



# SPORTS FISH & GAME BIRD MANAGEMENT PLAN



Hawke's Bay Region

Pursuant to Section 17M (2) (g) of the Conservation Act 1987, I approve the Sports Fish and Game Bird Management Plan for the Hawke's Bay Fish and Game Region.



Hon Chris Carter MP  
Minister of Conservation

23 / .9... / .05.

# **Sports Fish and Game Bird Management Plan**

## **Hawke's Bay Region**

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## FOREWORD FROM THE CHAIRMAN

It is my pleasure to introduce the Sports Fish and Game Bird Management Plan for the Hawke's Bay Region of Fish and Game New Zealand. This document establishes the long-term vision and objectives for sports fish and game bird management in the region, and sets out the policies that will guide our efforts to achieve them.

The diversity of high quality resources available in the Hawke's Bay region puts it on a par with any sports fish or game bird hunting destination in New Zealand. The Mohaka, Tukituki, Tutaekuri and Ngaruroro Rivers, and their catchments, are just a few of the high quality resources available to licence holders. This quality is highly valued by the region's residents and attracts many visitors from New Zealand and overseas. Many anglers fish the waters of the Hawke's Bay region and as a result sports fish anglers and game bird hunters contribute significantly to the regional economy.

The Council is mindful that the management of the sports fish and game bird resource is a significant responsibility. We are confident, however, that the plan will enable a positive approach to be taken to both ensuring the sustainability of these resources, and actively providing quality angling and hunting opportunities for licence holders.

The way in which Fish and Game New Zealand works has changed considerably in recent years. We have become smarter and more effective, and have adopted a strong customer focus. The direction provided by the plan reflects these recent changes. No doubt change will continue and, in response, the plan may need to be reviewed from time to time.

The proposed plan has been created over an extended period. It has involved consultation with a wide range of stakeholders. We appreciate the effort that these individuals have made, and believe that the plan will be far more robust as a result.

Bruce Bates  
CHAIRMAN



# **PART ONE**

## **INTRODUCTION**

## 1.1 INTRODUCTION

The Hawke's Bay Region is part of the Fish and Game New Zealand organisation, comprising twelve regional Councils and one national Council. Fish and Game Councils were established under the Conservation Act (1987) as amended by the Conservation Law Reform Act (1990). They have a statutory function to:

*“manage, maintain, and enhance the sports fish and game bird resource in the recreational interests of anglers and hunters.”*

Fish and Game Councils are Crown entities, and have inherited many of the roles and characteristics of the former Acclimatisation societies, which were responsible for the management of sports fish and game birds in New Zealand from the late 1860s.

Fish and Game New Zealand is a “user pays user says” organisation, funded predominantly through the sale of sports fish and game bird licences. Anglers and hunters purchase licences to fish or hunt, and in return have input to the sports fish and game management in their region. All whole season licence holders are eligible to participate in a democratic process to elect regional Fish and Game Councils.

The Hawke's Bay Region represents the interests of more than 4, 500 anglers and 1, 700 hunters<sup>1</sup> who purchase licences to fish or hunt in the Hawke's Bay Region. A map and description of the region can be found in Part Three, Resource Description. The Council's functions are described in Section 26Q of the Conservation Act, and include the responsibility to:

- *assess and monitor sports fish and game populations;*
- *assess and monitor the use of the fish and game resource and the recreational satisfaction of anglers and hunters;*
- *maintain and improve sports fish and game resources;*
- *provide information on sports fish and game, promote angling and hunting, and provide education services to anglers and hunters;*
- *represent the interests of anglers and hunters in statutory planning processes, including their interests in habitats.*

Fish and Game New Zealand, Hawke's Bay Region, is therefore responsible for the protection, maintenance, and enhancement of the sports fish and game resource in the recreational interests of anglers and hunters.

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<sup>1</sup>Licence sales figures from the 2002-2003 season

## 1.2 WHAT IS A SPORTS FISH AND GAME BIRD MANAGEMENT PLAN?

Section 17(L) of the Conservation Act (1987) requires each Fish and Game Region to prepare a Sports Fish and Game Bird Management Plan, the purpose of which is to establish objectives for the management of sports fish and game, within any region or part of any region. According to the Act, the Council, in devising the plan, should have regard to:

- *the sustainability of sports fish and game in a fish and game region;*
- *the impact that the management of fish and game resources will have on other resources and users of the environment;*
- *provisions which maximise recreational opportunities for anglers and hunters.*

This Sports Fish and Game Bird Management Plan is not in conflict with provisions of the East Coast Conservation Management Strategy that cover the Hawke's Bay Region.

