

# Review of Level of Protection for Some New Zealand Wildlife

## Public Discussion Document

The Department of Conservation has been asked to review the level of protection for some species of New Zealand wildlife. This discussion document sets out the known issues in relation to a number of species which may not have an appropriate level of protection. It describes possible options for changes to levels of protection and the implications of such changes. This paper also provides lists of invertebrate and marine species which may warrant some form of protection.

The department seeks comments from interested groups and individuals on possible changes to the levels of protection for wildlife species.

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# Introduction

The degree of protection provided to some birds and animals in the wild in this country is being reviewed. Over the last few years the Minister of Conservation, the Department of Conservation and Fish and Game New Zealand have had a number of approaches from people and organisations seeking changes to the level of protection for some species, such as Canada goose, spur-winged plover and eastern rosella. Some species are claimed to have too much protection and some native species are considered by some to have inadequate protection. In response to these concerns, the Department of Conservation is undertaking this review.

In New Zealand nearly all species of wildlife (including mammals, birds, reptiles and amphibians), native or introduced, are *automatically absolutely protected* under the Wildlife Act 1953 unless the species is listed on Schedules 1–6 of the Wildlife Act. If a species is listed on one of the first six schedules to the Wildlife Act, that species is no longer absolutely protected but has a lower level of protection. This lower level of protection is determined by which schedule the species is listed on.

Almost all native mammals, birds, reptiles and frogs are absolutely protected under the Wildlife Act. In general, no changes to the protection of fully protected indigenous wildlife are being considered by this review. There may be exceptions, though, where a species is causing significant injury or damage and where control can be undertaken without harming the long-term future of that species.

The Wildlife Act also provides protection to some terrestrial and freshwater invertebrates and some marine species by declaring them to be “animals” for the purposes of the Act. These species are listed in Schedules 7 and 7A of the Wildlife Act. The listing of a species on one of these two schedules gives absolute protection to that species rather than removing protection. This review is considering the addition of further invertebrate and marine species to Schedules 7 and 7A.

Amending the Wildlife Act schedules may potentially reduce the administrative costs of dealing with permissions to kill wildlife that is causing damage and has unnecessarily high protection. An example might be spur-winged plover, which cause damage to market gardens and are a leading cause of bird-strike incidents on aircraft in and around airports.

Making changes to the schedules may also generate significant conservation benefits, particularly by increasing the protection for species which are threatened by direct human impacts, such as the collection of insects.

This public discussion document is seeking comment on possible changes to the listings of species on the schedules to the Wildlife Act. It sets out the known issues in relation to a number of species which may currently be on inappropriate schedules and provides lists of invertebrate and marine species which may warrant some form of protection.

You or your organisation are invited to make a written submission in regard to any species of wildlife you believe are not listed on the right schedule and have an inappropriate level of protection.

The closing date for submissions is Friday 3 November 2006.

You are encouraged to make your submission using the tear-out submission form on page 43 of this document.

Please send your submission to:

**Wildlife Protection Review  
Department of Conservation  
PO Box 10420  
The Terrace  
WELLINGTON 6143**

or email to:

**[wildlifeschedules@doc.govt.nz](mailto:wildlifeschedules@doc.govt.nz)**

Any enquiries may be directed to the above email address or to Michael Gee (tel) 04 471 3140. This document is available in pdf format on the DOC web site: [www.doc.govt.nz](http://www.doc.govt.nz)

# Scope of the Review

The Department of Conservation is conducting a review of the schedules to the Wildlife Act 1953, and has prepared this discussion document for public comment.

The Minister of Conservation is of the view that some species may no longer be listed on the most appropriate schedule (in other words, their level of protection may no longer be appropriate). He has therefore asked that a review be undertaken of which species are listed on which schedules of the Wildlife Act.

The review is restricted to Schedules 1-5, and Schedules 7 and 7A of the Wildlife Act. The protection provided to species on these schedules is described in the next section of this discussion document.

This review is not considering the removal or addition of schedules themselves (or the protection that any given schedule provides) but only the listings of particular species on the existing schedules. The Wildlife Act itself is not being reviewed and *the automatic protection for native or exotic wildlife not listed on any schedule will remain*.

No legislative changes are being considered by the review (any changes to the schedules will be made by Order in Council rather than Act of Parliament) and this means that changes to Schedule 6 of the Wildlife Act are outside the scope of the review also. Schedule 6 of the Wildlife Act lists species administered under the Wild Animal Control Act 1977, and this schedule has to be consistent with the species mentioned in the Wild Animal Control Act. Adding a species to (or removing it from) Schedule 6 would require a corresponding change to the Wild Animal Control Act, which is outside the scope of the review. Schedules 8, 9 and 10 of the Wildlife Act do not relate to levels of protection for wildlife and so are not being considered by this review.

Terrestrial and freshwater plants, freshwater fish and marine mammals are unable to be given protection under the Wildlife Act (the Act does not provide for this). These species are therefore outside the scope of this review. However, all marine mammals are fully protected in New Zealand under the Marine Mammals Protection Act 1978.

# Protection Provided by the Wildlife Act 1953

## AUTOMATIC ABSOLUTE PROTECTION

The Wildlife Act 1953 gives absolute protection to wildlife throughout New Zealand and its surrounding marine Exclusive Economic Zone. This means that no-one may kill or have in their possession any living or dead wildlife, unless they have an appropriate authority.

“Wildlife” means any “animal” that is living in a wild state, and includes any such animal (or egg or offspring of any such animal) held or hatched or born in captivity.

The term “animal” includes:

- all mammals, reptiles, birds and amphibians;
- any terrestrial or freshwater invertebrates that have been declared to be “animals” for the purposes of the Wildlife Act;
- any marine species that have been declared to be “animals” for the purposes of the Wildlife Act;

but does not include:

- any domestic animal or bird;
- any rabbit or hare;
- any species listed on Schedule 6 of the Wildlife Act (these being “wild animals” that are subject to the Wild Animal Control Act 1977);
- any marine mammal.

All marine mammals (including all seal, dolphin and whale species) are fully protected throughout New Zealand and its EEZ under the Marine Mammals Protection Act 1978.

The result of this is that almost all native birds and all marine mammals and marine reptiles (including visiting turtles and sea snakes) are fully protected in this country (under one of two Acts), and out as far as the edge of the EEZ. The exceptions are a small number of native birds managed as game birds, and a few other native birds that are partially protected. Just one native bird, the black-backed gull, is currently unprotected. All other unprotected species are introduced mammals, birds or amphibians (frogs).

The schedules to the Wildlife Act 1953 are located at the end of the Act after the main text. Some schedules reduce the protection provided by the Act for species listed on them, and two schedules increase protection for species listed on them. Copies of the schedules, showing the species currently listed, are given in the appendix at the end of this discussion document. A copy of the Act itself is available at: [www.legislation.govt.nz](http://www.legislation.govt.nz) (look under Statutes and then Wildlife Act 1953).

## LESSER PROTECTION PROVIDED BY SCHEDULES 1-6

If a species is listed on one of the first six schedules to the Wildlife Act, that species is no longer absolutely protected but has a lower level of protection. This lower level of protection is determined by which schedule the species is listed on. The headings to the schedules indicate the different status of the species they list, but more specific details are described below.

**Schedule 1** lists species declared to be “game.” Game species are administered by Fish and Game New Zealand, which has responsibility for managing game bird populations. These species are protected, except to holders of current game licences who may hunt or kill these birds, or have them in their possession, subject to any conditions stated on the licence.

**Schedule 2** lists species that are “partially protected.” In essence, if any of these species cause injury or damage to land or property they can be hunted or killed by the occupier of that land (or by anyone else with the occupier’s permission). Otherwise these species are protected.

**Schedule 3** lists all wildlife which can be hunted or killed subject to conditions specified by the Minister of Conservation via publication of a notice in the New Zealand Gazette, sometimes accompanied by regulations. This can be used to facilitate limited hunting seasons, such as for duck and swan on the Chatham Islands and the taking of titi (mutton birds) on the Titi Islands.

**Schedule 4** lists wildlife that is unprotected throughout New Zealand, except where the Minister of Conservation publishes a Gazette notice giving absolute protection to that species within specified parts of the country for a specified period. This category is designed to help to prevent the disruption of scientific studies on species – for example, researchers might want to see what happens to a species in the absence of certain kinds of human intervention. This schedule currently has no species listed.

**Schedule 5** lists wildlife that is unprotected throughout New Zealand. It currently includes a number of mammals, birds and amphibians. It is lawful for anyone to hunt, kill, or have in their possession any wildlife listed on this schedule, if it is not a domestic animal or bird.

**Schedule 6** lists species that are not protected under the Wildlife Act and which are administered under the Wild Animal Control Act 1977. As discussed previously, this schedule and the species on it are outside the scope of this review.

## PROTECTION PROVIDED BY SCHEDULES 7 AND 7A

Rather than removing protection, Schedules 7 and 7A give absolute protection to some terrestrial and freshwater invertebrates and marine species by declaring them to be “animals” for the purposes of the Wildlife Act. This means that no-one may hunt or kill or have in their possession any of these species, unless they have an appropriate authority.

If partial protection is desired for a terrestrial or freshwater invertebrate or a marine organism, it is possible to list a species on Schedule 7 or 7A (to bring it under the scope of the Wildlife Act) and also on another schedule to give the species a lower level of protection. While this is an option, there are currently no species listed on Schedule 7 or 7A and on another schedule.

## RELATED LEGISLATION - THE BIOSECURITY ACT 1993

### **Unwanted organisms**

New Zealand is constantly under threat from introduced weed and pest species. To deal with these risks, the Biosecurity Act 1993 allows that plants, animals and other organisms can be declared to be “unwanted organisms” by any Chief Technical Officer<sup>1</sup>. Such organisms may or may not be present in the country when declared as “unwanted.” Biosecurity New Zealand (part of the Ministry of Agriculture and Forestry) maintains a list of species that have been declared to be unwanted organisms.

Once a species is listed as an unwanted organism, Biosecurity New Zealand, regional councils and other agencies with biosecurity responsibilities are able to carry out actions to control that species regardless of its degree of protection under the Wildlife Act<sup>2</sup>. The Biosecurity Act therefore, in some cases, effectively removes the automatic protection status for some introduced species.

Declaring an organism to be an unwanted organism allows control actions to be undertaken using a range of powers under the Biosecurity Act. It also places some immediate restrictions on actions which might spread the organism. If a species has been declared to be an unwanted organism, then breeding, propagation, sale or distribution of that species is prohibited unless approval has been obtained from a Chief Technical Officer.

### **Regional pest management strategies**

At a regional level, the Biosecurity Act allows regional councils to develop regional pest management strategies, which set out which organisms are considered to be pests in their region, and how the pests will be managed or eradicated. Many councils have separate strategies for pest plants (weeds) and pest animals.

In most cases, the animal pests included in regional pest management strategies are present in the wild and are listed either on Schedule 5 of the Wildlife Act as “not protected,” or on Schedule 6 and thereby excluded from protection under the Act.

