *Black Bear Management Plan for Manitoba* from the Manitoba Department of Natural Resources in Canada, following enquiries from an individual wishing to import hunting trophies.

Consideration is being given to approving this program under the controlled specimens provision (Section 10A) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of Section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for P Sleeman

Tom Aldred
Deputy Director
Population Assessment Unit

F1F

Australian Nature Conservation Agency

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Our Ref: 94/02777

14 November 1994

North Coast Environment Council Inc
C/-J Tedder
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STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing a copy of a proposal to export native insects harvested from private land in Queensland.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for

Tom Aldred
Deputy Director
Population Assessment Unit

F15

Ref: 290/7/8, 94/01195

14 November 1994

North Coast Environment Council Inc
C/-J Tedder
Pavans Access
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STUARTS POINT NSW 2441

Australian Nature Conservation Agency

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Dear Sir/Madam

The Australian Nature Conservation Agency has received the following proposed management programs:

- Brushtail Possum in Tasmania submitted by the Tasmanian Parks and Wildlife Service
- *Crocodylus porosus* in Queensland submitted by the Queensland Department of Environment and Heritage
- *Crocodylus porosus* and *Crododylus johnstoni* in the Northern Territory of Australia submitted by the Conservation Commission of the Northern Territory
- *Crocodylus porosus* and *Crododylus johnstoni* in Western Australia submitted by the Western Australian Department of Conservation and Land Management

Consideration is being given to declaration of these management programs under section 10 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on these proposals. Please submit your comments within one month.

Yours sincerely

for Tom Aldred
Deputy Director
Population Assessment Unit

F1.f

Australian Nature Conservation Agency

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Our Refs: 330/4/443, 330/4/391

14 October 1994

North Coast Environment Council Inc
C/- J Tedder
Pavans Access
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STUARTS POINT NSW 2441

Dear Sir/Madam

Please find enclosed information relating to the export of snake venom, venom derivatives, serum and sloughed skin from Australian Native snakes.

Consideration is being given to the declaration of snake venom and other products as controlled specimens pursuant to Section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of Section 9B(2) of the Act, you are invited to comment on this proposals. Please submit your comments within one month.

Yours sincerely.

Tom Aldred
Deputy Director
Population Assessment Unit

PROPOSAL TO EXPORT VENOM, VENOM DERIVATIVES, SERUM AND SLOUGHED SKINS OF VARIOUS SNAKE SPECIES UNDER THE *WILDLIFE PROTECTION (REGULATION OF EXPORTS AND IMPORTS) ACT 1982*.

DETAILS OF PROPOSAL

1. Extent of the Proposal

This proposal is to renew and expand the extent of an existing declaration which is currently restricted to snake venom and venom derivatives obtained by persons licensed under relevant State/Territory legislation, and is due to expire on 30 April 1995. The proposal has now been expanded to include snake serum and sloughed skins, in addition to the venom and derivatives.

Currently only one private company is operating in the export market, although inquiries are received from interested parties from time to time. Given the limited number of snake venom extraction and processing operations, and their satisfactory regulation at the state level, a general proposal for state-approved operations has been prepared. The Australian Nature Conservation Agency (ANCA) is only aware of four other venom extraction operations existing in Australia and none of these have applied to export in recent years.

The operation is essentially a captive breeding operation, with minor supplementation from the wild. Venom will primarily be obtained from snakes held by the operators or their future progeny. While additional snakes may be obtained from the wild this will be done under State permits (refer to 3 below). Currently, most snakes that are taken from the wild are removed from private property at the request of the land owner.

2. Status of the Species Involved.

The snake species held by the current operator in the export market are:

Notechis scutatus
Notechis ater
Pseudechis australis
Pseudechis porphyriacus
Pseudechis guttatus
Pseudechis colletti
Pseudonaja affinis
Pseudonaja nuchalis
Hoplocephalus stephensi
Morelia spilota variegata
Oxyuranus scutellatus
Oxyuranus microlepidotus
Acanthophis antarcticus
Acanthophis praelongus
Acanthophis pyrrhus
Tropidechis carinatus
Pseudonaja textilis
Pseudonaja inframacula
Austrelaps superbus
Liasis fuscus.

None of the above species are listed in the "Action Plan for Australian Reptiles", a project report commissioned under ANCA's Endangered Species Program. However, the proposed declaration is intended to cover all native Australian snakes other than those listed as endangered or vulnerable on the ANZECC List of Endangered Vertebrate Fauna and those native Australian species listed on Schedules 1 and 2 to the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*.

The Australian and the State or Territory endangered species lists differ slightly. For example, *Oxyuranus microlepidotus* is currently listed as endangered in New South Wales and rare in Queensland. Each State's legislation allows restrictions to be placed on the taking of that species in that State.

Captive breeding has been demonstrated for most of the species identified by the current operator. As most of the snakes to be used have been captive bred or are currently held in captivity, the venom and serum extraction processes are unlikely to have an adverse impact on wild populations. However, as the demand for venom cannot be met entirely from captive stocks at present, there will continue to be a demand for snakes to be taken from the wild in order to supplement the venom and serum obtained from captive bred stock, to diversify the captive gene pool and to provide stock for those species which are difficult to breed. Supplementation of captive stocks by wild caught specimens is expected to be minimal and is likely to be restricted to specimens being removed from areas around human habitation at the request of the landowners.

3. State Controls

The proposed declaration would be limited to venom and serum extraction operations which are controlled and licensed under State or Territory wildlife legislation. State controls cover the taking of specimens from the wild and the keeping of them in captivity.

Collection of animals from the wild for augmentation of stocks must be done under a State/Territory permit/licence which states the species and number of each species allowed to be collected.

Exportation of snake venom or serum from States/Territories that do not currently have legislative protection for snakes will not be permitted under the proposed declaration.

The current export operation is located in a State which has legislative protection for snakes and the proponent holds permits to keep snakes for the purpose of venom extraction. The proponent obtains permits to take snakes from the wild as required.

4. Export Potential

No information is available on the potential for growth in overseas demand for snake venom, serum or sloughed skins. It is difficult to forecast if demand for these products is likely to increase. During 1993 and 1994 (to date), approximately 15 grams and 19 grams of snake venom respectively has been exported.

5. Proposed Conditions for Declaration of Snake Venom and Venom Derivatives.

Duration
The declaration under section 10A would be for a two year period.

Conditions

- The export of snake venom, serum, derivatives and sloughed skins is limited to:
  - Australian native snakes not listed on the ANZECC List of Endangered Vertebrate Fauna;
  - Australian native snakes not listed on Schedules 1 and 2 to the *Wildlife Protection (Regulation of Export and Imports) Act 1982*;

- specimens sourced from State/Territories which afford legislative protection to Australian native snakes.

- Operations proposing to export venom, venom derivatives, serum and/or sloughed skins must be licensed under State/Territory law to keep snakes and if necessary to deal in snake products. Proponents will also be required to maintain records on:
  - numbers of each species held;
  - origin of each snake;
  - details on captive breeding births, deaths and other disposals
  - number of snakes obtained from the wild and location of collection;

- Licensed operators will be required to make their records available to the ANCA on request.

- Collection of animals from the wild for augmentation of stock must be done under a State/Territory permit/licence to take animals from the wild which states the species and number of each species to be collected.

- Venom/serum extraction operations which have been approved by the ANCA may make application for a permit or an authority to export snake venom, venom derivatives, serum and/or sloughed skins.

F18

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Our Ref: 94/00314

23 September 1994

North Coast Environment Council Inc
C/- J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

The Australian Nature Conservation Agency has received the following proposed management programs:

- *Management Program for the Red Kangaroo in Western Australia 1995 - 1997, Management Program for the Euro in Western Australia 1995 - 1997* and *Management Program for the Western Grey Kangaroo in Western Australia 1995 - 1997*, which were submitted to this agency by the Western Australian Department of Conservation and Land Management;

- *The New South Wales Kangaroo Management Programme, effective January 1st 1995 to December 31st 1997*, which was submitted to this Agency by the NSW National Parks and Wildlife Service;

- *The Queensland Management Program for the Commercially Taken Macropods 1994 - 97*, which was submitted to this Agency by the Queensland Department of Environment and Heritage.

Consideration is being given to declaration of these management programs under section 10 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

Gerry Maynes

Gerry Maynes
Director
Population Assessment Unit

F1f

With the compliments of the
Chief Executive Officer
Peter Bridgewater Ph.D.

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Ms Lisa Yeates
The Big Scrub Environment Centre inc.
149 Keen Street
LISMORE NSW 2480

Dear Ms Yeates

I refer to a recent article that appeared in the 1994 Autumn edition of the Big Scrub Newsletter and subsequent discussions regarding Australia's position and action on whaling issues in the International Whaling Commission (IWC).

The article in your newsletter expresses concern at reports that the Australian Government was not maintaining its position of opposition to whaling. I understand that an Australian non-government organisation has submitted material for publication in your newsletter seeking to censure me as, the Australian Commissioner to the IWC. The material circulated, on behalf of a non-government group based in the United States, is of considerable concern and contains incorrect and misleading information. The material, if accepted at face value, could be very damaging to Australia's policies on whale conservation and it is therefore important that your members are informed of the true position taken by Australia in regard to whaling. The views expressed in the article in your newsletter are not shared by those conservation organisations in Australia which have had a long-term involvement in national and international cetacean conservation issues. I appreciate your discussion about this issue and your offer to distribute this letter to your members.

The Australian Government has a policy that all whales should be protected and has taken action accordingly. Internationally, the Government has continued to support the International Whaling Commission (IWC) and its Scientific Committee as the most appropriate international body for the conservation of all cetaceans. Within the IWC, the Government pursues its policy of seeking world-wide protection for all whales, dolphins and porpoises and opposing all whaling, although it does recognise that some isolated communities still have traditional cultural and subsistence needs for access to whaling and whale products.