The Hawke's Bay Region Management Plan is being prepared according to the statute. The Hawke's Bay Region will review the plan no later than 10 years after its approval. Amendments within this period are possible, if required in response to changing circumstances.

It is intended that the goals, objectives, and policies set out in the plan will allow Council to meet their statutory requirements under Section 17L (4) of the Conservation Act. That is, to maximise the opportunities for sustainable use of the region's fish and game resource by anglers and hunters.

## 1.3 WHO IS THE PLAN FOR?

The Fish and Game Management Plan has three target audiences:

### A. INTERNAL

Councillors and staff will use the plan to direct the management of the fish and game resource and their recreational use in the Hawke's Bay region. It does this by providing goals, objectives, and policies for setting priorities for Fish and Game New Zealand.

### B. STATUTORY AUTHORITIES

The Management Plan clearly indicates to other statutory organisations, such as Regional and District Councils and Department of Conservation, where the Hawke's Bay Region's priorities lie, and how we intend to attain our goals. As the plan is a statutory document, other authorities must have regard to its content.

### C. LICENCE HOLDERS AND THE COMMUNITY

The plan provides the opportunity to make the Hawke's Bay Region's operations more transparent to licence holders and the community. It also creates a greater sense of ownership in the plan, as the plan is publicly notified and available for comment.

## 1.4 OPERATIONAL POSITION OF THE MANAGEMENT PLAN

Fish and Game New Zealand operates under, and within, a number of statutes, the main ones being:

- **CONSERVATION ACT (1987)**

Fish and Game Councils are established under the Conservation Act, which contains the legal authority for Fish and Game New Zealand to manage the countries sports fish and game bird resources. The Act also contains provisions that are relevant to public access, controls on fish and game recreation, and the requirement for Fish and Game New Zealand to give effect to the principles of the Treaty of Waitangi which is of significance to Ngati Kahungunu Iwi Incorporated. The Conservation Act also details the functions of the Department of Conservation. The Department of Conservation's operations and policies may impact on sports fish and game management. Conversely, Fish and Game New Zealand activities may from time to time impact on those of the Department of Conservation.

- **WILDLIFE ACT (1953) AND FISHERIES ACT (1983)**

The Fisheries Act and Wildlife Act establish how the legal authority to manage sports fish and game birds can be exercised. The Wildlife Act establishes the right to control hunting through a licensing process, designates those species that are considered game birds, designates powers of Fish and Game warranted officers for the purposes of this Act, and sets out penalties for offences under this Act. The Wildlife Act includes the Wildlife Regulations 1955 that sets the categories and fees for hunting licences. The Fisheries Act includes the Freshwater Fisheries Regulations. These regulations provide for controls on licensing, controls on fish tagging, use of electric fishing machines, protection of fish passage, regulations on fish transfer, and the management of indigenous and noxious fish species.

- **RESOURCE MANAGEMENT ACT (1991)**

The Resource Management Act provides for the sustainable management of New Zealand's natural and physical resources, including sports fish and game bird habitat, access to waterways and their margins, and wilderness, natural character, and recreational values. The Act allows Fish and Game New Zealand input to development decisions made by regional and territorial authorities.

- **BIOSECURITY ACT (1993)**

The Biosecurity Act includes provisions on the treatment of animals, which Fish and Game New Zealand must follow in its operations. Fish and Game New Zealand must also obtain approval under this Act if new species of sports fish or game birds are introduced to the country.

- **RESERVES ACT (1977)**

The Hawke's Bay Region of Fish and Game New Zealand is recognised as a covenanting body under the Reserves Act. Reserves established by other authorities may also provide protection for sports fish and game bird habitat.

## 1.5 PLANNING CONTEXT

These statutes provide the context within which the Hawke's Bay Region Sports Fish and Game Bird Management Plan was developed, and are part of the planning environment within which this plan will operate.

Within this context, the National Strategic Plan provides another factor influencing the management plan. The National Strategic Plan is not a statutory document, and does not supersede or denigrate from this plan. It identifies issues and challenges for Fish and Game New Zealand over the next 10 years.