Where a species is not listed on Schedules 5 or 6 of the Wildlife Act, or has not been declared an unwanted organism under the Biosecurity Act, then it cannot be specified as a pest in a regional pest management strategy. Regional councils have approached Ministers of Conservation in recent years seeking to have protected or partially protected species made unprotected so that those species can be specified as pests in regional pest management strategies.

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<sup>1</sup> MAF, DOC and the Ministry of Health each have their own Chief Technical Officer

<sup>2</sup> Section 7(6) of the Biosecurity Act 1993 provides that the provisions of the Wildlife Act 1953 (including any regulations made under that Act) –

- (a) do not apply to prevent or inhibit the exercise or performance of any powers, functions, or duties under the Biosecurity Act when those powers, functions, or duties are exercised or performed in respect of an unwanted organism; and
- (b) do not allow or authorise the contravention of any provision of the Biosecurity Act in respect of wildlife that is also an unwanted organism.

In situations not covered by section 7(6) of the Biosecurity Act, the Wildlife Act has precedence over the Biosecurity Act. This means that for a wildlife species that is not an “unwanted organism” and is not listed on Schedules 5 or 6 of the Wildlife Act as unprotected, the species is protected under the Wildlife Act and cannot be specified as a pest in a regional pest management strategy made under the Biosecurity Act. (Note that since rabbits and hares are specifically not protected by the Wildlife Act they can be specified as pests in regional pest management strategies despite not being listed on Schedules 5 or 6.)

# Species for Which Issues Have Been Identified

This review is interested in receiving submissions on any species of wildlife where people believe a species should have a different level of protection. Remember that, in general, all species of wildlife are absolutely protected unless they are listed on one of the schedules to the Wildlife Act. If a species is listed on a schedule, then it has a lower level of protection determined by which schedule it is listed on. The species currently listed on each schedule are given in the appendix at the end of this discussion document.

While the review is open to considering any species of wildlife (except species covered by other legislation), for some species there are known issues relating to their management or level of protection. This section sets out these issues to help submitters make more informed submissions.

No recommendations on appropriate levels of protection are made, but some possible options are offered.

## CANADA GOOSE (*BRANTA CANADENSIS*)

The New Zealand Canada goose population is descended from birds introduced from North America in 1905-1920. In the South Island it has become well established in eastern areas - especially in Canterbury and North Otago - where it breeds in the high country. In the last 30 years, Canada goose has become established in the North Island also, particularly in the Waikato, Hawke's Bay, Manawatu and the Wairarapa. Canada goose is listed on Schedule 1 of the Wildlife Act and is therefore a game species.

In some places, numbers of Canada goose have risen to levels that cause damage to farmland as they feed on crops and pasture and foul land with their droppings. These high numbers occur despite the game season being extended to 11 months of the year in some parts of the country with no daily bag limit. For this reason, some regional fish and game councils currently have to undertake goose culls to supplement the efforts of recreational hunters.

In the past couple of years the Minister of Conservation has received many calls for the game status of Canada goose to be reviewed.

### **A fine game bird**

The Canada goose is regarded by many game bird hunters as the finest game bird in the world. The challenge of hunting Canada goose is that the goose hunter needs to have a greater knowledge of the birds' behaviour, acute senses and wariness, and considerable capacity to learn and adapt, than for any other game bird. Strategy and planning is essential for hunting success.

### **Canada goose impacts**

The preferred habitat of Canada goose is a wetland for security (perhaps a large river or lake), combined with nearby open grassland, developed pasture or crops to feed on. These conditions exist in abundance in inland Marlborough, the Canterbury plains and high country valleys, central Otago, and the Southland plains, which is why the birds have done well in these locations. In some parts of the country, land use change through irrigation is extending Canada goose habitat, resulting in the geese beginning to cause impacts in new areas.



Canada geese feeding on  
pasture adjacent to Lake  
Waitaki, north Otago

*Photo: Graeme Hughes, Central  
South Island Fish and Game  
Council*

Canada geese are grazers of most wetland plants but prefer developed pasture of clover and improved grasses where these occur within flying or walking distance of the roost site. Grain and root crops such as turnip can also be targeted. If not disturbed, mobs of several hundred birds will graze the food of choice down to the roots. Large flocks of geese can also fly onto a farm and stay on a paddock overnight, causing considerable damage and fouling the pasture so that stock may avoid the area for several days afterwards.

Farmers seeking advice on dealing with Canada geese are encouraged to contact their local fish and game council. Contact details of regional fish and game councils can be found by going to the Fish and Game New Zealand web site [www.fishandgame.org.nz](http://www.fishandgame.org.nz) and selecting the relevant region.

### **South Island Canada Goose Management Plan**

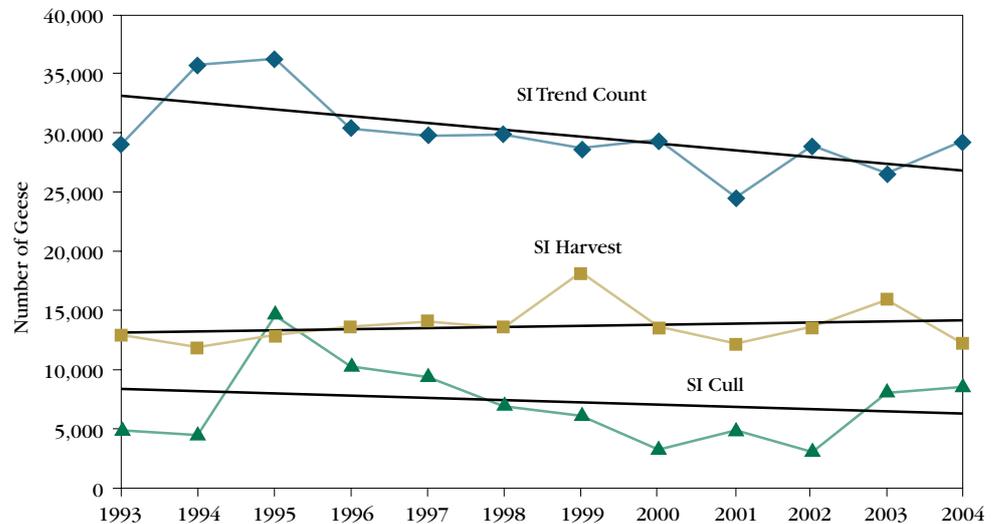
In an attempt to resolve conflicts between farmers and recreational hunters over Canada goose management, the first South Island Canada Goose Management Plan came into force in March 1995. The plan attempts to balance the potentially conflicting provisions in the Conservation Act 1987 which require fish and game councils to:

- manage, maintain, and enhance the game resource in the recreational interest of hunters (section 26Q(1)); and
- when preparing game management plans, to have regard to the impact that the proposed management in the plan is likely to have on other natural resources and “other users of the habitat concerned” (section 17L(4)(b)).

In regard to the latter requirement, farmers and agricultural interests are considered to be “other users of the habitat concerned.”

The management plan identifies maximum levels of Canada goose numbers for defined management areas. If goose numbers exceed these “target” limits, then the fish and game council for the area concerned is required to reduce goose numbers through recreational hunting or organised culls to bring them below the target limit.

*South Island Canada goose trend count, harvest and cull with trend lines, 1993 to 2004*



Under the 1995 plan and its monitoring provisions, the South Island Canada goose counts have trended downward, the South Island goose harvest has trended slightly upward, and the need for culls has trended downward. This is shown in the adjacent graph for the period 1993 to 2004. The number of farmer complaints about Canada goose has also reduced over this time, suggesting that overall goose impacts on farming may have decreased. It can be seen that recreational hunting accounts for about two-thirds of the annual goose harvest, the remaining one-third coming from organised culls.

The 1995 South Island Canada Goose Management Plan is currently under review and a new draft plan has been prepared. There have been two rounds of consultation involving farmers and hunters, the main partners to the plan. The first round of consultation identified issues arising under the 1995 plan, the second round sought solutions to the issues previously identified.

The two key differences between the existing 1995 plan and the new draft plan are that, under the new plan:

- Goose numbers would be kept within a population range (with lower and upper limits), rather than simply below a specified upper limit; and
- Where a crop predation problem is confirmed, action would be taken regardless of whether Canada goose numbers are within the specified population range.

Under the new draft plan, if the Canada goose population reached the upper limit for an area, the regional fish and game council would be required to lower the population as soon as practical. By allowing the population to fluctuate within a range, fish and game councils would be able to increase the efficiency of any population controls. In the past there has been pressure from goose hunters for control operations not to take numbers below the 1995 target levels. This has meant fish and game councils have had to undertake repeated smaller control operations when it would be more efficient to remove a larger number of birds and carry out only one operation. Larger and fewer control operations could also benefit hunters by minimising the disturbance to Canada geese and reducing the opportunities for geese to learn ways to avoid control methods.

Until relatively recently, there has been no significant Canada goose problem in the North Island. For this reason there is currently no North Island Canada goose management plan. In 1989 the moult count for Canada goose in the Wairarapa was only 550 birds, but by 1996 this had risen to 3000. (The moult count indicates population trends but does not indicate actual goose numbers.) Harvesting of Canada goose by hunters in the Wairarapa averaged around 500 birds per year from 1990 until 1998, but since 1999 harvest has been at around 2000–3000 per year, with 4000 birds taken in 2005.

### **Goose culls**

When large numbers of Canada goose need to be removed from a regional population in New Zealand, the main methods used are moult culls (capturing the birds on the ground when they cannot fly) and helicopter culls (shooting from a helicopter). Thousands of birds can be removed by such operations if required.

For dealing with localized “problem populations” of Canada goose, helicopter culls are again effective in places with large bodies of water nearby. Alternatively, organised shoots involving several dozen hunters can be used. In places away from large areas of water, however, the only known effective technique for dealing with localized problem goose populations is the use of a team of several dozen shooters in a carefully planned and co-ordinated operation.

In any cull operation it is important to leave no survivors, or as few as possible. Canada geese quickly become wary of vehicles, helicopters, jet boats, and other things associated with “hazards to geese” (from a goose perspective). Control operations need to be undertaken properly to minimise the risk of geese learning to avoid control methods.

### **Costs to recreational hunters**

South Island Canada goose numbers are declining but it is clear that hunting plus culls are required to manage goose numbers. Recreational hunting alone is insufficient. Furthermore, where local rises in goose numbers lead to farm damage, these need to be addressed.

Fish and game councils are currently spending in the order of \$115,000 per year undertaking Canada goose culls in the South Island (average cost per year from 1995–1999). All of the funding for this comes from recreational hunting game licence fees.

While many recreational hunters will endeavour to get a Canada goose if one happens to go by while they are waiting for ducks, it is estimated that only around 3–5 percent of game bird hunters nationwide are keen Canada goose hunters<sup>3</sup>. Costs of Canada goose culls represent about 5.3 percent of licence fee income. This means the proportion of licence fee income spent on goose culls is similar to the proportion of hunters receiving most of the benefits.

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<sup>3</sup> The proportion is much higher in the Nelson/Marlborough Fish and Game region, where organised recreational hunts of Canada goose in the Molesworth area can involve up to 260 hunters and result in the shooting of nearly 2500 geese. The Nelson/Marlborough region has not undertaken any goose culls for 19 years.