A major issue discussed at both IWC44 in 1992 and IWC 45 in 1993 involved a proposal for the establishment of a sanctuary for whales in the Southern Ocean. At IWC45, Australia was instrumental in ensuring further consideration of implementation of a sanctuary for whales in the Southern Ocean. An offer from Australia to the IWC to host an intersessional meeting at which the outstanding legal, political, ecological, geographical, management, financial and global environment issues could be addressed was accepted. The meeting was held on Norfolk Island from 20-24 February 1994 and, contrary to the statement in your newsletter, was not convened to lift the moratorium!

The broad agreement reached by the working group that there are no irreconcilable difficulties remaining in the establishment of a sanctuary under the 1946 International Convention for the Regulation of Whaling was a particularly significant step, as were the detailed discussions of some of the other difficult issues. As further indication of our support Australia is one of a group of 10 like-minded IWC members that have proposed that the Commission again consider the proposal for a circumpolar sanctuary in all waters South of 40 ° S at IWC46 in May this year.

Australian Nature Conservation Agency

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Office of the
Chief Executive

An agency of the Federal Environment Portfolio

However, the IWC continues to face many difficulties. As I have said, Australia has a strong commitment to the IWC, and the informed support provided by conservation organisations in Australia for the Government's position is important in maintaining effective Australian participation in the Commission. Attached for your information is a copy of a Resolution passed by the Senate, recognising the important role played at IWC45 by the Australian Commissioner and the Australian Delegation, which includes two non-government representatives. Also attached is a copy of two extracts from Hansard dealing with Australia's position on some IWC issues and the then Minister's, press release before the Norfolk Meeting.

I can assure you that the Australian Government shares your concern for cetaceans. We will continue to pursue our policy of opposition to whaling world-wide and will seek to obtain the best possible outcome for the conservation of all species of whales, dolphins and porpoises at the forthcoming IWC meeting.

Yours sincerely

Peter Bridgewater
Australian Commissioner to the IWC

MINISTER FOR THE ENVIRONMENT, SPORT AND TERRITORIES

House of Representatives Question No: 936

Mr Evans - asked the Minister representing the Minister for the Environment, Sport and Territories, upon notice, on 24 February 1994:

(1) What action is Australia taking to prevent the recommencement of commercial whaling.

(2) Will he attend the conference on commercial whaling as the Australian representative; if not, will an alternative Australian representative attend.

Mr Brereton- The Minister for the Environment, Sport and Territories has provided the following answer to the honourable member's question:

(1) The Australian Government has a long-term commitment to a position of opposition to all whaling and to seeking a ban on all commercial whaling, while recognising that some traditional communities continue to require access to whaling and whale products to meet traditional cultural and subsistence needs. With bipartisan support, the Government has continued to support the International Whaling Commission (IWC) and its scientific committee as the appropriate international organisation through which to pursue conservation of all species of whales, dolphins and porpoises. The Australian representatives to the IWC have been instrumental in achieving support for all of the major conservation decisions taken by the Commission in recent years. We will continue that active pursuit of the Government's objectives.

(2) The recent IWC meeting was not a conference to discuss the resumption of commercial whaling. It was an intersessional technical meeting of an IWC working group to discuss the proposed sanctuary in the Southern Ocean. It was held on Norfolk Island from 20-24 February 1994 at the invitation of this Government, to ensure continued action on the sanctuary initiative. The working group's task was to examine a number of outstanding legal, political, geographic and ecological issues relating to establishment of a sanctuary in the Southern Ocean and to prepare a report and recommendations for consideration at the 46th Annual Meeting of the IWC, which will be held in Mexico in May this year.

Australia was represented at the meeting on Norfolk Island by the Australian Commissioner to the IWC and a delegation of six, including two representatives of national non-government conservation groups. Delegates of the twenty-six IWC member countries attending were welcomed on behalf of the Government, by the Hon Janice Crosio MP, representing the Minister for the Environment, Sport and Territories, and by the President of the Norfolk Island Legislative Assembly on behalf of that body and the Norfolk Island community. In Mrs Crosio's welcome, the Government's continued opposition to the resumption of commercial whaling was made clear, as was its strong support for implementation of a sanctuary in the Southern Ocean.

From the perspective of the Australian Government and other participants the working group meeting went well, with the support provided by the Norfolk Island government and community playing an important part in establishing an atmosphere in which constructive discussion was possible. The broad agreement reached by the working group that there are no irreconcilable difficulties remaining in the establishment of a sanctuary under the 1946 International Convention for the Regulation of Whaling was a particularly significant step.

WHALING

Motion (by **Senator Chamarette**) agreed to:

That the Senate—

(a) commends the decision of the International Whaling Commission to leave in place the ban on commercial whaling;

(b) expresses concern over the decision by Norway to defy the international ban and hunt 296 Minke whales in 1993;

(c) recognises the work done by the Government and the Australian delegation to the International Whaling Commission meeting in:

(i) formally expressing regret at the decision by Norway to continue to defy the international ban on the hunting of Minke whales, and

(ii) leading the international effort to salvage the proposal for a whale sanctuary in the Southern Oceans following the rejection of the proposal by the International Whaling Commission; and

(d) urges the Government to continue to work for the long term protection and conservation of all cetaceans.

Notice of motion altered on 20 May 1993 pursuant to Standing Order 77.

Whaling

(Question No. 98)

Senator Coulter asked the Minister representing the Minister for the Environment, Sport and Territories, upon notice, on 6 May 1993:

(1) At the preliminary meeting of the International Whaling Commission (IWC) held in Kyoto in April 1993, why did Australia take the lead in co-sponsoring a resolution for a Revised Management Procedure which paves the way for resumed commercial whaling.

(2) Why did Australia propose a resolution on Japan's "scientific whaling" program, "Resolution on Special Permit Catches by Japan in the Southern Hemisphere", which appears to condone such hunting rather than condemn it.

(3) What were the reasons for the Director of ANPWS (Dr Peter Bridgewater) setting up a meeting in Madrid in March 1993 with a select group of IWC Commissioners to explore the possibilities of making an agreement to allow commercial whaling to be resumed.

(4) What action has Australia undertaken, or what action is Australia planning to undertake, to advance the commitment given in the Minister's press release of 21 December 1992, to co-ordinate international support for the Antarctic whale sanctuary at the next IWC meeting.

(5)(a) What position will Australia take on the extra quota allocation which the Japanese delegation has requested as "relief for the coastal populations"; and (b) will the Australian delegation vote on this matter if a three-quarter majority voting system is not exercised.

(6) Will the Australian delegation revoke its support of the Revised Management Scheme, which includes the Revised Management Plan for allocation of commercial quotas; if not, why not.

(7) If Australia does not revoke its support of the Revised Management Scheme, will the Minister guarantee that the Scheme will not be furthered until all its components, including control and surveillance and the maintenance of the protection status of stocks, satisfy the most stringent environmental standards.

(8) Will the Australian delegation condemn the Norwegian unilateral recommencement of whaling and threaten harsher measures if Norway decides to carry out its plan to proceed with commercial whaling despite the moratorium.

Senator Schacht—The Minister for the Environment, Sport and Territories has provided the following answer to the honourable senator's question:

(1) There was no such meeting.

(2) Australia's position at IWC 44 (1992) and 45 (1993) concerning scientific whaling was to oppose the use of the provisions of Article VIII of the 1946 International Convention for the Regulation of Whaling, which allow for research involving killing whales, indicating particular concern where permits granted under national legislation to take whales for scientific purposes under those provisions appear, by their scale and nature, to subvert the intent of the moratorium on commercial whaling.

At IWC 44 Australia and a number of other countries co-sponsored a resolution introduced by the USA on special permit catches in the southern hemisphere, inviting Japan to reconsider and improve proposed research. The resolution was adopted by consensus.

(3) There was no meeting in Madrid in March 1993. A meeting was held in Madrid in mid-February for an informal exchange of views on a range of issues under discussion at IWC 45. The meeting was arranged by Dr Bridgewater in his capacity as Vice-Chairman of the IWC. It was intended that the meeting could assist in undertaking some preparatory work for the Agenda at IWC 45.

(4) Australia wishes to ensure the success of the Southern Ocean Sanctuary proposal and will strongly support its further development.

At the recent IWC meeting, Australia strongly supported proposals for further work to be undertaken on the sanctuary proposal, including: the development of a timetable for its implementation, agreement on management issues, and consideration of outstanding political, legal, ecological, geographical, financial and global environmental issues relating to the sanctuary. The recent meeting has also agreed to Australia hosting an intercessional planning meeting of IWC members to facilitate that work.

(5)(a) At IWC 45 Australia opposed special relief allocations for small-type coastal whaling operations, on the grounds that evidence provided to date indicates a strong commercial component in trade and distribution of the products of such activities.

(b) Australia opposes suggestions that such an allocation could be determined by a simple majority vote on a Resolution. At IWC 45, the request did not achieve support.

(6) Australia will not revoke its support of the Revised Management Scheme. If whaling should ever resume, a high level of security would need to be afforded to exploited cetacean populations to provide the most conservative achievable management regime.

(7) Yes. Australia will support further development of Schedule amendments to incorporate additional provisions to the Revised Management Scheme to provide the most conservative achievable management regime. These include: 1) an effective observation and inspection scheme; 2) data standards; 3) agreed guidelines for conducting surveys and methods of analysis, to ensure that aerial and shipboard surveys meet stringent standards; and 4) agreed arrangements to ensure that all catches are taken into consideration. At IWC 45, a resolution to bind the Commission to implement the Revised Management Scheme in 1994 was defeated, largely on the initiative of Australia.