The Sports Fish and Game Bird Management Plan shapes the annual operational work plan, budgets, and any species or habitat plans developed by Council. Future decisions made by Council and future annual work plans must meet the objectives and policies identified in this plan.

*The Hawke's Bay Region Sports Fish and Game Bird Management Plan is a management plan, developed to provide operational guidelines, rather than a regulatory plan.*

The plan should therefore contain long-term visions for the direction that fish and game management is to take, rather than specifics or day-to-day operational details.

Under section 17L(3) of the Conservation Act, the Sports Fish and Game Bird Management Plan must not derogate from the provisions of the Conservation Act or any other Act, or the provisions of any conservation management strategy, conservation management plan, or freshwater fisheries management plan.

There are a number of issues identified in this Management Plan that may affect Department of Conservation interests. The Hawke's Bay Region is committed to consultation with the Department of Conservation, where its interests may be involved, particularly on issues that may affect protected species.

The provisions of the Resource Management Act provide for the interests of Fish and Game to be included into statutory documents prepared under the Act. The following sections in particular are relevant:

### **Section 6. Matters of national importance -**

*6 (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development.*

*6 (c) the maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers;*

### **Section 7. Other matters –**

*7 (c) The maintenance and enhancement of amenity values:*

*7 (h) The protection of the habitat of trout and salmon.*



## 1.6 STRUCTURE OF THE PLAN

The Hawke's Bay Region Sports Fish and Game Bird Management Plan is divided into four main parts:

- Introduction
- Mission Statement
- Resource description, which details the species, habitat, people, and administrative resources in the Hawke's Bay region
- Issues, objectives, and policies for the management of these resources

The structure of the issues section (Part Four) of this Management Plan is based on the nine functional areas currently used in Fish and Game New Zealand's annual operational work plans. These nine areas are used for management purposes in all Fish and Game New Zealand regions and at a national level. Use of the same areas in the Management Plan will make it easier to link future annual work plans to the Management Plan, and to relate future directions, rather than using an alternative structure.

A goal has been identified for each of the nine functional areas. Various objectives, policies, and methods are then described which facilitate meeting the goal. The framework is designed to set steps from the identification of a problem or issue to the achievement of a solution.

The meanings of the terms used in the plan are as follows:

- *goals* - state the over riding strategy of the Hawke's Bay Region to be followed in the management of a functional area.
- *issues* – are statements of concern relating to various components of each functional area that are of relevance to the Hawke's Bay Region.
- *objectives* - state the resolution of issues, and focus on the desired outcome for particular issues.
- *policies* – are the Council's intentions as to how an objective will be achieved.
- *methods* - contain the specific actions or procedures for meeting a policy.

Through the above process, a goal should move from being something broad, to something that is specific and capable of implementation. Each of the levels should follow on from the one above it.

## 1.7 TERMINOLOGY

*Game birds* are those species listed as such in the First Schedule of the Wildlife Act (1953) (see Appendix 1: First Schedule of the Wildlife Act 1953).

*Sports fish* are those species listed as acclimatised fish in the First Schedule of the Freshwater Fisheries Regulations (1983) (see Appendix 2: First Schedule of the Freshwater Fisheries Regulations (1983).

*Hawke's Bay Region of Fish and Game New Zealand, the Hawke's Bay Region, and Fish and Game New Zealand* refer to the Hawke's Bay Region Fish and Game Council as the managing body of sports fish and game birds, including staff and Council members.

*Hawke's Bay region* refers to the geographical area that the Hawke's Bay Region of Fish and Game New Zealand is responsible for. It is described by Gazette No. 83 of 24<sup>th</sup> May 1990.

*Fish and Game New Zealand* also refers to the national Fish and Game organisation. Where National Office is referred to, it is specifically mentioned.

*The Council* refers to the elected members of the Hawke's Bay Fish and Game Council as the governing body.

*New Zealand Fish and Game Council* refers to the national Council, made up of one representative from each of the 12 regional Councils.

*Waterfowl* refers to those species listed as game birds in the first schedule of the Wildlife Act 1953, specifically Mallard duck, Grey duck, Shoveler duck, Paradise Shelduck, Pukeko, Black Swan and Canada Goose.