### **Options for level of protection**

Options for the future may include one of the following:

#### ***Status quo***

This would mean—

- Canada goose would remain on Schedule 1 of the Wildlife Act as a game bird and continue to be managed by Fish and Game New Zealand and regional fish and game councils.
- Fish and Game New Zealand could expect to have to continue spending around \$115,000 per year of game licence fee income on Canada goose culls. If the need for culls increased or decreased, then costs to Fish and Game New Zealand could be expected to rise or fall accordingly.
- Successful control of localized “problem populations” of Canada goose would continue to require a high degree of co-operation and co-ordination of effort between landowners and fish and game council staff and volunteers.

#### ***Make geese unprotected***

This would mean—

- Canada goose would be removed from the Wildlife Act’s Schedule 1 and placed on Schedule 5, making the species unprotected and no longer a game bird.
- Fish and Game New Zealand would no longer have responsibility for monitoring goose populations, co-ordinating hunter activity, or conducting goose culls when required.
- Farmers and other landowners would be able to kill Canada goose whenever they wanted to, at their own expense.
- Regional councils would have the option of specifying Canada goose as pests in their regional pest management strategies. Successful control of localized problem goose populations could require a high degree of co-operation and co-ordination between landowners, regional councils and goose cullers employed by the councils, particularly in areas away from large bodies of water.

#### ***Unprotected in North Island, game species in South Island***

This would mean—

- Status quo in South Island;
- As for unprotected above in North Island.

The three “options for the future” outlined above are examples only. The option for the level of protection eventually chosen may or may not resemble any of the options outlined above.

### **What are your views on Canada goose?**

This review is seeking input from all parties affected by the Canada goose issue in order to find what level of protection is appropriate for this species. Which schedule to the Wildlife Act do you think the Canada goose should be listed on and why?

### **PEAFOWL (PEACOCKS AND PEAHENS) (*PAVO CRISTATUS*)**

More commonly known as peacocks and peahens, the peafowl was introduced to this country in the 1840s as an ornamental bird. It is native to India and Sri Lanka. The peafowl is now widely distributed as an ornamental species for parks and private gardens, but small, localized feral populations have formed in Northland, Wanganui, Hawke’s Bay and the West Coast.

The peafowl is listed on Schedule 3 of the Wildlife Act 1953. This means that it may be hunted or killed subject to conditions specified by the Minister of Conservation. These conditions have been set out in the Wildlife (Peafowl) Notice 1961: only land occupiers or those with the prior written consent of the occupier can hunt peafowl. Aside from this stipulation, there is no limitation on the numbers that may be killed, the time of the year, or the methods used to hunt or kill peafowl.

The issue that has been raised with the Minister of Conservation and DOC is that regional councils would like to have more powers to control wild peafowl because this bird can cause significant adverse effects through their consumption of pasture and crops. The Bay of Plenty appears to be the main region where peafowl cause significant problems to farmers.

If the peafowl was to be moved to Schedule 1 of the Wildlife Act, fish and game councils could then manage peafowl as a game species. Hunters licensed by Fish and Game New Zealand would be allowed to hunt peafowl during the peafowl hunting season, the details of which would be published in the *Gazette* upon approval by the Minister of Conservation. Fish and Game New Zealand could then monitor the regional populations of peafowl, and the number that could be taken or killed each season. However, landowner permission would still be required to enter onto private land to hunt any game species.

If the peafowl was to be moved to Schedule 5 of the Wildlife Act, it would become unprotected wildlife. While landowners could continue to hunt or kill birds on their land, regional councils could also include the peafowl in regional pest management strategies by specifying it as a pest to be managed under section 80A(a) of the Biosecurity Act 1993. This would enable a regional council to require landowners to carry out control of peafowl, or the regional council could undertake the control itself.

Is Schedule 3 the best schedule on which to have peafowl listed? Which schedule do you think peafowl should be listed on and why?

## SPUR-WINGED PLOVER

### *(VANELLUS MILES NOVAEHOLLANDIAE)*

The spur-winged plover is self-introduced to New Zealand from Australia. It was first recorded in the 1880s and is now distributed throughout the country, including the Chatham Islands and some offshore and subantarctic islands. The New Zealand population is now well established, and increasing in number. (The species gets its name from the 10mm-long yellow spurs on the front edge of each wing.)

The spur-winged plover is not listed on any schedule of the Wildlife Act and is therefore absolutely protected. Although technically native, the establishment of this species in New Zealand has been possible only because of the human modification of the natural vegetation over much of the country, from forests to farmland, over the last 150 years. It is thought that vagrants arriving prior to the 1880s found conditions in this country unsuitable and so populations failed to establish.

In the last decade a significant number of requests have been made to the Minister of Conservation and DOC to review the protection status of spur-winged plover. Those asking for reclassification have included private individuals, regional councils, conservation organisations, and hunting interests. The issues raised with the department are mainly to do with the hazard spur-winged plover pose to aircraft, the damage they cause to crops, and their alleged adverse effects on other native species.



Spur-winged plover at Kimihia,  
Waikato  
*Photo: DOC*

### **Bird strike hazard**

Bird strikes pose a serious hazard to aircraft and bird incidents are closely monitored by the New Zealand Civil Aviation Authority at all airports. A “bird strike” incident is where there is a collision between an aircraft and one or more birds. A “near strike” incident is where one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot. In the 5-year period from October 1999 to September 2004, there were a total of 5,111 bird incidents at New Zealand airports – 2,221 bird strikes and 2,890 near strikes.

#### **How serious are bird strikes? Two examples illustrate the danger:**

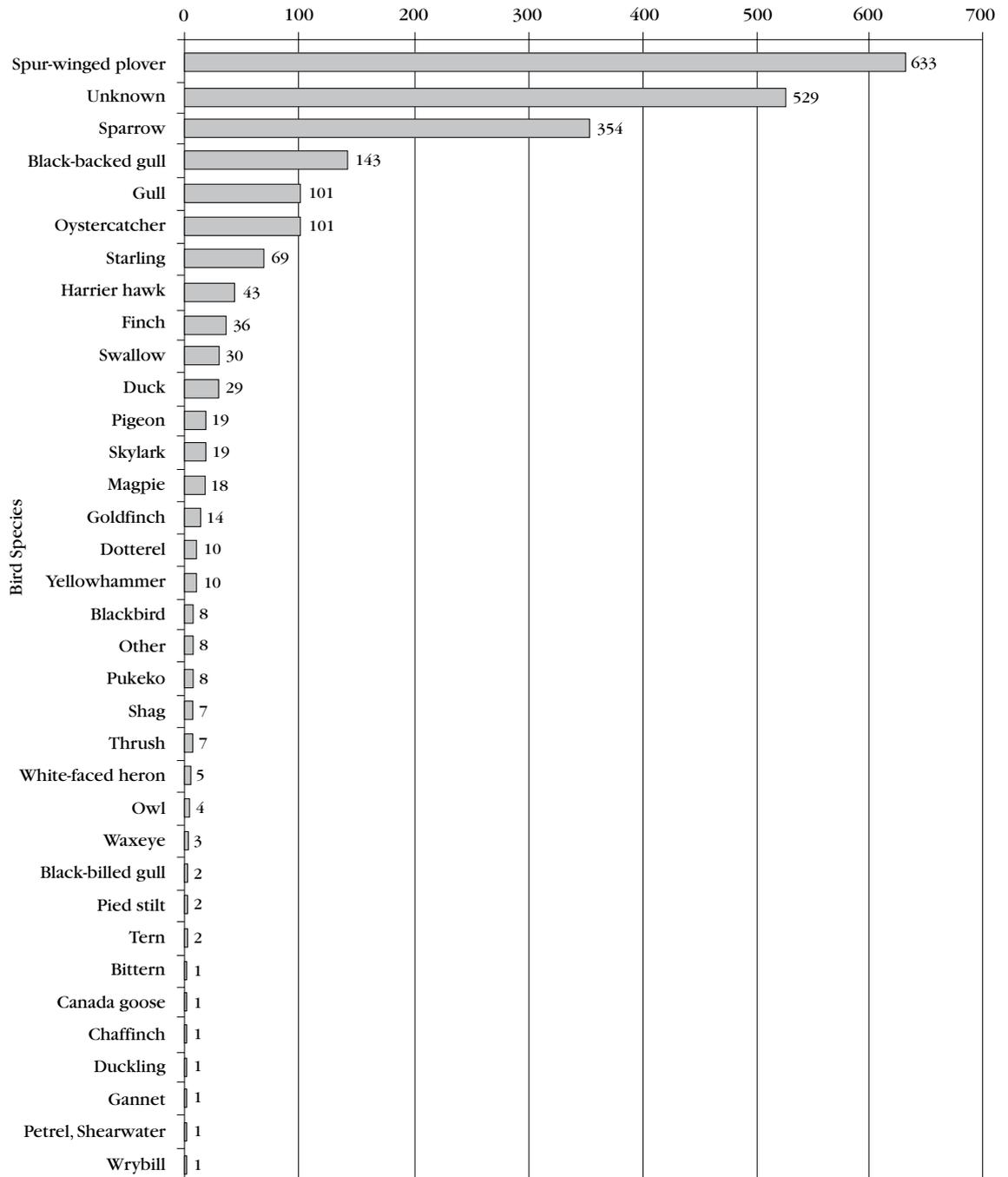
In May 1996 a twin-engined Boeing 737 aircraft taking off from Wellington airport struck a flock of black-backed gulls. At least nine birds were hit. Birds were sucked into the right-hand engine and this had to be shut down owing to vibration and fluctuating thrust. Further strikes occurred on the leading edges of the wings, including one on each side of the left-hand engine. There were also strikes to each of the main landing gear assemblies – which had the potential to damage hydraulic lines to the wheel brakes but, fortunately, did not. The aircraft circled back to the airport and made an emergency landing. No-one was hurt but many lives were placed at risk and damage to the aircraft amounted to over \$1 million.

In July 1985, a four-engined Boeing 747 aircraft departing from Christchurch airport struck three oystercatchers just as the plane was lifting off the runway. Engines 1 (left, outer) and 3 (right, inner) were damaged and the control tower observed a large amount of flame coming from engine 3. The pilots had to take immediate action to keep the aircraft flying, as the right wing of the aircraft dropped, abnormal noise and vibration was heard from the engines, and engine warning lights indicated serious trouble. Engine 1 was shut down and engine 3 was reduced to idle. After first climbing to a safe altitude on the two remaining engines and dumping fuel, the aircraft was able to make an emergency landing. Only limited reverse thrust was available to assist in slowing the aircraft on the runway and all wheel brakes were overheated by the time the plane came to a halt. Damage to the aircraft amounted to hundreds of thousands of dollars. Although oystercatchers are relatively small birds, three of them nearly caused the loss of this aircraft and the 373 people on board.

In March 2001, a spur-winged plover strike on a twin-engine Metroliner aircraft landing at Tauranga airport caused the failure of the left-hand engine. This incident raised the profile of bird strikes involving spur-winged plover.