(8) The Australian delegation (and 14 others) signed a document condemning the proposed action by Norway. Two other delegations said they would be making unilateral representations to Norway. While Norway's decision is regretted, under provisions in the International Convention for the Regulation of Whaling (1946) Norway lodged an objection to the 1982 vote on the moratorium on commercial whaling, therefore allowing them to legally proceed with commercial whaling if they so chose.

Minister for the Environment, Sport and Territories

Hon Ros Kelly MP

Media Release

ESTABLISHMENT OF WHALE SANCTUARY IN THE SOUTHERN OCEAN

Federal Environment Minister Ros Kelly today committed Australia to an all out effort to secure agreement to a Southern Ocean Whale Sanctuary at the next meeting of the International Whaling Commission (IWC) in Mexico in May.

A Southern Ocean Whale Sanctuary could include all waters south of 40 degrees south.

Mrs Kelly said that next week's technical meeting which is being hosted by Australia, would be important in addressing the outstanding concerns of some IWC countries about the sanctuary proposal in the lead up to the IWC May meeting.

The technical meeting, to be attended by representatives from 24 countries, will be held on Norfolk Island - a very suitable venue as it is on the northern migration route of the humpback whale from its feeding grounds in the area covered by the proposed sanctuary.

'Australia is proud to be hosting this meeting, but it must be stressed this is a technical meeting only and not the full Commission,' Mrs Kelly added.

'Establishment of a sanctuary underlined Australia's push to end all commercial whaling. The time for the slaughter of these precious mammals is finished. Whale numbers are still struggling back from the brink of extinction, where industrial killing put them.

'This is particularly important in light of recent revelations that the Russian whaling fleet had been grossly understating the number of whales they were killing prior to the current moratorium on commercial whaling. This revelation means that estimates of whale population numbers are completely unreliable.

'At least in our region these magnificent animals will be able to roam freely without the threat of killer whaling fleets. We must, however, get permanent protection for whales in all the oceans on earth as soon as possible.'

Queries: David Lording (06) 2777 640
16 February 1994

Parliament House, Canberra, ACT 2600. Telephone 06 277 7640 Facsimile 06 273 4130

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copy

NORTH COAST ENVIRONMENT COUNCIL INC.

Pavans Road,
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26.1.94

Population Assessment Unit
Australian Nature Conservation Agency,
GPO Box 636
Canberra 2601

Dear Sir,

Thank you for your letter inviting the North Coast Environment Council to comment on various management programs. We reply as follows:

Your Ref. 290/2/128 dated 31st December 1993.

The 1994 - 1996 Management Program for the Commercially Taken Macropods in Queensland; The licensing and harvesting program is extremely detailed and comprehensive and should not cause any problems as long as the program is strictly adhered to. The NCEC is concerned that the Macropus parryi (Whiptail Wallaby) is allowed to be harvested as this animal's habitat (woodland along the eastern half of Queensland and the North-east corner of New South Wales) is under threat . The other species being considered have benefited food-wise from the introduction of cattle and their habitat has expanded as cattle watering locations have been built in the western half of the state and therefore the population of these species has steadily increased. Due to the increasing destruction of the habitat of Macropus parryi this species has come under pressure. Even though it is at present considered common, in time this could change

especially with the extra pressure of harvesting, placing this species under threat. The figure 23 shows that in 1991 a quota of about 50,000 was allocated and only 5,000 were taken. Looking at the other species for the same period the quota and the number taken indicates that it has been harvested at a realistic rate unlike the Macropus parryi which has been placed under pressure with unrealistic quotas. The NCEC considers the Macropus parryi should not be harvested.

The Kangaroo Conservation and Management Program in South Australia - Part A; This proposed management program is not as detailed as we would expect but nevertheless there appears to be no real outstanding problems. The NCEC would, however, like to see a study undertaken of the ecology of the target species.

The NCEC would like to comment that it believes that the harvesting of native fauna to reduce pressure on exotic animals (cattle) and to feed exotic pets, is, as well as being degrading to the species, a waste of a viable and useful food source. To protect our environment against soil erosion, siltation and general land degradation we would like to see the cattle industry replaced in time with a sustainable kangaroo meat industry.

Yours faithfully,

David Page
FOR NORTH COAST ENVIRONMENT COUNCIL

Have run out of letter heads but due to time restraints was unable to send this to you first - hope its OK. Could you send all CVFNC mail to Lot 15 to save time.

Regards David.

F1 f

Australian Nature Conservation Agency
Nature Conservation House
153 Emu Bank
BELCONNEN ACT 2617
GPO Box 636
CANBERRA ACT 2601
Telephone (06) 250 0300 Facsimile (06) 250 0303

1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
'A NEW PARTNERSHIP'

Australian Nature Conservation Agency

Our Ref: 330/4/462

14 September 1993

North Coast Environment Council Inc
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

The Australian Nature Conservation Agency obtained the *Management Plan for Grizzly Bears in Alberta* from the Alberta Department of Forestry, Lands and Wildlife in Canada, following enquiries from private individuals wishing to import hunting trophies.

Consideration is being given to approving this program under the controlled specimens provision (Section 10A) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.* Approval of the *Management Plan for Grizzly Bears in Alberta* would be for the purpose of allowing **only non-commercial importation of hunting trophies as personal effects.**

In accordance with the provisions of Section 9B(2) of the Act, you are invited to comment on this management program. Please submit your comments within one month.

Yours sincerely

Frank Antram
Assistant Director
Wildlife Protection Authority

Not replied to

FJ5

Australian Nature Conservation Agency
Nature Conservation House
153 Emu Bank
BELCONNEN ACT 2617
GPO Box 636
CANBERRA ACT 2601
Telephone (06) 2500300 Facsimile (06) 2500303

1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
"A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: 330/4/512

2 December 1993

North Coast Environment Council Inc
C/- J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing a copy of a proposal to export *Macropus rufogriseus* (Bennetts wallaby) and *Thylogale billardierii* (Tasmanian pademelon) harvested from Tasmania. This proposal was submitted by the Tasmanian Department of Parks, Wildlife and Heritage.

Consideration is being given to declaration of this harvesting operation under the controlled specimens provision (section 10A) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*.

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

F1 5

Australian Nature Conservation Agency

Canberra Office
GPO Box 636
Canberra ACT 2601
Ph (06) 250 0200
Fax (06) 250 0399

Our Ref: 290/2/128

31 December 1993

North Coast Environment Council Inc
C/- J Tedder
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing copies of the following documents:

- *The Kangaroo Conservation and Management Program in South Australia - Part A - Management of Large Kangaroos* which was submitted to this Agency by the South Australia Department of Environment and Natural Resources; and the

- *1994-96 Management Program for the Commercially Taken Macropods in Queensland* which was submitted to this Agency by the Queensland Department of Environment and Heritage.

Consideration is being given to approval of these management programs under section 10 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on these management programs. Please submit your comments within one month.

Yours sincerely

for Dr Gerry Maynes
Director
Population Assessment Unit

F1f

Australian Nature Conservation Agency
Nature Conservation House
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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
'A NEW PARTNERSHIP'

Australian Nature Conservation Agency

Our Ref: 330/4/445

19 August 1993

North Coast Environment Council Inc
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

This Agency has received an inquiry from an individual who wishes to import a lion hunting trophy from Zimbabwe.

Lions *(Panthera leo)* are listed on Appendix II to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) under the family listing of all Felidae species. Under the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* importation of wild taken specimens of species listed on CITES Appendix II may only be permitted where the specimens have been taken in accordance with a management program approved under the Act, or where the specimens have been declared controlled specimens. There is currently no management program for lions in Zimbabwe approved under the Act.

This Agency is considering declaration of lions from Zimbabwe as controlled specimens pursuant to section 10A of the Act. Approval would be for the purpose of allowing **only non-commercial importation of hunting trophies as personal effects**. Naturally importation would only be permitted where a relevant CITES export permit has been issued by Zimbabwe.

The Zimbabwe CITES Management Authority has provided the following information on the management of lions in that country:

- Although lions are not given any special protection in Zimbabwe, they are included in general wildlife management strategies.
- The estimated current population of lions in Zimbabwe is 3 843.
- All hunting of lions is subject to a strict quota which is determined by the Zimbabwe CITES Management Authority.
- The hunting quota for 1993 is 125 males and 69 females.
- The Zimbabwe CITES Management Authority believes that there is no impact on the population of the species from the taking of specimens under the quota.

- It is illegal to hunt or destroy a lion without a permit.
- Hunting trophies must be registered and it is an offence to possess an unregistered trophy.
- Lion trophies may not be disposed of unless the lion was killed under a permit.

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

Frank Antram
Assistant Director
Wildlife Protection Authority

F1 5

Australian Nature Conservation Agency
Nature Conservation House
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GPO Box 636
CANBERRA ACT 2601
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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
"A NEW PARTNERSHIP"

Australian Nature Conservation Agency

FBSA/330/4/253

19 August 1993

North Coast Environment Council Inc
Pavans Access
Grassy Head
STUARTS POINT NSW 2441

Dear Sir/Madam

I am enclosing a copy of a proposal to export up to 300 carcases of magpie geese *Anseranas semipalmata*. These birds have been captive-raised from eggs harvested in the Northern Territory under licence. The proposed export is to test market reaction to the product before the Conservation Commission of the Northern Territory proceeds with the development of a full management program for the species.

Consideration is being given to declaration of magpie geese as controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* for the purposes of allowing trial exports of up to 300 carcases.

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

Frank 1 18/8

G. Webb Pty. Limited

Wildlife Research & Management Consultants

A.C.N. 001 653 738

Consultants to the Conservation Commission of the Northern Territory
Tel: 089 89 4411
Facs: 089 89 4510
Telex: PARKS AA85336

Berrimah Farm, Darwin, N.T.
(Address all correspondence to:)
P.O. Box 38151, Winnellie, N.T. 0821
Australia

Telephone:
089 89 2355 Work
089 84 3370 Home
Facsimile:
089 47 0678

27th July, 1993

Received 12/8/93

Dr. Peter Bridgewater,
Australian Nature Conservation Agency,
P.O. Box 636,
CANBERRA CITY, ACT. 2601.