*Upland game* refers to those species listed as game birds in the first schedule of the Wildlife Act 1953, specifically pheasant, brown quail, californian quail, bobwhite quail

*Ranger* means any person appointed as such pursuant to section 26FA (1) or (2) of the Conservation Act 1987

## 1.8 PLAN REVIEW

The Sports Fish and Game Bird Management Plan will be reviewed no later than ten years from the date that it becomes operational. Amendments may be made during this time if required, and proposed amendments will undergo a similar consultation process as used for this plan. Amendments are carried out under the provisions of Section 17M (2-6) of the Conservation Act (1987).

## **PART TWO**

### **MISSION STATEMENT**

## 2.1 MISSION STATEMENT

Fish and Game New Zealand, Hawke's Bay Region, is the statutory manager of sports fish and game birds in the Hawke's Bay region. The sports fish and game bird resources in the Hawke's Bay region and the angling and hunting experiences that they provide, are of national and international significance. The Hawke's Bay Sports Fish and Game Bird Management Plan is a statutory document to direct the management of these resources, in the interests of anglers and hunters. The goals, objectives, and policies in the management plan allow for the maximisation of the opportunities provided by the sports fish and game bird resources in the Hawke's Bay region, and ensure that fishers and hunters have access to sustainable sport fish and game bird resources in New Zealand.

The Council's mission statement is:

***To maintain and enhance opportunities for sustainable sports fish angling and game bird hunting.***

## **PART THREE**

### **RESOURCE DESCRIPTION**

## 3.1 THE REGION

### 3.1.1 LOCATION

The area managed as the Hawke's Bay Region of Fish and Game New Zealand is described in *Gazette* No. 83 of 24<sup>th</sup> May 1990 at page 1861 (SO Plan 10031) (*see Appendix 3; Gazette No. 83*). The land area of the Hawke's Bay region spans approximately 950, 000ha, from the Mohaka River to south of Porongahau. The eastern boundary is lined by the coast and in the west by the Ruahine, Kaweka, Kaimanawa, Huiarau and Ahimanawa Ranges.

Within the Hawke's Bay region there are five District Councils and two Regional Councils. The District Councils are (from north to south): The Wairoa District Council, the Taupo District Council, the Hastings District Council, Napier City Council and the Central Hawke's Bay District Council. The District Councils have a number of functions under section 31 of the RMA (1991). The Regional Councils are: Environment Waikato who manage the upper reaches of the Taharua catchment under their Regional Resources Management Plan, while all other reaches of the Mohaka and the balance of the region are managed under the Hawke's Bay Regional Council and their Regional Resources Management Plan. The Regional Councils have a number of functions under section 30 of the RMA (1991).

Physically, the area extends from the Mohaka catchment in the north then crosses west over the Kaweka ranges to the upper Ngaruroro River. The boundary then turns south along the Ruahine Range to Woodville then east to just south of Porongahau.

**Figure 1: Regional Boundaries**



The Hawke's Bay Region is responsible for managing the freshwater sports fisheries and game bird populations within this area. The region includes the urban areas of Napier, Hastings, Waipawa and Waipukurau.

### **3.1.2 GEOLOGY AND VEGETATION**

The landforms of the Hawke's Bay region are determined by its geology. To the west the greywacke ranges of Ruahine, Kaweka, Kaimanawa and Ahimanawa rise to over 1700 metres. The headwaters of the region's rivers originate in these localities. The area contains both steep mountains and plateau. In the northwest, this area bounds the Rangitaiki Plateau with its deep pumice deposits. These deposits have infilled the Ngaruroro River valleys and have been washed out onto the Heretaunga Plains.

East of these greywacke ranges, tertiary sediments dominate the land giving way to coastal ranges, formed from the limestone and mudstone, south of the Heretaunga Plains. The limestone is stable but the mudstone has a high potential for earthflow, slip and gully erosion. Between the coastal ranges and the inland greywacke ranges are areas of low relief filled by gravels eroded from the greywacke and washed out onto the plains. The Heretaunga Plains have formed from sediments deposited by the Tukituki, Ngaruroro and Tutaekuri rivers.

Prior to settlement the region was covered in dense native forest, wetland vegetation and high country tussock. Following European settlement the secondary vegetation of scrubland and fern, together with many wetlands and much of the steep backcountry forest and tussock, was further modified to introduced grassland. The loss of natural forest, tussock and wetlands has been very extensive and has given rise to the relatively stark landscape that now typifies much of Hawke's Bay. The lowland and coastal areas of Hawke's Bay have the smallest total area of protected features. Forest remnants remaining on farmland are all important for maintaining biodiversity and as wildlife corridors or "stepping stones" between other protected areas (DOC 1994).