The spur-winged plover is the species most commonly involved in aircraft bird strikes and near strikes (near misses) in New Zealand. There were 1406 spur-winged plover strikes and near strikes reported to the Civil Aviation Authority from October 1999 to September 2004. The graph below shows that, of bird strikes where the species concerned was identified, 37 percent involved spur-winged plover. The table opposite shows the number of bird strike incidents involving spur-winged plover by location.

*Bird Species Involved in Bird Strikes: October 1999–September 2004*



*Bird Strikes at New Zealand Airports: 1 October 1999–30 September 2004*

Location	Total number of strikes from all species	Number* of strikes known to be spur-winged plover	Percentage* of strikes known to be spur-winged plover
Whakatane	44	32	73
Woodbourne	67	41	61
Timaru	10	6	60
Ardmore	27	16	59
Kerikeri	22	13	59
New Plymouth	149	88	59
Wanganui	12	7	58
Palmerston North	111	59	53
Taupo	53	27	51
Hokitika	12	6	50
Invercargill	85	40	47
Hamilton	101	46	46
Dunedin	63	20	32
Ohakea	63	20	32
Whenuapai	115	35	30
Gisborne	60	18	30
Rotorua	81	22	27
Tauranga	103	23	22
Napier	96	19	20
Nelson	121	22	18
Queenstown	94	16	17
New Zealand - other	95	16	17
Whangarei	78	9	12
Wellington	100	9	9
Christchurch	207	18	9
Auckland	252	5	2
<b>Total</b>	<b>2,221</b>	<b>633*</b>	<b>29*</b>

\*Actual numbers and percentages of spur-winged plover strikes will be higher. For 24 percent of bird strike incidents, the species involved was not identified. Some of these incidents will have involved spur-winged plover. If one considers only those bird strikes where the species was identified, a total of 37 percent of bird strikes involved spur-winged plover.

DOC is able to issue permits to airport operators which authorise them to disturb or kill protected birds at airports, including spur-winged plover, but these authorities do not apply beyond the boundaries of aerodromes where birds may be flocking or nesting.

If the spur-winged plover was to become not protected (listed on Schedule 5), this would make it easier for the aviation industry to work with regional and local councils to control spur-winged plover where they pose a hazard to aircraft. Regional councils would have the authority to control the species by listing it in regional pest management strategies.

Another possibility would be to list spur-winged plover on Schedule 2 (partially protected). This would mean that the birds could be killed by a landowner, or someone with the landowner's permission, if they were causing damage to land or property. This would mean that airport operators would no longer need permits to control

spur-winged plover within airport boundaries but would have to obtain landowner permission to control the birds beyond airport boundaries. Regional councils would not be able to control spur-winged plover through listing it in regional pest management strategies but would have to negotiate with landowners if they wanted control to be undertaken.

Spur-winged plover are “not threatened” and any localized control undertaken for the benefit of the aviation industry would not affect this status. Sparrows and black-backed gulls, the birds next most often involved in bird strikes on aircraft after spur-winged plover, are already listed on Schedule 5 and are therefore not protected. The black-backed gull is a native species and all sparrow species are introduced.

### **Other issues**

Spur-winged plover are an agricultural pest in some market garden areas, causing damage to green-leafed vegetables such as cauliflower, broccoli and lettuce in particular. At present, farmers are legally required to obtain a permit from DOC if they wish to kill spur-winged plover damaging their land.

There are limited reports about attacks by spur-winged plover on other species of native birds. Spur-winged plover have been videotaped destroying a New Zealand dotterel egg. They may also displace other indigenous species from habitats by their aggressive behaviour. Overall, however, these impacts on other native species are considered not significant.

### **Your views**

What are your views on spur-winged plover? Is it appropriate for this species to remain absolutely protected (not listed on any schedule), or would it be more appropriate for this species to be unprotected (listed on Schedule 5) or only partially protected (listed on Schedule 2)? Are there other options?

## **SHAG SPECIES**

New Zealand has 12 shag species: ten are endemic (found only in this country) and two are native (found in other countries also). Nine of our shag species are absolutely protected and three are partially protected.

### **Black Shag (*Phalacrocorax carbo*)**

The black shag is native to New Zealand and is listed on Schedule 2 of the Wildlife Act. This means that the occupier of any land (or someone with the occupier’s authority) may hunt or kill black shags on that land if the shags are causing injury or damage to property.

Previously unprotected (listed on Schedule 5), the black shag was given partial protection in 1986 following requests by two former acclimatisation societies and on the advice of the former Wildlife Service. The rationale for the change in status was that an extensive body of scientific evidence showed conclusively that, while black shags do take trout, the impact on trout populations was insufficient to justify the culling of these native birds. All freshwater dwelling shag species take some trout but research indicates that the problem is minor.

Black shag has a threat status of “sparse” – the lowest level of threat classification after “not threatened.” No substantial decline of the population is occurring.

Most other shag species are absolutely protected by law. If the black shag was made absolutely protected by removing it from Schedule 2, it would be possible for DOC to issue permits to control the odd rogue shag that created problems by getting into trout

hatchery ponds under the netting covers. (The shag species for which such permits are occasionally sought are: black shag, little shag and little black shag.)

What are your views? Is there any need to change its position on the Wildlife Act schedules?

#### **Little shag (*Phalacrocorax melanoleucos brevirostris*)**

The little shag is endemic to this country and is listed on Schedule 3 as a species which may be hunted or killed subject to conditions specified by the Minister of Conservation. These conditions are stated in the Little Shag Notice 1955 which authorises the Auckland/Waikato and Eastern fish and game councils (or DOC) to issue permits for hunting or killing little shags on waters containing trout in the Auckland/Waikato and Eastern fish and game regions.

The little shag is the most common shag species in this country and has a threat classification of “not threatened.”

Is it appropriate for this species to have only partial protection? If the little shag was made absolutely protected by removing it from Schedule 3, it would be possible for DOC to issue permits to control the odd rogue shag that created problems by getting into trout hatchery ponds under the netting covers.

What are your views on the protection status of little shag? Is there any need to change its position on the Wildlife Act schedules?

#### **Pied shag (*Phalacrocorax varius varius*)**

The pied shag is endemic to New Zealand, has a threat classification of “sparse,” and is listed on Schedule 3. This means that it may be hunted or killed subject to conditions specified by the Minister of Conservation. However, since no conditions under which pied shag may be hunted or killed have ever been notified by publication in the *Gazette*, the effect is that the pied shag is absolutely protected just like most other endemic shag species. It may be appropriate to tidy up this situation, as part of this review, by removing pied shag from Schedule 3. What are your views?

### **AUSTRALASIAN HARRIER (*CIRCUS APPROXIMANS*)**

The Australasian harrier is listed on Schedule 2 as partially protected wildlife, which means the occupier of any land (or someone with the occupier’s authority) may hunt or kill harriers on that land if the birds are causing injury or damage to property. This species was moved from Schedule 5 (unprotected) to Schedule 2 in 1986. It is a native species (found also in other countries) whose range has extended greatly in New Zealand since European settlement, but whose population has declined since the 1950s.

In 1996, a Department of Conservation report<sup>4</sup> recommended that the protection status of the Australasian harrier be reviewed and that it be given full protection. The report emphasised the harrier’s importance to New Zealand’s environment and to the general ecological welfare of ecosystems they live in. The majority of bird species it preys on are introduced species.

In particular the report argued that:

- There is little evidence that harriers kill live lambs or ewes (the reason for listing them on Schedule 2) but rather they are known to take or feed on carcasses immediately after death (i.e., still-born or dead young lambs).

<sup>4</sup> Owen, K L, 1996: Case for Greater Protection for the Australasian Harrier (*Circus approximans*). *Technical Report Series No. 25*. Department of Conservation, Bay of Plenty Conservancy, Rotorua.

- Although harriers prey on small birds and mammals there are few reports of their killing protected native birds, game birds or lizards because the majority of their terrain is open country or intensively-developed farmland.
- They are useful scavengers and will often take car-killed animals and carrion.
- They assist in the control of rodents and birds impacting on orchards and vineyards, particularly introduced starlings and blackbirds.

The Australasian harrier is classified as “not threatened” as overseas populations are secure.

What are your views? Is the listing of this species on Schedule 2 appropriate?

### LITTLE OWL (*ATHENE NOCTUA*)

The little owl was introduced from Europe in an attempt to control small birds damaging orchard crops. It has become established in the eastern South Island. Its diet is similar to the native morepork – mainly insects, but includes a few small birds, lizards, frogs and rodents. The little owl may displace the native morepork from areas it inhabits. Little owl is currently partially protected (listed on Schedule 2), which allows landowners to kill the birds if they are causing damage to property.

DOC has occasionally received requests for permits to keep little owls in captivity (a legal requirement for holding absolutely or partially protected wildlife) but these have been declined because keeping wildlife as pets is contrary to departmental policy.

If made not protected (moved to Schedule 5), little owls could be caught from the wild and kept in captivity without a permit. However, making it legal to keep little owls as pets could result in birds being spread around the country, leading to their establishment in parts of the country where they are currently not present. This could have an adverse impact on native morepork populations. However, if made not protected, little owl could be legally hunted.

There have also been calls for little owl to be made absolutely protected (not listed on any schedule). This option would remove landowners’ rights to kill them if causing damage to property, and would mean that they couldn’t be kept in captivity without a permit. Granting such permits would be contrary to the DOC’s captive management guidelines.

On balance, is Schedule 2 the most appropriate schedule for the little owl?

### EASTERN ROSELLA (*PLATYCERCUS EXIMIUS*)

The eastern rosella is an introduced parrot species that has become established in the wild in New Zealand as a result of cage escapes. This species is listed on Schedule 5 and is therefore unprotected in the wild.

This species is sold widely in pet shops around the country. DOC understands that birds are sometimes caught from the wild and then sold to the pet trade. Wild-caught birds do not make good pets and it is suspected that such birds are often (illegally) re-released back into the wild – sometimes to areas where they have not previously been established. Releases of cage birds pose a competition and disease threat to native parakeets.

Eastern rosellas also causes problems for orchardists. At present, orchardists can kill the birds where they are causing damage, and regional councils can specify the eastern rosella as a pest in regional pest management strategies.

If eastern rosella was made an absolutely protected species by removing it from Schedule 5, this would make collection from the wild illegal but would also prevent orchardists from culling the birds where necessary. Regional councils would not be able to specify the eastern rosella as a pest in regional pest management strategies.

If eastern rosella was made a partially protected species by moving it to Schedule 2, this would make collection from the wild illegal, and prohibit the buying and selling of wild-caught birds. It would also allow orchardists to continue to control the birds on their land where they cause damage to property. However, regional councils would not be able to specify eastern rosella as a pest in regional pest management strategies.

Is eastern rosella currently on the most appropriate schedule? Would it be better if this species was to become absolutely or partially protected?

### CRIMSON ROSELLA AND INDIAN RING-NECKED PARAKEET (*PLATYCERCUS ELEGANS* AND *PSITTACULA KRAMERI*)

DOC reports increasing numbers of these two species outside of captivity as a result of cage escapes. It is not known whether these two species are causing any problems to orchardists. They are currently not listed on any schedule and are therefore absolutely protected in the wild.