John H. 9th → PJ 18/8/93

Dear Peter,

re: A request for authority to export carcases of Pied Geese (Anseranas semipalmata), under the controlled specimens provision (Section 10A) of the Wildlife Protection (Regulation of Exports and Imports) Act 1982.

Further to my letter of 27 July and the response from John Hicks (11 August 1993; FBSA/330/4/253), please find below an edited proposal based on Section 10A rather than 44 of the Wildlife Protection (Regulation of Exports and Imports) Act 1982.

SUMMARY

1. A draft Management Program for Pied Geese prepared by the Conservation Commission of the Northern Territory has been reviewed by ANCA, and their comments and new data are being incorporated into a new draft being prepared by the CCNT.

2. Over and above biological and sustainable use considerations, the success or failure of the program will depend completely on the economic aspects of raising and final marketing.

3. G. Webb Pty. Limited, with assistance from the Conservation Commission, has invested some $AUS35,000 in an incubation and raising trial, and have examined potential markets within Australia for the 300 animals raised. Those markets are not sufficiently strong for raising in the Northern Territory to be profitable.

4. Overseas interest has been solicited and indications are that a sufficiently strong market does exist in Asia. Testing that market is essential to further investment in the commercial aspects of the

program, and thus the program in its entirety.

5. Consultations with AQIS have resolved a strategy for processing and export of up to 300 animals on a trial basis to Asia.

6. We request the Minister to approve the export of up to 300 carcases to for the purposes of testing the market such that the Management Program as a whole can be completed and based on a sound economic footing (in addition to considerations of regulation, monitoring, reporting and biological factors).

7. We would greatly appreciate it if this matter could be dealt with expediently, as it is important to process some of the animals at young ages, and prolonged refrigerated storage will adversely affect their quality, and thus market potential.

BACKGROUND

PP1 The Conservation Commission of the Northern Territory submitted in January 1992 a draft management program for Pied Geese (Anseranas semipalmata), that incorporates ranching - the collection of wild eggs for incubation and raising in controlled conditions.

Following review by ANCA and others, the proposed program is currently being reviewed and updated with new data by the CCNT. It may be some time until this process is finalised, and "marketing" is clearly a critical area to be resolved.

The program is based on extensive ongoing field research on both the geese and their habitats, and it involves a commitment to surveys and annual monitoring. There is every reason to expect that it will be an exemplary program and that the limited "use" provided for will be sustainable.

Ultimately, the program's success or failure will be determined by the degree to which commercial incentives are created for landowners to maintain nesting habitats in their natural state (rather than see them steadily encroached upon by grazing and farming). The final market price must be sufficiently high to cover the costs of the purchase of eggs from landowners, and of the subsequent incubation, raising and processing.

COMMERCIAL TRIALS

Under permit from the CCNT, G. Webb Pty. Limited has undertaken a series of raising trials that have already involved a significant investment. For the commercial aspects of the program to develop and be refined, considerably more investment will be needed.

G. Webb Pty. Limited are prepared to make that investment in research and development, but cannot do so without definitive testing of the market.

Research within Australia has indicated that the Australian market for such products is very limited indeed, as the country is not one in which this type of game meat is considered a luxury item.

In contrast, trials undertaken in Darwin with a number of Asian business interests, resulted in a request for trial shipments that could be extensively tested. Indications were that a market price could be available that would make the commercial aspects of the program viable.

The problem has been discussed with AQIS and a processing procedure is being finalised. It is intended to send the first shipment as young birds (2-3 months) and revise processing methods as directed before others are sent at older ages (3-4; 4-5 months).

In our opinion it is essential that the markets be tested thoroughly before any program involving conservation and commercial use be finalised, a position endorsed by CITES.

CITES REQUIREMENTS

The Management Program for Pied Geese involves ranching, and the CITES position on ranching was fundamentally established in Resolution Conf. 3.15. Later amendments have not altered the safeguard [(c)ii] requiring: **"an assessment of the likelihood of the biological and economic success of the ranching operation"**. There are obvious and potentially serious risks in developing a program without thoroughly testing both the biological and economic aspects of the program.

SECTION 10A of the Wildlife Protection (Regulation of Exports and Imports) Act 1982.

This section establishes a means for the Minister to approve a limited export to test the market potential.

In accordance with section 10A,

(1) a. It is not intended to export live animals, or
b. It is not intended to export a specimen on Part 1 of Schedule 1.
c. It is not intended to export a specimen in Part 1 of Schedule 3.

(2) The Minister can declare the specimens to be controlled specimens for the purposes of the Act by a signed instrument published in the Gazette.

(3) The proposed export is totally consistent with the object of the Act in promoting responsible wildlife conservation and management.

(4) The Minister can make a decision based on:

(a) Limited specimens taken as eggs during the period 22 April 1993 to 15 May 1993.

(b) Limited numbers (up to 300)

(c) Subject to the circumstances as outlined above - the need to test economic aspects before implementing a ranching program.

(d) Subject to such conditions that may be required.

(e) the instrument can specify those conditions.

(f) the instrument can be revoked once the export has taken place.

5. Based on the information contained in the draft management program and additional information held by the Conservation Commission:

(a). The population size exceeds one million animals in the Northern Territory alone.

(b). The impact of taking the eggs is negligible as rates of mortality in eggs and hatchlings are generally very high, and they are particularly high in the specific area from

which these eggs were collected (Mary River).

(c). The collection is consistent with the draft management program.

(d) Eggs were collected by the CCNT, and their maintenance in captivity is subject to permits and oversight by the CCNT. The CCNT will be involved in processing and despatch.

(e) The object of the export is to test the market potential, not to sell specimens per se.

(f) AQUIS is working with the proponents to facilitate export and market testing.

(6) Each of the geese is implanted with a microchip facilitating individual identification, and numbers are maintained in a register continually updated.

(7) The date of declaration of the specimens can be provided as required.

Under section 9B (b) of the Act, when the Minister is considering the declaration of a controlled specimen under Section 10A, she must send each person and organisation on the section 9A register written notice of the proposal and without contravening the Privacy Act 1986, provide sufficient information for such third parties to consider adequately the merits of the proposal. Within a month any written submissions must be received and the Minister cannot proceed with the declaration until such submissions have been considered.

We would simply ask that the process be started expediently such that the samples are not compromised through prolonged storage.

I trust this is sufficient information for you,

Best wishes,

Dr. Grahame Webb,
Director

F1f

Copy.

Pavans Road,
Grassy Head,
Stuarts Point,2441

28th June 1993

Frank Antram,
Assistant Director,
Wildlife Protection Authority,
Australian Nature Conservation Agency,
GPO Box 636,
Canberra 2601.

Dear Mr. Antram,

Thank you for your letters inviting the North Coast Environment Council to comment on various harvesting and export operations. Our replies are as below:

8th June - Ref. 330/4/451.

With regard to the harvesting and export of Caustis flexuosa and C. recurvata and Restio tetraphyllus from State forests in Queensland we would like to raise a number of points: Question 4.2 We would like to see every third not second plant harvested. Q. 4.5. The duration of harvesting should not include the period of time when the plant is reproducing. Q.4.9 We would like to see a copy of the Forestry Department's Monitoring Report sent to Australian Nature Conservation Agency on a yearly basis. Q.7.2. This needs to be clarified as to whether the plant occurs in Nature Reserves or National Parks in Queensland as the proposer says it "may".

15th June - Ref.330/4/169

With regard to the harvesting of seaweed in the water and on the beaches of King Island, Tasmania, the N.C.E.C. wishes to point out a number of major concerns. King Island is an important staging post for waders and other marine life and there is no mention in either the application form or the so-called Management Plan (which is only a draft) prepared by Anthony Cheshire of the ramifications that the removal of such a huge amount of seaweed from the beaches and water may

have. We express concern that the Management Plan deals solely with the reproduction, growth and productivity of two species of seaweed with no mention of the effects that such operations would have on the marine ecosystem. Reports prepared on behalf of the seaweed harvesting industry should be very comprehensive giving a full statement of the environmental effects and should consider the entire ecosystem. The N.C.E.C. sees this application for what it is - the seaweed harvesting industry preparing its own management plan to suit its own ends. We call upon the A.N.C.A. in conjunction with State Wildlife bodies to immediately request a full statement of the environmental effects this harvesting industry will have. We believe that such a precedence would be greatly welcome by the conservation movement as a whole.

18th June - Ref.330/4/463 and 330/4/469

Although this does not refer to Australian native animals we regard all fauna throughout the world as needing protection and consideration and the N.C.E.C. feels strongly that the slaughter of Black Bears and Cougar should not be encouraged by allowing their importation as trophies.

25th June - Ref. LA/290/5/3

Regarding the management programme of salt and fresh water crocodiles in Western Australia the N.C.E.C. would like to ask that the granting of this licence be on the condition that all areas proposed as National Parks, Nature Reserves or Marine Parks as per Fig. 2 and 4 in the attached report, be gazetted before any licences are issued. The Western Australian Government should be encouraged to continue their involvement in commercial crocodile farming using captive bred animals. We would also like to encourage the reduction of animals harvested from the wild other than pest animals.

28th June - Ref. 330/4/437

In connection with the proposal for harvesting cut flowers of Craspedia globosa and Calocephalus citreus from private land and road reserves in Victoria, the N.C.E.C. believes that the harvesting of both these plants should not take place until research has been carried out by A.N.C.A. and the Dept. of Conservation and Natural Resources to ascertain the effect harvesting has on the long term survival of these small native plants. As stated in the enclosed letter from the D.C.N.R. they have no data on the effects of commercial harvesting on the conservation of these species.