Land uses in the Hawke's Bay region include livestock farming, cropping, horticulture, exotic plantation forestry, viticulture and urban development. The area planted in grapes has grown significantly in recent years and is predicted to expand further especially in river terrace areas. Forestry is also increasing and dairying is being reintroduced at the expense of meat and wool farming.

### **3.1.3 WETLANDS AND LAKES**

The scarcity of indigenous vegetation and wetlands is a key issue for the region. This has implications for the quality and availability of game bird habitat in the region.

Wetlands and lakes, including their riparian margins, provide important areas of habitat and add to the biodiversity of the region and the stability and quality of the regions waterways. These areas provide habitat for waterfowl and filter sediment and nutrients, regulate water flows, decrease the frequency and size of floods and curb erosion.

The majority of wetland areas that once covered the Hawke's Bay region have been drained and developed. Less than 10% of the original wetland area of the region remains and many of the remaining areas are in poor condition or under threat from land use activities such as vegetation clearance, drainage, diversion or water abstraction, pollution, stock grazing and heavy machinery use. Often multiple threats are impacting on individual wetlands and these can change with time, sometimes quickly. Minor events can occasionally have major impacts. The recent increase in viticulture developments and dairy conversions has created increased water demands, drainage and grazing pressures. The impact of invasive willows on wetland structure and removal of eels by commercial interests can also significantly alter the ecology of the wetlands (Cheyne 2001).



The significant lakes and wetlands in the Hawke's Bay region include: Lake Poukawa, Pekapeka Swamp, Lake Hatuma, Waitangi Estuary, Lake Runanga, Lake Oingo, Horseshoe Lake (Wildlife Refuge), Lake Tutira, Hurimoana Swamp, Lake Purimu, The Pigsty, Tukituki Estuary, Potaka-Whakarongotaheke Stream, Te Whakatutu, Motonui Wetland, Parimahu, Porangahau Estuary, Ora Wetland, Whittle Road Wetland, Lake Opouahi, Morrisons Lake, Westshore Wildlife Reserve, Ngamatea East Swamp, No Mans Bog, and Pohokura Lakes.

The Ahuriri, Waitangi and Porangahau estuaries are recognised as wildlife areas of national significance, providing roosting, feeding and breeding areas for a range of waterfowl.

According to the WERI inventory (Wetlands of Ecological and Representative Importance), there are approximately 82 wetland sites recorded in the Hawke's Bay Fish and Game region. A considerable amount of information on the wetlands of the region is available, although some is out of date.

### 3.1.4 RIVERS

Four major river catchments are included in the Hawke's Bay Region - the Mohaka, Tutaekuri, Ngaruroro and Tukituki and their tributaries. Smaller catchments contribute to the Waikari, Aropaoanui-Waikoau, Esk and Maraetotara Rivers.

The following Table 1 summarises the importance of the Hawke's Bay rivers and lakes for angling (Unwin & Image 2003).

**Table 1: Relative use and significance<sup>2</sup> of Hawke's Bay river's fisheries by catchment.**

River/Lake	Total use (days)	% of effort	Order	Significance
Mangaone River	366	0.845	10	Regional
Waikoau River	370	0.856	9	Regional
Mangaonuku Stream	562	1.299	8	Regional
Tukipo River	1047	2.420	7	Regional
Waipawa River	2016	4.659	6	Regional
Tutira Lake (Aropaoanui catchment)	2155	4.979	5	Regional
Ngaruroro River	5852	13.522	4	National
Mohaka River	6138	14.182	3	National
Tutaekuri River	6417	14.826	2	National
Tukituki River	16120	37.247	1	National
Region total	43279			

The riverbeds also provide important and specialised habitat for many species of waterfowl. The large braided river systems (Ngaruroro, Tutaekuri, Tukituki, and Waipawa) are particularly important. A survey conducted by Department of Conservation in 1988 rated the Ngaruroro, Tutaekuri and Tukituki rivers as having high value to wildlife (this is the second highest ranking in a 5-point scale).

<sup>2</sup>The significance we determined using the following criteria:

**Regional** - The majority (over 50%) of participants in this activity are from the wider region rather than just the immediate locality and/or more than 1000 but fewer than 5000 user days occur each year.