The issues here are potentially the same as for the eastern rosella. If these species were to be made not protected (listed on Schedule 5), it would make removal of birds from undesired locations easier but it would also open up the possibility of collection from the wild for the pet trade by making it legal to do so. Collection of these birds from the wild is currently illegal.

Again, there is the possibility for these species to be made partially protected (listed on Schedule 2) which would allow landowners to kill birds on their land if they are causing damage to property. Collection of these birds from the wild would continue to be illegal.

Do the crimson rosella and Indian ring-necked parrot currently have the most appropriate level of protection? Would it be better if these species were to become partially protected or not protected?

### BARBARY DOVE (RING-NECKED DOVE) (*STREPTOPELIA RISORIA*)

There are increasing numbers of this introduced species outside of captivity in New Zealand. The protection status of this species is ambiguous as its genus is listed as unprotected (Schedule 5), but not this particular species. Another species of this genus, the spotted dove *Streptopelia chinensis tigrina* (also known as the Indian or Malayan dove), is already listed on Schedule 5 as not protected. Listing the Barbary dove on Schedule 5 would remove the ambiguity and give it the same protection status as the rock pigeon and the spotted dove. What are your views?

### FERAL CHICKEN (*GALLUS GALLUS*)

There is an increasing spread of formerly domestic chickens outside of captivity, but chickens in the wild are absolutely protected as the species is not listed on any schedule.

Should this species be made unprotected by listing it on Schedule 5 as is the case for most other common farm animals?

### RAINBOW SKINK (*LAMPROPHOLIS DELICATA*)

The rainbow skink is an introduced species that is now well established in parts of the North Island. It may pose a threat to native skinks through competition. At present it is not listed on any schedule making it absolutely protected. Adding this species to Schedule 5 would make removal of rainbow skinks from undesired locations easier and allow regional councils to specify the rainbow skink as a pest in regional pest management strategies. It would also make it legal to gather this species from the wild (currently illegal). What are your views?

### EASTERN BANJO FROG (*LIMNODYNASTES DUMERILII*)

This introduced species is present in the wild in New Zealand and has been declared an unwanted organism under the Biosecurity Act. Listing this species on Schedule 5 of the Wildlife Act would make the status of this species consistent under both pieces of legislation. What are your views?

### SOUTHERN BELL FROG (*LITORIA RANIFORMIS*)

The protection status of the southern bell frog is ambiguous. Two other frog species of the same genus, the green and golden bell frog and the whistling frog, are listed on Schedule 5 as not protected (albeit under an old genus name "*Hyla*" and, in the case of the green and golden bell frog, under an old common name "green frog"). The southern bell frog is recognised as being a different species and listing it on Schedule 5 would remove the ambiguity and give it the same protection status as other species in its genus. All three *Litoria* species in New Zealand are introduced. What are your views?

### NAME CORRECTIONS

A number of the species listed on the schedules to the Wildlife Act now have different scientific names and/or common names than they did when placed on the schedules. As part of this review, it is intended to update the schedules so that species listed are shown with their current scientific and common names. Copies of the schedules to the Wildlife Act are given in the appendix at the end of this discussion document. Where updates to names on the schedules are proposed, these are shown in the appendix in square brackets after the common and scientific names for the species concerned. Comments on these proposed clarifications are invited.

# Possible Additional Invertebrate Species for Schedule 7

The Wildlife Act provides protection to some terrestrial and freshwater invertebrate species by declaring them to be “animals” for the purposes of the Act. These species are listed on Schedule 7 of the Wildlife Act. The listing of a species on this schedule *gives* absolute protection to that species rather than removing protection.

If partial protection is required, a species can be listed on Schedule 7, to bring it under the coverage of the Wildlife Act, and also on another schedule (e.g., Schedule 3) so that the protection is partial rather than absolute. Currently, no species have this dual listing.

This review is considering the addition of further invertebrate species to Schedule 7 owing to the potential risk to these species from the internationally popular activity of insect collecting and from the commercial use of threatened species.

## CRITERIA FOR DETERMINING WHICH NEW ZEALAND SPECIES ARE AT RISK

The following criteria have been used by DOC to assess which New Zealand invertebrate species are most at risk from collectors and commercial users. The criteria are based on the species currently being traded and used, and recent international trends.

- Any species occurring in the same genus as a species currently offered for trade, and where some level of threat has been identified.
- All species in the same family as a New Zealand high profile species for which an interest in trade has been shown (e.g., peripatus, weta), and where some level of threat has been identified.
- Any rare New Zealand species from the following orders: Lepidoptera, Coleoptera, Orthoptera (in this instance the department’s threat ranking list will be used as a surrogate for rarity). These include “acutely threatened,” “chronically threatened,” and “at risk” species.
- Any New Zealand insect that has a current commercial use and where some level of threat to the species long-term survival has been identified. In these situations some kind of regulations may be appropriate to ensure that any taking is sustainable.
- Excluded from consideration are freshwater invertebrate species that are covered by fisheries regulations (e.g., freshwater koura<sup>5</sup>).

## LISTS OF AT-RISK SPECIES PROPOSED FOR ADDITION TO SCHEDULE 7

Lists of at-risk New Zealand endemic terrestrial invertebrate species proposed for addition to Schedule 7 of the Wildlife Act are given below. No freshwater invertebrates have been identified that meet the above criteria.

A comment needs to be made on the nomenclature used in the lists. Owing to the large number of species, it has become necessary for clarity in many situations for the name of the author and year of publication of the formal species description to be

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<sup>5</sup> Freshwater koura are also “not threatened.”

shown after the species name. If these are shown in parentheses, this indicates that the species has subsequently been placed in a different genus by later researchers. Names within quotation marks are informal designations used by scientists where the formal description of the species has yet to be published.

- Mantidae: *Orthodera novaezealandiae*  
Reason: This species is being traded among insect collectors. The threat status of this species has yet to be assessed. It is being displaced by an African mantis species.
- All members of the family Phasmatidae (stick insects), including the genera *Argosarchus*, *Acanthoxyla*, *Pseudoclitarchus*, *Clitarchus*, *Pachymorpha*, *Mimarchus*, *Tectarchus*, *Spinotectarchus*  
Reason: Members of this family are popular with collectors and potentially vulnerable to trade, although only two species are currently threatened.
- All members of the order Onychophora (peripatus/velvet worms)  
Reason: Being traded. Some species are “range restricted” while the others have yet to be assessed for threat status. One species is “not threatened.”
- All members of the families Anostomatidae (ground, tree, giant and tusked weta) and Rhabdophoridae (cave weta), including the genera *Hemideina*, *Hemiandrus*, *Deinacrida*, *Anisoura*, *Motuweta*, *Dendroplectron*, *Gymnoplectron*, *Insulanoplectron*, *Ischyroplectron*, *Isoplectron*, *Macropathus*, *Neonetus*, *Novoplectron*, *Pharmacus*, *Pallidoplectron*, *Pleioplectron*, *Paraneonetus*, *Petrotettix*, *Setascutum*, *Turbottoplectron*, *Talitropsis*, *Weta*  
Reason: Some trade is occurring in this group. There is high international interest in weta and many species are threatened. Having some protected and others not causes identification problems for enforcement agencies where an endangered species is very similar to a more common species. However, there is some commercial use of weta species in making ornaments of weta set in resin.  
If all weta species are added to Schedule 7, some may need to be listed on Schedule 3 also, and regulations developed, to facilitate commercial use of weta in a way that is sustainable. A similar system is currently in place for titi (muttonbirds) to facilitate taking of this traditional food by Rakiura Maori. The sooty shearwater (*Puffinus griseus*), commonly known as the titi or muttonbird, is listed on Schedule 3 of the Wildlife Act. The Titi (Muttonbird) Notice 1978 states the conditions under which muttonbirds may be hunted or killed – namely, in accordance with the Titi (Muttonbird) Islands Regulations 1978.
- Lepidoptera (moths and butterflies):
  - All members of the genera *Asaphodes* and *Notoreas*  
Reason: Many species are “acutely threatened.”
  - Species as listed below:
    - Heloxycanus patricki* Dugdale, 1994
    - “*Pseudocoremia*” *cineracia* (Howes, 1942)
    - Acroclita discariana* Philpott, 1930
    - Aletia cyanopetra* (Meyrick, 1927)
    - Archyala culta* Philpott, 1931
    - Archyala opulenta* Philpott, 1926
    - Arctesthes* sp. “Von”
    - Australothis volatilis* Matthews & Patrick, 1998
    - Bityla pallida* (Hudson, 1905)

*Cephalissa siria* Meyrick, 1884  
*Chersadacula ochrogaster* Meyrick, 1923  
*Circoxena ditrocha* Meyrick, 1916  
*Coridomorpha stella* Meyrick, 1914  
*Ctenarchis cramboides* Dugdale, 1995  
*Dasyuris enysii* (Butler, 1877)  
*Declana* sp. "grey toreuta"  
*Dicbromodes* sp. "Cloudy Bay"  
*Dodonidia helmsii*  
*Elachista eurychora* (Meyrick, 1919)  
*Erechthias lychnopa* Meyrick, 1927  
*Ericodesma aerodana* (Meyrick, 1881)  
*Ericodesma cuneata* (Clarke, 1926)  
*Euxoa cerapachodes* Guenée, 1868  
*Gadira petraula* (Meyrick, 1883)  
*Gingidiobora nebulosa* (Philpott, 1917)  
*Gingidiobora subobscurata* (Walker, 1862) species complex  
*Gingidiobora subobscurata* (Walker, 1862) species complex "eastern Otago"  
*Glyphipterix euastera* Meyrick, 1880  
 Gracillariidae sp. "Teucrium"  
*Graphania* cf. *tetrachroa* "Olearia"  
*Helastia angusta* Craw, 1987  
*Helastia clandestina* (Philpott, 1921)  
*Helastia expolita* (Philpott, 1917)  
*Helastia siris* (Hawthorne, 1897)  
*Heterocrossa maculata* (Philpott, 1927)  
*Hydriomena canescens* Philpott, 1918  
*Hydriomena clarkei* (Howes, 1917)  
*Isonomeutis restincta* Meyrick, 1923  
*Izatha psychra* (Meyrick, 1883)  
*Izatha rigescens* Meyrick, 1929  
*Kiwaia* sp. "plains jumper"  
*Kiwaia jeanae* Philpott, 1930  
*Kiwaia pumila* (Philpott, 1928)  
*Kiwaia* sp. "Cloudy Bay"  
*Kupea electilis* Philpott, 1930  
*Loxostege* sp. "salt pan"  
*Maoricrambus oncobolus* (Meyrick, 1885)  
*Maoritenes* sp. "Olearia"  
*Meterana* "Foveaux Strait"  
*Meterana exquisite* (Philpott, 1903)  
*Meterana grandiose* (Philpott, 1903)  
*Meterana pansicolor* (Howes, 1912)  
*Meterana pictula* (White in Taylor, 1855)  
*Mnesarchaea* sp. "Stellae"  
*Mnesarchaea fallax* Philpott, 1927  
*Orocrambus* "Mackenzie Basin"  
*Orocrambus fugitivellus* (Hudson, 1950)  
*Orocrambus jansoni* Gaskin, 1975  
*Orocrambus sophistes* (Meyrick, 1905)  
*Orthoclydon pseudostinaria* (Hudson, 1918)  
*Paranotoreas fulva* (Hudson, 1905)