Consideration should also be given to the effect harvesting will have on those insects and fauna which use them as a food source. We would also like to draw your attention to the benefit of flower lined roads to tourism.

28th June - Ref. 330/4/466

We appreciate that the removal of beached seaweed may appear to be an environmentally harmless operation. This is not so. With regard to the harvesting and export of beach-washed macro-algae and marine angiosperms from Tasmania, we find this application wanting on the grounds that the proposer considers that beached seaweed is no longer of use to the environment. This application seeks to remove all seaweed from the beach, leaving none to decompose and play its natural part in the ecosystem by providing a food source for marine organisms, which then play an important part in the food chain for wader birds, e.g. species such as Ruddy Turnstone (Arenaria interpres) and Grey Tail Tattler (Tringa brebipes) etc. We believe that at least 50% of the seaweed should remain on the beach in its natural state to perform this necessary function. Neglecting these feeding grounds for waders is not in the best spirit of the International Agreement signed by Australia concerning migratory waders and their protection.

5th July - LA 330/4/4/30

The N.C.E.C. feels that the farming of Redback spiders would be far more desirable than the present harvesting method and would like to see the proposer encouraged to bring forward his projected plans for farming.

5th July - Ref.330/4/468

The N.C.E.C. is still concerned with the possible effect harvesting Xanthorrhoea has on reproduction and therefore its role as a food source for nectar feeding birds, mammals and insects. We believe that no further export licences for Xanthorrhoea should be undertaken in the south-eastern Queensland and northern N.S.W. area until a full study has been completed on the long-term effects harvesting has on this natural food source. We have highlighted this concern on numerous occasions and believe that the Australian Nature Conservation Agency should work together with State Government in commissioning this research.

With regard to question 7 - "Monitoring of species" - we believe that the answers required for part A and C should be re-addressed giving consideration to the species as a whole and not relying on observations by the applicant which have no scientific basis.

N.C.E.C would like to make the comment that it considers that the harvesting of our native flora should, like other commercial crops, only be undertaken in a plantation situation. Not enough is known about the long-term environmental effects of harvesting naturally occurring plants.

Yours sincerely,

David Page
for NORTH COAST ENVIRONMENT COUNCIL

Australian Nature Conservation Agency
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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE "A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: 330/4/169

15 June 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to export seaweed, *Durvillaea potatorum* and *Gelidium asperum,* collected from beaches on King Island. A copy of the document, *A Management Program under the Wildlife Protection (Regulation of Exports and Imports) Act 1982 for the harvesting of macro-algae from coastal locations on King Island and north-west Tasmania,* is also enclosed for your information.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

Sam 21/6

PROPOSAL FOR HARVEST AND EXPORT OF NATIVE FLORA UNDER THE *WILDLIFE PROTECTION (REGULATION OF EXPORTS AND IMPORTS) ACT 1982*

BEACH-WASHED SEAWEED FROM KING ISLAND, NORTH-WEST TASMANIA

1. ORGANISATION TO OPERATE THE PROGRAM

Kelp Industries Pty Ltd

2. SPECIES SUBJECT TO THE PROPOSAL

Scientific Name	**Common Name**
Durvillaea potatorum	Bull Kelp
Gelidium asperum (syn. *G. glandulaefolium*)	Gelidium

Distribution and abundance of the species

D. potatorum is endemic to the exposed rocky coasts of south-eastern Australia where it extends north to Bermagui in NSW and west to Robe in South Australia. It is found along the west coast of Tasmania and as far north as Bicheno on the east coast and around the western islands of Bass Strait. It is a dominant member of the subtidal and intertidal zone between the six and ten metre zone. The population on King Island represents about 9% of the total distribution.

G. asperum is broadly distributed throughout south-eastern Australia from West Island, South Australia, to Walkerville, Victoria, and around the coast of Tasmania. Throughout its distribution it grows in the sub-littoral zone between depths of 3 and 20 metres and in deep, shaded, tidal pools.

3. LOCATION OF PROPOSED HARVESTING

Details of the area where harvesting is to take place

D. potatorum is to be harvested on the west coast of King Island between Cape Wickham in the north and approximately five kilometres due south of Ettrick Beach. *D. potatorum* is also to be harvested on the south coast of King Island from Surprise Bay to the east of Stokes Point. On the south-east coast it is to be collected from three areas around Red Hut Point, Grassy Harbour and City of Melbourne Bay. This is a total of 17 harvesting sites covering approximately 51 kilometres of coastline.

G. asperum is to be collected from seven sites on the west coast of King Island between Victoria Cove and British Admiral Beach. The harvesting sites cover approximately 24 kilometres of coastline.

A map of the harvesting sites is attached.

Details of harvesting restrictions of the area

The plants will only be removed from the sites listed above. Access to the coastline is by existing tracks, usually on private land, for which permission from the land holder is obtained. Collection from easily accessible areas is more common than from less accessible areas.

4. HARVESTING PROCEDURES

Description of what specimens are to be harvested

Large, freshly detached plants. The plants are detached from their substrate by rough weather and cast onto the shore or into deep holes or gutters along the shore. The detached plants cannot re-attach and once cast on the beach are dead or will die in the immediate future.

Plant material that is too small or no longer fresh is of no commercial value and is not collected.

How many specimens will be harvested and how will this be determined

D. potatorum harvest has increased from 773 tonnes dry weight in 1976 to a maximum of 4 025 in 1989. The average tonnage harvested for the past five years has been 3 354. The amount harvested is determined by orders received.

The proponent indicates that, with the exception of 1992, the amount of material available has exceeded demand. Availability of kelp in 1992 was reduced by unusually calm weather conditions during winter, but was still sufficient to meet demand.

G. asperum has been trial harvested since 1990 and the export market is expected to increase slowly.

Exports are monitored by the issue of permits by the Australian Nature Conservation Agency (ANCA). The availability of material is also determined by the Tasmanian Department of Environment and Land Management (TDELM) when issuing salvage licences. These two sources of information will provide an overview of the situation when the program is reassessed for renewal.

Method of harvesting and details of who will harvest

The plant material will be harvested by registered collectors in the Kelp Industry Collective. There are approximately 90 registered collectors. Approximately 30 work full time, 30 are farmers who collect when conditions are unsuitable for farming activities and the remainder are weekend part-time collectors.

D. potatorum plants are collected by hand from the beaches and hauled onto trailers or trucks by a winch. In areas of high yield material is collected from deep gutters and holes by large excavators with a grab attachment. The machine is able to lift the detached plants from the water and place them directly into trucks for transport to drying areas.

G. asperum is hand collected and placed in large bags. No mechanical assistance is required as these plants do not weigh as much as *D. potatorum*. The bags are taken to drying areas by a vehicle.

Timing and duration of harvesting period

The plants are harvested year round and the amount of material available is largely dependent on rough weather conditions.

Effects of harvesting on the species harvested

Cheshire (1991) indicates '...harvesting in the areas specified will have minimal impact on the species as a whole, due to its extensive distribution throughout the rest of south-eastern Australia.' and 'Existing harvesting procedures are likely to have minimal impact either on the populations of *D. potatorum* and *G. asperum* or their respective habitats.'

Effects of harvesting on other species in the ecosystem

The effects of harvesting on other species in the ecosystems have not been determined, however, Cheshire (1991) indicates that there '...is no evidence to suggest that the activities of Kelp Industries have caused any harm to the near-shore/coastal ecology of King Island.'

Will there be independent supervision of the harvesting?

The operation is regularly visited by a ranger employed by TDELM.

5. MANAGEMENT OPERATIONS

Processing the plant material

Once harvested the plants are air-dried on racks at the processing factory before being further dried by furnace heat inside the factory to 10% moisture content.

The material is then granulated and processed through different size mesh sieves to meet the range of order requirements (ie coarse to fine grade).

6. STATUS OF SPECIES PROPOSED TO BE HARVESTED

Are the species protected under State or Federal legislation?

Both species are only protected in marine reserves under the Tasmanian *National Parks and Wildlife Act 1970.*

Native plant species are subject to export control under the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

Is the species found in marine reserves and national parks?

Not relevant. Only cast material is to be harvested.

Are there restrictions under State/Territory/Federal legislation on the harvesting of the species?

Harvesting of *D. potatorum* and *G. asperum* requires a licence issued by the TDELM under Section 41 of the *Tasmanian Crown Lands Act 1976.* Kelp Industries holds the only licence for harvesting cast kelp from Crown areas around King Island.

7. MONITORING OF THE SPECIES

What are the maximum quantities of the species that can be harvested without adversely affecting the survival in the harvesting area of the species proposed to be harvested?

Kelp Industries has been harvesting *D. potatorum* since 1976 and trial harvesting *G. asperum* since 1990.

The following amounts of *D. potatorum* have been purchased from the registered collectors since 1976.

Year	Dry Weight (Tonnes)
1976	773
1977	2 441
1978	2 616
1979	2 910
1980	2 360
1981	2 480
1982	1 771
1983	1 697
1984	2 862
1985	2 160
1986	2 040
1987	2 578
1988	3 389
1989	4 025
1990	3 753
1991	2 917
1992	2 686
Total	**43 458**

The maximum quantities that can be harvested will be dependent on the amount of plant material that is washed up. The harvest will have no adverse effects on the species. The ecological impact of harvesting on the foreshore and intertidal zone is currently unknown.

Outline what methods will be employed to monitor the taking of the specimens

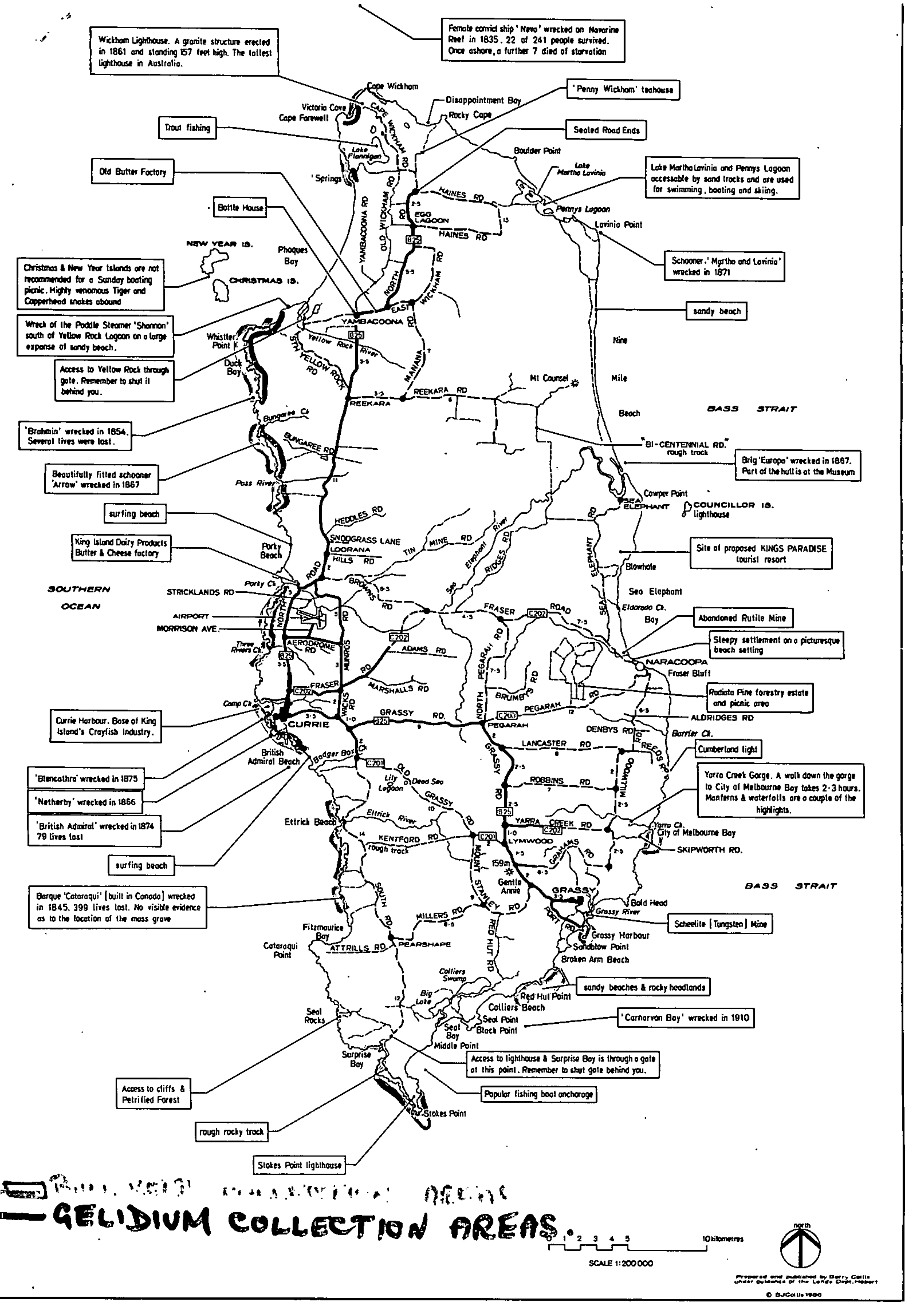
The licence issued by TDELM requires the licensee to provide monthly figures on quantities of material collected. Kelp Industries would also provide information on amount and collection sites of all harvested material to ANCA.

Any other biological and environmental monitoring proposed for the harvesting area

None considered necessary at this stage.

8. References

A Cheshire (1991)
A Management Program under the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* for the harvesting of macro-algae from coastal locations on King Island and north-west Tasmania.



Female convict ship 'Neva' wrecked on Navarine Reef in 1835. 22 of 241 people survived. Once ashore, a further 7 died of starvation
Wickham Lighthouse. A granite structure erected in 1861 and standing 157 feet high. The tallest lighthouse in Australia.
Cape Wickham
Victoria Cove
Cape Farewell
Disappointment Bay
Rocky Cape
'Penny Wickham' teahouse
Trout fishing
Lake Flannigan
Sealed Road Ends
Boulder Point
Lake Martha Lavinia
Lake Martha Lavinia and Pennys Lagoon accessable by sand tracks and are used for swimming, boating and skiing.
Old Butter Factory
'Springs'
CAPE WICKHAM RD
YAMBACOONA RD
OLD WICKHAM RD
HAINES RD
EGG LAGOON
Pennys Lagoon
Lavinia Point
Bottle House
NEW YEAR IS.
Phoques Bay
CHRISTMAS IS.
Christmas & New Year Islands are not recommended for a Sunday boating picnic. Highly venomous Tiger and Copperhead snakes abound
Schooner 'Martha and Lavinia' wrecked in 1871
NORTH RD
WICKHAM RD
EAST
YAMBACOONA
sandy beach
Wreck of the Paddle Steamer 'Shannon' south of Yellow Rock Lagoon on a large expanse of sandy beach.
Whistler Point
Yellow Rock River
SOUTH YELLOW ROCK RD
MANANA RD
Nine Mile Beach
Access to Yellow Rock through gate. Remember to shut it behind you.
Duck Bay
Mt Counsel
REEKARA RD
REEKARA
BASS STRAIT
'Brahmin' wrecked in 1854. Several lives were lost.
Bungaree Ck
BUNGAREE RD
"BI-CENTENNIAL RD." rough track
Brig 'Europa' wrecked in 1867. Part of the hull is at the Museum
Beautifully fitted schooner 'Arrow' wrecked in 1867
Pass River
Cowper Point
SEA ELEPHANT
COUNCILLOR IS. lighthouse
surfing beach
HEDDLES RD
King Island Dairy Products Butter & Cheese factory
SNODGRASS LANE
LOORANA
HILLS RD
TIN MINE RD
Sea Elephant River
RIDGES RD
SEA ELEPHANT RD
Site of proposed KINGS PARADISE tourist resort
Porky Beach
Blowhole
SOUTHERN OCEAN
Porky Ck
STRICKLANDS RD
BROWNS RD
Sea Elephant Bay
AIRPORT
MORRISON AVE.
FRASER ROAD
Eldorado Ck.
Abandoned Rutile Mine
Three Rivers Ck
AERODROME RD
MUNROS RD
ADAMS RD
PEGARAH RD
Sleepy settlement on a picturesque beach setting
NARACOOPA
Fraser Bluff
FRASER
MARSHALLS RD
BRUMBYS RD
Radiata Pine forestry estate and picnic area
Camp Ck
WICKS RD
GRASSY RD.
PEGARAM RD
ALDRIDGES RD
Currie Harbour. Base of King Island's Crayfish Industry.
CURRIE
PEGARAH
DENBYS RD
Barrier Ck.
British Admiral Beach
Badger Box Ck
LANCASTER RD
REEDS RD
Cumberland light
'Blencathra' wrecked in 1875
OLD GRASSY RD
Dead Sea
Lily Lagoon
GRASSY RD
ROBBINS RD
MILLWOOD RD
Yarra Creek Gorge. A walk down the gorge to City of Melbourne Bay takes 2-3 hours. Manferns & waterfalls are a couple of the highlights.
'Netherby' wrecked in 1866
Ettrick Beach
Ettrick River
YARRA CREEK RD
Yarra Ck.
City of Melbourne Bay
'British Admiral' wrecked in 1874 79 lives lost
KENTFORD RD
rough track
LYMWOOD
GRAHAMS RD
SKIPWORTH RD.
surfing beach
MOUNT STANLEY RD
159m
Gentle Annie
GRASSY
BASS STRAIT
Barque 'Cataraqui' [built in Canada] wrecked in 1845. 399 lives lost. No visible evidence as to the location of the mass grave
SOUTH RD
MILLERS RD
RED HUT RD
Bold Head
Grassy River
PORT RD
Scheelite [Tungsten] Mine
Fitzmaurice Bay
PEARSHAPE
ATTRILLS RD
Grassy Harbour
Sandblow Point
Cataraqui Point
Broken Arm Beach
Colliers Swamp
sandy beaches & rocky headlands
Big Lake
Red Hut Point
Colliers Beach
Seal Rocks
Seal Point
Black Point
'Carnarvon Bay' wrecked in 1910
Seal Bay
Middle Point
Access to lighthouse & Surprise Bay is through a gate at this point. Remember to shut gate behind you.
Surprise Bay
Access to cliffs & Petrified Forest
Popular fishing boat anchorage
Stokes Point
rough rocky track
Stokes Point lighthouse
GELIDIUM COLLECTION AREAS.
0 1 2 3 4 5 10 kilometres
SCALE 1:200 000
north
Prepared and published by Barry Collis under guidance of the Lands Dept. Hobart
© BJCollis 1980

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Australian National Parks and Wildlife Service

FBSA/330/4/376

5 May 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to harvest and export stems of *Dicksonia antarctica* from private property at Burnie, Tasmania.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to Section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*:

In accordance with the provisions of Section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE "A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: 330/4/463
330/4/469

18 June 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

The Australian Nature Conservation Agency obtained the *Management Plan for Black Bears in Alberta* from the Alberta Department of Forestry, Lands and Wildlife in Canada, following enquiries from private individuals wishing to import hunting trophies.

This Agency also obtained the document *Utah Cougar Harvest 1986 - 87* from the Utah Department of Natural Resources, following an inquiry from an individual who wishes to import a hunting trophy (cougar skin) which was obtained in 1988 under this program.