*Pasiphila* sp. "Olearia"  
*Proditrix chionochloae* Dugdale, 1987  
*Protosynaema* sp. "Olearia"  
*Pseudocoremia* sp. "knobby"  
*Pyrgotis* sp. "Olearia"  
*Pyrgotis transfixa* (Meyrick, 1924)  
*Sabatinca* sp. "Secretary Island"  
*Samana acutata* Butler, 1877  
*Schiffermuelleria orthophanes* (Meyrick, 1905)  
*Scythris* sp. "stripe"  
*Statbmopoda albimaculata* Philpott, 1931  
*Statbmopoda aristodoxa* Meyrick, 1926  
*Statbmopoda campylocha* Meyrick, 1889  
*Statbmopoda* sp. "Olearia"  
*Stigmella laqueorum* (Dugdale, 1971)  
*Stigmella* sp. "Olearia"  
*Stigmella* sp. "traversia"  
*Thambotricha vates* Meyrick, 1922  
*Theoxena scissaria* (Guenée, 1868)  
*Titanomis sisyrota* Meyrick, 1888  
*Tmetolophota blenheimensis* (Fereday, 1883)  
*Trachypepla cyphonias* Meyrick, 1927  
*Trachypepla roseata* Philpott, 1923  
*Xanthorhoe bulbulata* (Guenée, 1868)  
*Xanthorhoe frigida* Howes, 1946  
*Xanthorhoe lophogramma* Meyrick, 1897

Reason: These are all threatened species in an order that is popular with collectors internationally.

- Coleoptera (Beetles):
  - Cerambycidae:
    - *Prionoplus reticularis* (huhu beetle)
    - *Gastrosaurus* sp. "Poor Knights"
    - *Navomorpha neglecta*
    - *Nesoptychias simpliceps* (Broun, 1880)
    - *Xylotoles costatus* Pascoe, 1875
  - All members of the family Lucanidae (stag beetles), including the genera *Geodorcus*, *Paralissotes*, *Ceratognathus*, *Dendroblax*
  - All members of the family Scarabaeidae (scarab beetles), including the subfamilies Melolonthinae, Scarabaeinae, Dynastinae, Aphodiinae
  - All members of the family Carabidae (ground beetles), including the subfamilies Cicindelinae, Carabinae, Migadopinae, Scaritinae, Trechinae, Harpalinae
  - All members of the genus *Syrphetodes*
  - Tenebrionidae (darkling beetles) in the genera *Mimopeus*, *Menimus*, *Pseudbelops*, and *Zeadelium*, plus the following species:
    - *Zomedes borealis* Watt, 1992
    - *Xylochus dentipes* Broun, 1886
    - *Xylochus spinifer* Broun, 1893
    - *Xylochus triregius* Watt, 1992
    - *Omedes nitidus*
    - *Partystona metallica* Watt, 1992

- *Artystona lata* Watt, 1992
- *Cerodolus curvellus* Broun, 1912
- *Cerodolus genialis* Broun, 1893
- *Cerodolus manepouricus* Watt, 1992
- *Cerodolus sinuatus* Watt, 1992
- *Chrysopeplus expolitus* (Broun, 1880)
- *Chrysopeplus triregius* Watt, 1992
- Elateridae (click beetles) in the genera *Amychus* and *Metablax*
- Curculionidae (weevils) in the genera *Anagotus*, *Hadramphus*, *Lyperobius*, *Tychanopaias*, and *Heterexis*, plus the following species:
  - *Allanalcis* sp. "Poor Knights"
  - *Crisius* sp. "Poor Knights"
  - *Ectopsis* sp. "Poor Knights"
  - *Exomesites* sp. "Poor Knights"
  - *Hadracalles fuliginosus*
  - *Pbrynixus* sp. "Poor Knights"
  - *Praolepra* sp. "Poor Knights"
  - *Scelodolichus* sp. "Poor Knights"
  - *Stephanorhynchus insolitus* Broun, 1893
- The following beetle species:
  - *Tangarona pensus* (Broun, 1880)
  - *Platysus zelandicus* Marris & Klimaszeurski, 2001
  - *Cathartocryptus maculosus* (Broun)
  - *Cryptodacne* sp. "Chathams"

Reason: All are threatened species in a group that is popular with collectors internationally and there is evidence of live-trade in some of these groups.

Since the larvae of the huhu beetle are a traditional food source for Maori, they may need to be listed on Schedule 3 also, and regulations developed, to facilitate their use in a way that is sustainable (similar to the system described earlier for muttonbirds).

The family Scarabaeidae includes some common pasture pests such as the Tasmanian grass grub (*Acrossidius tasmaniae*) and black beetle (*Heteronychus arator*), as well as some native species which are pests of pasture including grass grub (*Costelytra zealandica*), the chafer *Odontria striata*, and manuka beetle (*Pyronota festiva*). These pest species may need to be included on Schedule 2 also to provide for their control (with threatened species belonging to this family being protected through listing on Schedule 7 only).

- All members of the family Acrididae (short-horned grasshoppers)

Reason: Many of these are threatened species in a group which is popular with collectors internationally. Some of these species are common but others are very threatened, and it is hard for non-experts to tell them apart.

- Spiders as listed:

- *Latrodectus katipo* Powell, 1871
- *Latrodectus atritus* Urquhart, 1890
- *Porrhothele antipodiana*
- All members of the family Gradungulidae

Reason: Gradungulidae and katipo (genus *Latrodectus*) are threatened species. DOC understands katipo are being used commercially in homeopathic tinctures. The Gradungulidae are a group that have high international appeal due to their

distinctiveness. While *Porrbothele* are “not threatened,” they are considered desirable by collectors and are being traded.

If katipo are added to Schedule 7, they may need to be listed on Schedule 3 also, and regulations developed, to facilitate commercial use of katipo in a way that is sustainable (similar to the system described earlier for titi or muttonbirds).

- Snails:

- All members of the family Paryphantidae, including the genera *Powelliphanta*, *Paryphanta*, *Rhytida*, *Rhytidarex*, *Amborhytida*, *Wainuia*, *Schizoglossa*, *Delos*, *Delouagapia*

Reason: This is a family that includes many threatened species. Many have large, attractive, desirable shells and are currently vulnerable to trade.

## GENERAL CONSIDERATIONS

### **Keeping live or dead invertebrates**

If additional species of invertebrates are added to Schedule 7 of the Wildlife Act, it will become illegal to gather these species from the wild or have them in your possession or keep them in captivity without a permit issued by DOC.

In the case of collections of dead specimens (e.g., those held by scientists for study and reference), no permits will be required for specimens collected prior to a species being given protected species status. However, permits would be required from DOC for any new specimens gathered from the wild after the species have become protected. It may therefore be worthwhile for people currently holding unlabelled collections of dead invertebrates to photograph their collections, with evidence of the date of the photographs (e.g., get witnesses to sign the backs of the photographs, including the date of signing), to demonstrate that the specimens were collected prior to their becoming protected species.

### **Accidental killing of invertebrates**

If additional species of invertebrates are added to Schedule 7 of the Wildlife Act, it will become an offence to deliberately kill those species. However, if someone was to accidentally kill an absolutely protected invertebrate (for example, while gardening), it would not be an offence. It would be no different from the current situation for native skinks and birds where, if someone accidentally kills an absolutely protected native skink while gardening, or runs over an absolutely protected native bird (such as a kiwi) while driving, it is not an offence. Only the deliberate killing of absolutely protected native invertebrates would be an offence, in the same way that deliberately killing a native skink or a native bird visiting your garden is an offence now.

### **Your views**

What are your views on the possible addition of the above invertebrate species to Schedule 7 of the Wildlife Act?

If absolute protection is not appropriate for a particular species, under what circumstances should the taking of individuals be permitted?

# Possible Additional Marine Species for Schedule 7A

The Wildlife Act provides protection to some marine species by declaring them to be “animals” for the purposes of the Act. These species are listed in Schedule 7A of the Wildlife Act. The listing of a species on this schedule gives absolute protection to that species rather than removing protection. This review is considering the addition of further marine species to Schedule 7A.

(Note that, in addition to species listed on Schedule 7A, all marine mammals – including all seal, dolphin and whale species – are fully protected throughout New Zealand and its EEZ under the Marine Mammals Protection Act 1978. All marine reptiles, including visiting turtles and sea snakes, are automatically fully protected under the Wildlife Act.)

Mention needs to be made of the implications for accidental capture of protected marine wildlife through fishing. If protected marine wildlife is accidentally killed or injured as a result of fishing, then the incident must be reported to the Department of Conservation as soon as practical. (Commercial fishing vessels must report to the Ministry of Fisheries or to DOC within 48 hours of the vessel returning to port.) However, provided the incident is reported as required and the wildlife is not kept by the fisher, then no offence has been committed.

## CRITERIA FOR SELECTING ADDITIONAL MARINE SPECIES

The following criteria have been used to select species for possible addition to Schedule 7A:

- The species is threatened internationally or threatened in NZ waters, *and*
- The species is not targeted by commercial or recreational fishers and is not significant as bycatch in NZ commercial or recreational fisheries; *and*
- The species could benefit from protection under the Wildlife Act to prevent its unnecessary taking or to make collecting illegal.

Where a species is targeted by commercial or recreational fishers or is significant as bycatch in commercial or recreational fisheries, then effective protection of that species would require the use of regulations under fisheries legislation in addition to protection under the Wildlife Act. For these, a different kind of consultation process is needed compared to that used in this review. Examples are great white shark and basking shark which, although threatened internationally, are caught as bycatch in New Zealand commercial fisheries. A consultation process separate to this review has recently been undertaken jointly by the Ministry of Fisheries and DOC for great white shark, and a process for basking shark is expected to follow. Similarly, other shark and ray species are often taken in commercial and recreational fisheries. To address this, a national plan of action for sharks and rays is being developed by MFish, with DOC input.

The following sections describe species that meet the above criteria and are proposed for addition to Schedule 7A.

## GIANT GROUPER (QUEENSLAND GROUPER, *EPINEPHELUS LANCEOLATUS*)

The giant grouper is widely regarded as a docile, iconic marine species and a tourist attraction by commercial dive operators. The spearing of a giant grouper in Northland during 2001 was widely condemned by the wider diving community, and resulted in calls for the species to be protected. The giant grouper is the largest reef-dwelling fish in the world and can grow up to three metres in length and a weight of 600kg.

Giant grouper may warrant protection in this country because of their low resilience to fishing pressure, vulnerability to spear and line fishers, and small population size. The few individual fish found in New Zealand seem to arrive from elsewhere during warm summers and then stay here if they find conditions to their liking.

They are not sufficiently abundant to support a recreational or commercial fishery, either as a target or bycatch species, and consequently have no commercial value in New Zealand. All known specimens landed to date have been deposited in the national fish collection, Museum of New Zealand Te Papa Tongarewa by the fishers. Protection of giant grouper would complement the existing protection for spotted black grouper (*Epinephelus daemeli*).