Consideration is being given to approving these programs under the controlled specimens provision (Section 10A) of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.* Approval of the *Management Plan for Black Bears in Alberta* would be for the purpose of allowing **only non-commercial importation of hunting trophies as personal effects.** Approval of the *Utah Cougar Harvest* document would be for the purpose of allowing the individual concerned to import the hunting trophy.

In accordance with the provisions of Section 9B(2) of the Act, you are invited to comment on these management programs. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

David, you may keep the reports
Jan 25/6

Australian Nature Conservation Agency
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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
'A NEW PARTNERSHIP'

Australian Nature Conservation Agency

Our Ref: LA 330/4/430

5 July 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to export venom extracted from redback spiders (*Latrodectus hasselti)* collected in South Australia.

Consideration is being given to declaration of this collection operation under controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

APPLICATION FOR EXTRACTION AND EXPORT OF PRODUCTS DERIVED FROM NATIVE FAUNA FOR ASSESSMENT UNDER THE *WILDLIFE PROTECTION (REGULATION OF EXPORTS AND IMPORTS) ACT 1982*

2. SPECIES SUBJECT TO THE PROPOSAL

Scientific Name *Latrodectus hasselti*

Common Name redback spider

Distribution and abundance of the species.

L. hasselti is an abundant species that occurs in all States and Territories of Australia. It is a poisonous species which is typically associated with human habitation. Where the species occurs in close proximity to human dwellings, it is subject to control and/or eradication as a pest.

3. LOCATION OF PROPOSED COLLECTION

Details of the area where collection is to take place

The spiders will be either collected from private residential land or public land at the request of the land owners or lodged with the operators by members of the public who have removed the spiders from their own land.

The proponent plans to investigate captive breeding and non-destructive venom extraction but it is likely that a program would take up to six years to develop. A breeding methodology has been obtained from Western Australia.

Details of collection restrictions of the area.

The proponent will seek the permission of private land owners to collect from their land.

4. COLLECTION PROCEDURES

Description of what specimens are to be collected.

Adult female spiders.

Females is more desirable.

The proponent proposes to collect the spiders, kill them and remove the venom glands. A typical yield is 20 microlitres of venom from 40 spiders. No other method for venom extraction is currently known.

How many specimens will be collected?

1 000 spiders per year.

Age of individuals collected.

Venom may be extracted from females over two months old.

Method of collection.

By hand using a collecting jar or other receptacle.

Duration of collecting period.

Spiders are collected throughout the year.

Details of who will collect.

Proponent, his employees and members of the public who lodge spiders with the proponent.

Effects of collection and venom extraction on the species.

Redback spiders are a highly fecund species. The females collected are likely to be pregnant as this spider is able to maintain three concurrent stages of reproduction - juveniles, eggs in an egg sac in the web and developing eggs in the body. A single female may produce 10 egg sacs in 16 weeks yielding an average of 2 500 spiderlings (range 1 000 - 4 000). Females may live for more than 12 months and can reproduce at 72 days (Softly and Freeth, 1970). Females are also able to store sperm and this may be used throughout the reproductive period. The females have a nominal parenting role and the juvenile redback spiders are essentially independent from birth. The female may provide food for the young but if she is removed then some young will survive by eating their siblings. If collection occurs after the adult female spider has laid eggs the surviving juveniles can successfully recolonise the area. Redback spiders produce a new generation each year.

Effects of collecting on other species in the ecosystem.

Redback spiders feed on other insects, small arthropods and small lizards. A decrease in adult female redback spiders may lead to an increase in these groups.

Given that collection will be by hand the effects of collection on other species should be negligible.

Will there be independent supervision of the collecting?

No.

5. MANAGEMENT OPERATIONS

None, other than monitoring of the numbers of spiders that are collected.

6. STATUS OF SPECIES PROPOSED TO BE COLLECTED

Is the species protected under State legislation?

This species is protected in nature reserves and national parks only. In areas around human habitation the species is often subject to spraying by pest control companies.

Is the species found in nature reserves and national parks?

Redback spiders are generally found in and around human settlements. It is likely that redback spiders occur in nature reserves and national parks throughout Australia that are adjacent to or within such areas.

Are there restrictions under State legislation on the collecting of the species?

Redback spiders are unprotected fauna throughout Australia. There are no restrictions on collecting specimens from the wild, except in nature reserves or national parks where collecting is not permitted.

The collection of native fauna from the wild for export purposes is controlled by the Commonwealth *Wildlife Protection (Regulation of Exports and Imports) Act 1982*.

7. MONITORING OF THE SPECIES

What are the maximum quantities of the species that can be collected without adversely affecting the survival in the collecting area of the species proposed to be collected?

The proponent believes that all adult females in a specific area can be collected without affecting adversely the survival of the species. This is based on the fact that the sub-adult females in the area will mature within 20 days and can reproduce rapidly to recolonise the area.

Outline what methods will be initially employed to monitor the collection of the specimens.

The proponent has indicated a willingness to monitor the numbers of individuals collected at nominated sites and use the data to determine if populations are declining and the minimum time required between visits to maximise collection quantities.

Describe any other biological and environmental monitoring proposed for the collecting area.

None is considered necessary at this stage.

8. REFERENCES

Softly and Freeth (1970)
Journal of the Institute of Animal Technicians **21**(4), 117 - 126.

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Australian National Parks and Wildlife Service

Our Ref: LA 330/4/446

19 May 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to harvest and export specimens of *Latrodectus hasselti* (Redback Spider) from private property in Albany, Western Australia.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to Section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*:

In accordance with the provisions of Section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

Frank Antram
Assistant Director
Wildlife Protection Authority

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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE "A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: 330/4/466

28 June 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to export beach-washed macro algae and marine angiosperms harvested from the coast of Tasmania.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority

Australian Nature Conservation Agency
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1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
"A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: 330/4/437

28 June 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to export cut flowers of *Craspedia globosa* and *Calocephalus citreus* harvested from private land and road reserves in Numurkah and Euroa Shires in Victoria.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

Frank Antram
Assistant Director
Wildlife Protection Authority

APPLICATION FOR HARVEST AND EXPORT OF NATIVE WILDLIFE UNDER THE *WILDLIFE PROTECTION (REGULATION OF EXPORTS AND IMPORTS) ACT 1982*

2. SPECIES SUBJECT TO THE PROPOSAL

	Scientific name	Common name
Species 1	*Craspedia globosa*	Billy Buttons, Drumsticks
Species 2	*Calocephalus citreus*	Lemon Beauty-heads

Distribution and abundance of the species.

C. globosa occurs in moist, low-lying communities and on roadsides in heavy clay soils in southern Queensland, northern and western Victoria, central New South Wales and south eastern South Australia. The species is widespread and abundant on flood plains in central Victoria that have been cleared for agriculture.

C. citreus occurs in grassland or woodland communities in Queensland, Victoria, South Australia and Tasmania. It is widespread but rarely abundant.

3. LOCATION OF PROPOSED HARVESTING

Details of the area where harvesting is to take place

Species 1 Road reserves bounded by Longwood-Shepparton Road, Murchison-Violet Town Road, Arcadia 2 Chain Road, Geodetic Road and Cullens Road in the Shire of Euroa.

Private land owned by:

Mr J F Thomas, Section C, Allotment 15, Loofs Road, Naringaningalook, Shire of Numurkah, County of Moira (6.5 ha).

Mr B Yarwood, Corner Walsh Bridge Road and Central Mundoona Road, Numurkah (20.3 ha).

Species 2 Road reserves bounded by Longwood-Shepparton Road, Murchison-Violet Town Road, Arcadia 2 Chain Road, Geodetic Road and Cullens Road in the Shire of Euroa.

Private land owned by:

Mr J F Thomas, Section C, Allotment 15, Loofs Road, Naringaningalook, Shire of Numurkah, County of Moira (6.5 ha).

Details of harvesting restrictions of the area.

Each Shire has a Planning Scheme which controls the harvest of native plants. A planning permit is required for harvesting from private property where the harvest area exceeds 0.405 ha and from roadsides. If the harvest area exceeds 10 ha the application is referred to Victorian Department of Conservation and Natural Resources (VDCNR) for their input.

The written permission of land owners is required for harvesting on private land.

4. HARVESTING PROCEDURES

Description of what specimens are to be harvested.

Flower stems only.

How many specimens will be harvested?

The proponent expects to harvest 25 000 *C. globosa* and 25 000 *C. citreus* flower stems per annum. This has been estimated as approximately 50% of the available material in the harvesting areas.

Age of individuals harvested.

Both species are perennials and regrow each year from root stock.

Method of harvesting.

Hand collection aided by secateurs, scissors or a knife.

Timing and duration of harvesting period.

Both plants flower in spring and summer. Species 1 would be harvested from October to January and Species 2 from December to February.

Details of who will harvest.

Proponent only.

Effects of harvesting on the species harvested

VDCNR has indicated that harvesting of *C. globosa* from roadsides and private land has been a sustainable enterprise for several harvesters in the Benalla (CNR) Region.

The proponent has observed that the cattle on the Thomas property graze the two species to the ground every year with no apparent effect.

Both species are palatable to stock.

Effects of harvesting on other species in the ecosystem.

Given that harvesting will be by hand only the effects of collection on other plant species should be negligible. Machinery will not be used in the harvest operation.

Will there be independent supervision of the harvesting?

It is likely that harvesting from roadside reserves will be supervised to some extent by the VDCNR.

5. MANAGEMENT OPERATIONS

Management operations will not be possible on private land.

Shire Councils often manage roadside reserves to control weeds and reduce fire hazards. Following road works the roadsides may be reseeded by Shire staff. Shires are encouraged by the VDCNR to assess roadsides for conservation value and develop roadside management plans. The Euroa Shire has prohibited collection of flowers from major arterial (tourist) roads.

6. STATUS OF SPECIES PROPOSED TO BE HARVESTED

Is the species protected under State/Federal legislation?