Giant grouper are found in warmer waters throughout the Indian and Pacific oceans but have an international conservation status of “vulnerable” (IUCN Red List). Giant grouper are protected in South Africa and in some parts of Australia.

In New Zealand, giant grouper are most often found around the northeast North Island. They have been reported at the Three Kings Islands, Cavalli Islands, Poor Knights Islands, Hen and Chicken Islands, and Aldermen Islands.

What do you think? Should this species be made protected by adding it to Schedule 7A?

Giant grouper at the Aldermen Islands, Coromandel; estimated weight c.120 kg  
*Photo: John Anderson*





Whale shark off Tutukaka Heads,  
Northland; estimated length 6 m  
*Photo: Pete Atkinson*

### WHALE SHARK (*RHINCODON TYPUS*)

The whale shark is the world's largest fish and often grows to 12 metres in length and weighing 20 tonnes. It feeds on plankton. It is found all around the world in tropical and warm temperate waters, except the Mediterranean Sea. However, despite its wide distribution and high reproductive rate the whale shark is relatively scarce. Juveniles are small at birth and may suffer high rates of predation. The whale shark migrates extremely large distances to feed and transoceanic movements of tagged individuals have been documented. In New Zealand it is a summer migrant to waters off the northeast North Island but may range south to Fiordland and South Canterbury in extraordinarily warm years.

Ecotourism based on whale sharks has greatly expanded throughout the species' range as more aggregation sites have been found. Despite being highly seasonal and of short duration, whale shark tourism has the potential to generate considerable income for local communities. Being highly migratory, individual whale sharks are potentially capable of generating tourism income at several places in different countries over a number of years. Although whale shark tourism is unlikely to develop in New Zealand owing to the low numbers observed each year, protection in New Zealand waters is likely to directly benefit protection efforts and whale shark tourism in other regional range states.

Whale sharks are vulnerable to targeted fisheries because they swim slowly at the surface to feed, have little or no fear of boats and divers, and have a tendency to form large aggregations at well known seasonal feeding sites. Their fins, flesh and gill arches are traded internationally and have high value. The main market for whale shark products is Taiwan. Whale shark landings have rapidly declined in Taiwan, the Philippines and India following the development of targeted fisheries. Reported declines in sightings in South Africa and Thailand could also be due to unsustainable fishing in other parts of their range.

Whale sharks are not commercially exploited in New Zealand and are an exceptionally rare bycatch. There are no regulations prohibiting the taking, harming or harassment of whale sharks by non-commercial fishers or the general public. Protection in New Zealand waters is likely to assist protection efforts and the development of ecotourism in other regional range states.

The whale shark has an international conservation status of “vulnerable” (IUCN Red List). It is listed on Appendix II of the Bonn Convention for Migratory Species (CMS), and listed on Appendix II of CITES. It is protected in India, the Maldives, Australia, the Philippines, Malaysia, the United States, Mexico, Belize and Honduras.

Do you think the whale shark warrants protection in this country?

### MANTA AND DEVIL RAYS (FAMILY MOBULIDAE)

Mobulid rays are large, harmless, surface-living rays that migrate seasonally to New Zealand waters to feed on zooplankton. Two species, the manta ray (*Manta birostris*) and spintailed devil ray (*Mobula japonica*) have been recorded from New Zealand but it is possible other species may yet be recorded in the EEZ.

Spintailed devil rays are seasonally common beyond the continental shelf south to about 34°S, and breed in New Zealand waters. Their wingspan may grow to three metres. The manta ray appears to be much less abundant but this species appears to range further over the shelf, including coastal waters off Northland and in the outer Hauraki Gulf. Both species are listed on the 2004 IUCN Red List of Threatened Species on the grounds that wherever they are targeted for fishing, populations decline rapidly.

Mobulid rays are currently not targeted as a commercial species and are not exploited as bycatch in any New Zealand commercial fishery. An average of about 34 per season, mostly or entirely *Mobula japonica*, were taken as bycatch in the skipjack tuna purse seine fishery during the late 1970s and early 1980s. Current catch levels are not known. Mobulid rays are not targeted by recreational fishers and are a rare, unwanted bycatch in the marlin fishery.

*Manta birostris* at Osprey Reef,  
Coral Sea  
Photo: Pete Atkinson



Manta and devil rays are heavily exploited in other parts of the world, particularly in Southeast Asia and Indonesia. They have low resilience to fishing pressure owing to their very low reproduction rate (only one pup per season). Protection in New Zealand waters would be likely to assist protection efforts and ecotourism in other parts of the world.

Do you think mobulid rays warrant protection in this country?

### DEEPWATER NURSE SHARK (SAND SHARK, SMALLTOOTH SANDTIGER, HERBST'S NURSE SHARK, *ODONTASPIS FEROX*)

The deepwater nurse shark lives near the ocean bottom in tropical and warm temperate seas throughout the world and grows to a length of up to 3.6 metres. The species may warrant protection in New Zealand waters because it appears to be naturally rare, has low resilience to fishing and is vulnerable to deepwater line and net fisheries at aggregation sites. In this country the deepwater nurse shark is known from Norfolk Ridge, New Plymouth, Kermadec Islands, Volkner Islets and White Island, Gisborne, Mahia Peninsula and Lachlan Banks. Two known aggregation sites are located within existing or proposed marine reserves.

Evidence of a serious population decline in the Australian NSW upper slope trawl fishery indicates the species is also vulnerable to fishing away from aggregation sites. The species is listed as "vulnerable" in Australia (IUCN Red List) owing to an observed decline of over 50 percent in research trawls between 1972 and 1997. It has been protected in NSW waters since 1984.

Deepwater nurse sharks do not appear to be an important commercial bycatch species in New Zealand waters but may be utilised occasionally for their fins. There is no recreational catch in New Zealand. Protection under Schedule 7A would prohibit the species being landed as bycatch, and would prohibit the development of targeted fishing which, if it was to occur, has the potential to rapidly deplete the population. Targeted fishing of the closely related grey nurse shark, *Carcharias taurus*, in eastern Australia, rapidly reduced the population of that species which is now critically endangered.

Do you think deepwater nurse sharks warrant protection in this country?

### CORALS

Corals are slow growing marine organisms that are well known for their large reef systems and delicate plant-like structural forms. Growth rates are typically around 1mm per year, and so it takes centuries rather than decades for coral colonies to build the large, beautiful structures that most people are familiar with. Corals provide habitat for small fish and invertebrates, and generally increase habitat complexity. While corals are usually associated with tropical seas, a number of species are found in New Zealand waters.

Internationally, corals are considered highly desirable by collectors and jewellery makers. All species in the order Scleractinia (stony or true corals), family Stylasteridae (hydrocorals), and order Antipatharia (black corals) are listed on Appendix II of CITES, the Convention on International Trade in Endangered Species. This allows coral species to be traded internationally provided that an export permit is issued by the country of origin. The listing of species or groups of species on Appendix II of CITES is a good indication that the species concerned are under pressure from international trade.

Two groups of corals are currently listed on Schedule 7A of the Wildlife Act: black coral (“all species in the Order Antipatharia”) and “red coral.” These species have previously been recognised as being vulnerable to pressure from collecting.

### **Some issues**

Four New Zealand corals have a threatened species status of “serious decline.” These are two coral species in the order Scleractinia and two coral species in the order Gorgonacea (an order closely related to the three orders listed on Appendix II of CITES).

Coral species can be difficult to tell apart. Even marine scientists and experienced museum personnel can have difficulty identifying which order a specimen of coral belongs to. This means that simply listing the four New Zealand species in “serious decline” on Schedule 7A would be problematical for enforcement agencies.

Another issue is that the term “red coral,” currently listed on Schedule 7A, is ambiguous. It appears to include all species in the genus *Errina* (which lies within the family Stylasteridae) but is also the common name of a number of coral species in the order Gorgonacea.

### **Options for protection**

The current ambiguity in Schedule 7A could be resolved by clarifying that red coral includes “all species in the genus *Errina*” and by adding gorgonian corals (“all species in the Order Gorgonacea”) to the schedule. In addition to resolving the red coral issue, this would also give gorgonian corals the same level of protection as black corals, and protect the two threatened gorgonian coral species.

Another option would be to add the orders Scleractinia and Gorgonacea, and family Stylasteridae, to Schedule 7A (the order Antipatharia is listed already). This would simplify matters for enforcement agencies, resolve the red coral issue, and give protection to all four coral species classed as being in serious decline. It would also have the added benefit of giving protection to corals related to species already under pressure internationally, before problems develop in this country. It is understood that there is no significant commercial use of coral in New Zealand.

Deepwater corals are caught as non-fish bycatch in New Zealand trawl fisheries and, because red and black corals are protected under the Wildlife Act, there is a statutory requirement for red and black corals caught in trawls to be reported. Adding further species of coral to Schedule 7A would therefore increase the fishing industry’s statutory reporting obligations. In practical terms, however, this may not be an issue as there are already proposals to increase the reporting of non-fish bycatch in order to better monitor the overall ecosystem effects of commercial fishing.

What are your views? Do you think gorgonian corals warrant protection in this country? Do you think coral of the order Scleractinia and family Stylasteridae should be protected in this country?

# Time Frame and Future Process

Written submissions received in response to this discussion document will be used to inform the decision-making process regarding which (if any) species need to be moved from one Wildlife Act schedule to another or need to be added or removed from a schedule.

The closing date for written submissions is Friday 3 November 2006. No formal hearings will be held. Submissions will then be analyzed and recommendations prepared for the Minister of Conservation. This is expected to be completed by the end of December 2006.

The Minister will then decide on any changes required to the species listed on the various Wildlife Act schedules and publicly announce his decisions. The final step in the process will be for Orders in Council to be prepared to add or remove species to or from the various schedules.

# Appendix: Lists of Species Currently on Schedules

This section lists those species currently on Schedules 1 to 7A of the Wildlife Act.

## SCHEDULE 1: WILDLIFE DECLARED TO BE GAME

Black swan (*Cygnus atratus*) (except on Chatham Islands)

Canada goose (*Branta canadensis*)

Chukar (*Alectoris graeca chukar*) [now *Alectoris chukar*]

Duck—

Grey duck (*Anas superciliosa*) and any cross of that species with any other species, variety, or kind of duck (except on Chatham Islands).

Mallard duck (*Anas platyrhynchos*) and any cross of that species with any other species, variety, or kind of duck (except on Chatham Islands).

Paradise duck (*Casarca variegata*). [now paradise shelduck *Tadorna variegata*]

Spoonbill duck (New Zealand shoveler) (*Anas rhynchotis*) [now Australasian shoveler]

Partridge (*Perdix perdix*)

Red-legged partridge (*Alectoris rufa rufa*)

Pheasant (any bird, not being a domestic bird, of the genus *Phasianus* and any cross of any such bird with any other species, variety, or kind of pheasant)

Pukeko (*Porphyrio melanotus*) (except on Chatham Islands)

Quail—

Australian quail (brown quail) (*Synoicus*) [*Synoicus ypsilophorus*]

Californian quail (*Lophortyx californica*) [now California quail *Callipepla californica*]

Virginian quail (*Colinus virginianus*) [now bobwhite quail]

## SCHEDULE 2: PARTIALLY PROTECTED WILDLIFE

Gull—

Sea hawk (*Catharacta lonnbergi*) [now brown skua]

Hawk—

Harrier hawk (*Circus approximans*)

Little owl (*Athene noctua*)

Shag—

Black shag (*Phalacrocorax carbo*)

White eye (*Zosterops*) [now silvereye *Zosterops lateralis*]

## SCHEDULE 3: WILDLIFE THAT MAY BE HUNTED OR KILLED SUBJECT TO MINISTER'S NOTIFICATION

Black swan (*Cygnus atratus*) (on Chatham Islands only).

Duck—

Grey duck (*Anas superciliosa*) and any cross of that species with any other species, variety, or kind of duck (on Chatham Islands only)

Mallard duck (*Anas platyrhynchos*) and any cross of that species with any other species, variety, or kind of duck (on Chatham Islands only)

Mutton bird (*Puffinus griseus*) [also known as sooty shearwater]

Peafowl (*Pavo cristatus*)

Petrel—

Grey-faced petrel (*Pterodroma macroptera*) [now *Pterodroma macroptera gouldi*]

Pukeko (*Porphyrio melanotus*) (on Chatham Islands only)

Shag—

Little shag (*Phalacrocorax brevirostris*) [now *Phalacrocorax melanoleucos brevirostris*]

Pied shag (*Phalacrocorax varius*) [*Phalacrocorax varius varius*]

Weka—

South Island weka (*Gallirallus*) (on Chatham Islands only) [*Gallirallus australis australis* or buff weka *Gallirallus australis hectori*]

Stewart Island weka (*Gallirallus*) (on islets off Stewart Island and in Foveaux Strait only) [*Gallirallus australis scotti*]

#### SCHEDULE 4: WILDLIFE NOT PROTECTED, EXCEPT IN AREAS AND DURING PERIODS SPECIFIED IN MINISTER'S NOTIFICATION

There are currently no species listed on this schedule

#### SCHEDULE 5: WILDLIFE NOT PROTECTED

Mammals—

Cat (*Felis*)

Cattle (*Bos*)

Dog (*Canis*)

Ferret (family Mustelidae)

Hedgehog (*Erinaceus europaeus*)

Horse (*Equus*)

Mouse (family Muridae)

Polecat (family Mustelidae)

Rat (family Muridae)

Sheep (*Ovis*)

Stoat (family Mustelidae)

Weasel (family Mustelidae)

Birds—

Blackbird (*Turdus merula*)

Bulbul: Red-vented bulbul (*Pyconotus cafer*)

Bunting—

    Cirl bunting (*Emberiza cirlus*)

Cape Barren goose (*Cereopsis novaehollandiae*)

Dove—

    Indian (or Malayan) dove (*Streptopelia*) [now spotted dove *Streptopelia chinensis tigrina*]

Feral goose (*Anser*)

Finch—

    Chaffinch (*Fringilla coelebs*)

    Goldfinch (*Carduelis carduelis*)

    Greenfinch (*Chloris chloris*) [now *Carduelis chloris*]

Guinea fowl (*Numida*) [now tufted guineafowl *Numida meleagris*]

Gull—

Black-backed gull (*Larus dominicanus*)

Kookaburra (*Dacelo*)

Magpie (Australian)—

Black backed magpie (*Gymnorhina tibicen*) [now *Gymnorhina tibicen tibicen*]

White backed magpie (*Gymnorhina leuconota*) [now *Gymnorhina tibicen hypoleuca*]

Mynah (*Acridotheres tristis*)

Parrot—

Budgerigar (*Melopsittacus undulatus*)

Galah (*Kakatoë roseicapilla*) [now *Cacatua roseicapilla*]

Rosella (*Platycercus eximius*) [now *eastern rosella*]

White (or sulphur crested) cockatoo (*Kakatoë galerita*) [now *Cacatua galerita*]

Pigeon—

Rock pigeon (*Columba livia*)

Rainbow lorikeet (*Trichoglossus haematodus*)

Redpoll—

Lesser redpoll (*Carduelis flammea*)

Rook (*Corvus frugilegus*)

Skylark (*Alauda arvensis*)

Sparrow—

Hedge sparrow (*Prunella modularis*)

House sparrow (*Passer domesticus*)

Starling (*Sturnus vulgaris*)

Thrush—

Song thrush (*Turdus ericetorum*) [now *Turdus philomelos*]

Turkey (*Meleagris*)

Yellow hammer (*Emberiza citrinella*)

Amphibians—

Green frog (*Hyla*) [now green and golden bell frog *Litoria aurea*]

Whistling frog (*Hyla*) [now *Litoria ewingii*]

While rabbits and hares are not listed in Schedule 5, they are excluded from protection under the Wildlife Act and are therefore unprotected in the wild.

The rainbow lorikeet, rook and ferret have been listed as unwanted organisms under the Biosecurity Act 1993 by Biosecurity New Zealand.

## SCHEDULE 6: ANIMALS DECLARED TO BE WILD ANIMALS SUBJECT TO THE WILD ANIMAL CONTROL ACT 1977

Mammals—

Deer—

Axis deer (*Axis axis*)

Fallow deer (*Dama dama*)

Japanese deer (*Sika nippon*)

Javan rusa deer (*Cervus timoriensis*)

Moose (*Alces americana*)

Red deer (*Cervus elaphus*)

Sambar deer (*Cervus unicolor*)

Virginian deer (*Odocoileus virginianus*)

Wapiti (*Cervus canadensis*)  
Any other member of the family Cervidae  
Chamois (*Rupicapra rupicapra*)  
Goat (*Capra*)  
Opossum (family Phalangeridae) [now possum]  
Pig (*Sus*)  
Thar (*Hemitragus jemlaicus*)  
Wallaby (family Macropodidae)

These species are deemed not to be wildlife for the purposes of the Wildlife Act.

## 7. TERRESTRIAL AND FRESHWATER INVERTEBRATES DECLARED TO BE ANIMALS

### ARTHROPODA

#### INSECTA (INSECTS)

##### Orthoptera:

Stenopelmatidae (Bush and Ground Wetas)— [now Anostostomatidae]  
*Deinacrida carinata* Salmon [common name Herekopare weta]  
*Deinacrida fallai* Salmon (commonly known as the Poor Knights weta)  
[now Poor Knights giant weta]  
*Deinacrida heteracantha* White (commonly known as wetapunga)  
*Deinacrida rugosa* Buller (commonly known as the Stephens Island weta)  
[now Cook Strait giant weta]  
*Deinacrida parva* Buller [common name Kaikoura giant weta]  
*Deinacrida tibiospina* Salmon [common name Mt Arthur giant weta]  
*Hemideina ricta* Hutton [common name Banks Peninsula tree weta]

##### Acrididae (Grasshoppers)—

*Brachaspis robustus* Bigelow [common name robust grasshopper]

##### Coleoptera:

##### Carabidae (Ground or Carab Beetles)—

*Megadromus* sp.—Picton and Port Underwood Saddle area, Arapawa Island  
only [now *Megadromus* sp “eastern Sounds”]

##### Lucanidae (Stag Beetles)—

*Dorcus auriculatus* (Broun) [now Te Aroha stag beetle *Geodorcus  
auriculatus*]  
*Dorcus ithaginus* (Broun) [now Mokohinau stag beetle *Geodorcus  
ithaginis*]

##### Scarabaeidae (Scarab Beetles)—

*Prodontria lewisii* Broun (commonly known as the Cromwell chafer)

##### Elateridae (Click Beetles)—

*Amychus granulatus* Broun [common name Cook Strait click beetle]  
*Amychus candezei* Pascoe [common name Chatham Island click beetle]

##### Cerambycidae (Longhorn Beetles)—

*Xylotoles costulatus* Pascoe [now Pitt Island longhorn *Xylotoles costatus*]

##### Curculionidae (Weevils)—

*Anagotus turbotti* Spiller [common name Turbott’s weevil]  
*Anagotus fairburni* Brookes [common name flax weevil]  
*Hadramphus spinipennis* Broun [common name coxella weevil]  
*Hadramphus stilbocarpae* Kuschel [common name knobbed weevil]  
*Hadramphus tuberculatus* Pascoe [common name Canterbury knobbed  
weevil]

*Heterexis seticostatus* Brookes [common name Campbell Island ribbed weevil]

*Megacolabus sculpturatus* Broun [common name Akaroa weevil]

*Nothaldonis peacei* Broun [common name Peace's weevil]

*Oclandius laeviusculus* Broun common name weevil]

*Lyperobius buttoni* Pascoe (commonly known as the speargrass weevil)

#### ARACHNIDA

Araneae (Spiders)—

Gradungulidae—Nelson Cave Spiders only

#### MOLLUSCA

Gastropoda (Snails)—

*Placostylus*—All New Zealand species (commonly known as flax snails)

*Paryphanta busbyi busbyi* (commonly known as the Kauri snail)

*Paryphanta busbyi wattii* Powell

*Powelliphanta*—All species

*Cytora hirsutissima* Powell

*Cytora tepakiensis* Gardner

### 7A MARINE SPECIES DECLARED TO BE ANIMALS

Black coral: all species in the Order Antipatharia

Red coral: all species [probably means all species of red hydrocoral - genus *Errina*?]

Spotted black grouper (*Epinephelus daemeli*)

## REVIEW OF LEVEL OF PROTECTION FOR SOME NZ WILDLIFE: SUBMISSION FORM

<b>Name</b>	<b>Organisation</b> (if applicable)
<b>Category of submitter</b> <input type="checkbox"/> Individual <input type="checkbox"/> Company or commercial/industry group <input type="checkbox"/> Non-government statutory organisation	<input type="checkbox"/> Government organisation <input type="checkbox"/> Professional organisation <input type="checkbox"/> Other  <input type="checkbox"/> Maori organisation <input type="checkbox"/> Community or other non-government group
<b>Postal address</b>	<b>Signature</b>
	<b>Date</b>
	<b>Email</b>

### My submission:

<b>The species my submission relates to is/are:</b>		
<b>My submission is that:</b> Please state concisely the nature of your concern about the level/type of protection the species has. Please give reasons for your views and provide supporting evidence where possible.		
<b>I seek the following level of protection:</b> Please state what level/type of protection you believe the species should have. If possible, state which schedule you think the species should (or should not) be listed on.		

Please send your submission or any queries to:  
 Wildlife Protection Review, Department of Conservation, PO Box 10420, The Terrace, Wellington 6143 or email to: [wildlifeschedules@doc.govt.nz](mailto:wildlifeschedules@doc.govt.nz)  
 Submissions should reach the Department of Conservation no later than 3 November 2006.

<p><b>The species my submission relates to is/are:</b></p>	
<p><b>My submission is that:</b> Please state concisely the nature of your concern about the level/type of protection the species has. Please give reasons for your views and provide supporting evidence where possible.</p>	
<p><b>I seek the following level of protection:</b> Please state what level/type of protection you believe the species should have. If possible, state which schedule you think the species should (or should not) be listed on.</p>	