Neither species is protected under the Victorian *Flora and Fauna Guarantee Act 1988.*

Is the species found in nature reserves and national parks?

Both species are widespread in the area. The region, however, contains no large Crown reserves which adequately protect the species. Both species are well represented on remnant strips of native vegetation on road reserves and *C. globosa* survives in some paddocks that are grazed but not cultivated.

Are there restrictions under State/Federal legislation on the harvesting of the species?

Harvesting of native vegetation is controlled under the Victorian *Planning and Environment Act 1987.*

The harvesting of native flora from the wild for export purposes is controlled by the Commonwealth *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

7. MONITORING OF THE SPECIES

What are the maximum quantities of the species that can be harvested without adversely affecting the survival in the harvesting area of the species proposed to be harvested?

The VDCNR indicates in the letter attached that data on the effects of harvesting are not plentiful. The Department recommends that only 50% of the crop should be harvested and low impact harvesting methods should be used.

Outline what methods will be initially employed to monitor the taking of the specimens.

Permits are reviewed annually and limits are placed on percentage harvested and method of harvest.

It is likely that VDCNR will inspect harvest areas each year before and after the harvest to determine the effects of harvesting.

Describe any other biological and environmental monitoring proposed for the harvesting area.

VDCNR monitor abundance of plant species on roadsides as part of general operations.

F. Antrain/P. Maul f10

Department of Conservation & Natural Resources

Shepparton Work Centre
State Public Offices
163-167 Welsford Street
(P.O. Box 1750)
Shepparton, 3630.

Ph: (058) 311 777
Fax: (058) 212 218

Your Ref:
Our Ref: 299
Date: 8 April, 1993

04548

RE: HARVESTING OF NATIVE PLANTS
CRASPEDIA GLOBOSSA & CALOCEPHALUS CITREUS

I refer to your enquiry regarding the status of the above species in Victoria and am pleased to provide the information below to assist your application for an export permit from the Australian National Parks and Wildlife Service.

Status

The attached plans indicate the known statewide records of the species held by the Flora Branch of CNR and a subset for Benalla Region containing additions by the local CNR staff. These plans are not the result of comprehensive survey but represent incidental reports only. It is anticipated that the number for recorded locations will grow as more information becomes available.

Both species are widespread on the floodplains of the Goulburn and Broken Rivers and the Broken Creek. The grassy woodlands of the floodplain have been largely cleared for agriculture and the region contains no large crown reserves which adequately protect the species. The species are however well represented on remnant strips of native vegetation on road reserves and Craspedia survives in some paddocks that are grazed but not cultivated.

State Legislation

Neither species is "protected flora" under the Flora and Fauna Guarantee Act. Therefore there are no restrictions on the handling of either species.

However each Shire has a Planning Scheme which regulates the removal or lopping of native vegetation including forbs such as Craspedia and Calocephalus. A planning permit is required in most circumstances; and for roadsides (Shire managed land), and private property where the harvesting area exceeds 10ha, the applications must be referred to the Department of Conservation and Natural Resources.

The Department does not have a great deal of data on the effects of commercial harvesting on the conservation of these species. We have therefore recommended some fairly conservative harvesting rates and low impact harvesting methods to protect the species. Shires are also encouraged to undertake roadside conversation assessments and to develop roadside management plans which may further protect the species by designating certain roadsides as high conservation value and restricting exploitation, eg Euroa Shire has prohibited taking from the major arterial (tourist) roads.

Monitoring

Recommended harvesting rates (CNR, Flora Management Section 1991) limit the number of stems to be collected from any one population to 50%. Harvesting is by hand only and permits are reviewed annually.

Harvesting of Craspedia from roadsides and private land has been a sustainable enterprise for several professional cutters in the Benalla (CNR) Region.

Management

Cutters are urged to maintain some stocks of viable seed to help rehabilitate sites disturbed by road maintenance and road improvement works.

I trust that the above information will meet your requirements.

Because the industry utilises resources on public land (usually roadsides) it will attract a good deal of public scrutiny. There is no information to verify the claims by the industry of the sustainability of the current harvesting operations.

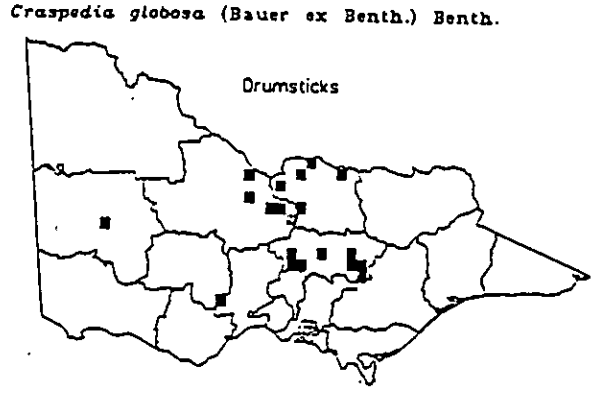
You can make a valuable contribution by keeping accurate records of when, where and how much you harvest. Consecutive harvest records, built up over the years, for a particular section or road, would prove most useful. I would be pleased to assist in the development, storage and analysis of your monitoring program.

Yours faithfully

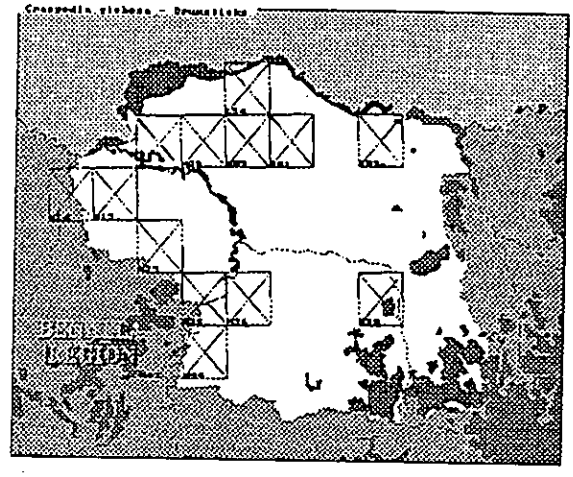
Rolf Weber
Flora & Fauna Guarantee Officer

DISTRIBUTION OF CRASPEDIA GLOBOSSA

VICTORIA

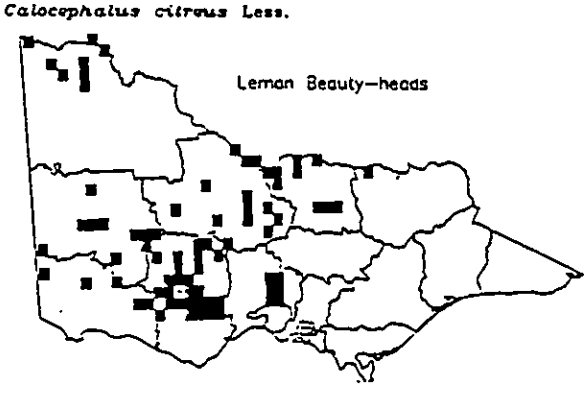


BENALLA REGION

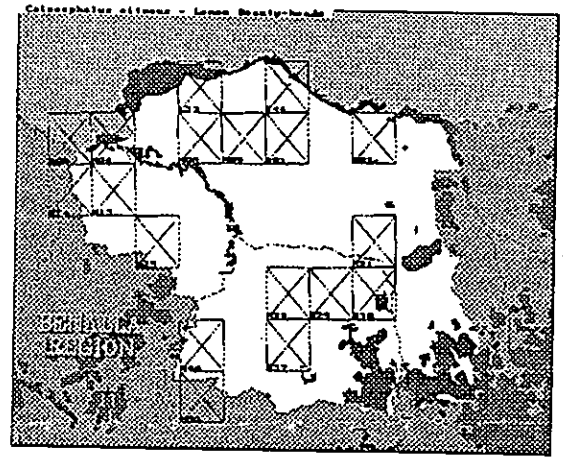


DISTRIBUTION OF CALOCEPHALUS CITREUS

VICTORIA



BENALLA REGION



Australian Nature Conservation Agency
Nature Conservation House
153 Emu Bank
BELCONNEN ACT 2617
GPO Box 636
CANBERRA ACT 2601
Telephone (06) 250 0300 Facsimile (06) 250 0303

1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
"A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: LA 290/5/3

25 June 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of the document, *Management Program for the Saltwater Crocodile, Crocodylus porosus, and the Freshwater Crocodile, Crocodylus johnstoni, in Western Australia,* which was submitted to this Agency by the Western Australian Department of Conservation and Land Management.

Consideration is being given to approval of this management program under section 10 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this management program. Please submit your comments within one month.

Yours sincerely

for

Frank Antram
Assistant Director
Wildlife Protection Authority

Australian Nature Conservation Agency
Nature Conservation House
153 Emu Bank
BELCONNEN ACT 2617
GPO Box 636
CANBERRA ACT 2601
Telephone (06) 250 0300 Facsimile (06) 250 0303

1993 INTERNATIONAL YEAR FOR THE WORLD'S INDIGENOUS PEOPLE
"A NEW PARTNERSHIP"

Australian Nature Conservation Agency

Our Ref: 330/4/451

8 June 1993

Mr/Ms J Tedder
North Coast Environment Council Inc
Pavans Road
Grassy Head
STUARTS POINT NSW 2441

Dear Mr/Ms Tedder

I am enclosing a copy of a proposal to export foliage of *Caustis flexuosa, C. recurvata* and *Restio tetraphyllus* harvested from State Forest in Queensland.

Consideration is being given to declaration of this harvesting operation as controlled specimens pursuant to section 10A of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

In accordance with the provisions of section 9B(2) of the Act, you are invited to comment on this proposal. Please submit your comments within one month.

Yours sincerely

for Frank Antram
Assistant Director
Wildlife Protection Authority