**National** - At least 20% of the participants in this activity have come from areas **outside** the region **specifically** to participate in the activity in this location and/or more than 5000 user days per annum.

The region supports a range of diverse fishery types from backcountry/wilderness to lowland. The Tukituki River is of special significance as the 5<sup>th</sup> most fished river in the country (if you include the tributaries). The high use of the Tukituki most likely reflects the close proximity of this and other rivers to the urban centres in the region. The key areas of the region's river are the lowland reaches, which have good access and high habitat values for public enjoyment and recreation.

## 3.2 SPECIES

A wide range of sports fish and game bird species are present in the Hawke's Bay region. The Hawke's Bay Region aims to manage these species in the recreational interests of anglers and hunters, while maintaining sustainable population levels.

### 3.2.1 SPORTS FISH

#### **Rainbow trout (*Oncorhynchus mykiss*)**

Rainbow trout are present in lakes and rivers throughout the Hawke's Bay region. They are the most common sports fish species in the region, and self-sustaining riverine populations are found in all major river catchments. The first record of trout arriving in the Hawke's Bay was in January 1872. Juvenile trout from California, presumed to be rainbow trout, were subsequently liberated into the Tukituki, Waipawa, Maraekakaho and Porangahau rivers. Subsequent liberations have occurred until as recently as 1999 when it was recognised that there was sufficient natural recruitment to sustain these fisheries and liberations were unnecessary. The rainbow trout fisheries typically consist of relatively high quality headwater fisheries of large fish, while smaller fish dominate the lower reaches of rivers that flow across the Ruataniwha and Heretaunga Plains. Rainbow trout populations in some of the lakes of the region, such as Tutira are supplemented by liberations of hatchery raised fish.

#### **Brown trout (*Salmo trutta*)**

Brown trout are present in many rivers throughout the region but in most catchments are not as abundant as rainbow trout. The exception to this rule is in the Mohaka catchment where high densities of large sized brown trout occur. No date is recorded for the first liberations of brown trout to the region, however Wellwood (1968) notes that brown trout were first liberated in the 1890's into the upper Waipunga, and Poronui rivers (presumed to be the Mohaka and Taharua). Brown trout also provide a high quality fishery in the lower or estuarine areas of some rivers. These highly productive waters can produce trophy-sized fish exceeding 5kg in weight. Brown trout are liberated into Lake Tutira and they have shown the potential to reach a large size in this system. Brown trout were also liberated into the Kaweka (Kuripapango) Lakes by aircraft and currently survive as a self-sustaining population of small fish. They are reported to grow to a large size when liberated in the other lakes of the region.

#### **Brook char (*Salvelinus fontinalis*)**

Brook char have been released in the past into Lake Opouahi. These liberations were reported to have created a temporary fishery for brook char. The current status of these fish in Lake Opouahi is unknown.

#### **Tiger trout (*S. trutta x S. fontinalis*)**

Tiger trout have been liberated into Lake Tutira. These fish have provided an occasional fishery but stocking is not maintained. Today tiger trout are seldom caught but have been captured as part of netting programmes in Lake Tutira as recently as 2004.

## **Perch (*Perca fluviatilis*)**

Perch are currently only found in the lower Tukituki River and Lake Te Pohue. Perch were first noted in the region in 1884 (Wellwood 1968). They were liberated into a farm dam near Elsthorpe. It is presumed that fish from this location were liberated, either intentionally or accidentally into the Tukituki River where they remain today. These fish typically prefer still and slower flowing waters, with abundant weed or instream cover. The perch fishery currently generates a very low level of use and is probably under-utilised as a sports fishery resource.

## **3.2.2 GAME BIRDS**

### **WATERFOWL**

#### **Mallard duck (*Anas platyrhynchos*)**

Mallard duck is the most prolific game bird species in the Hawke's Bay region and is the most common game bird in the hunter's bag. It is widely distributed throughout rivers, lakes, coastal margins, wetland areas, and farm ponds.

Mallard duck were originally introduced to New Zealand from Great Britain in 1867, but did not establish until further mallard duck were introduced from the United States in 1937. Mallard duck have generally adapted well to habitat changes brought about through changes in land use. In many areas, populations vary significantly from year to year. Larger populations generally occur after a wet spring, which provides good breeding and juvenile rearing conditions. Conversely, dry spring conditions often lead to poor breeding seasons and lower bird numbers.

#### **Grey duck (*A. superciliosa*)**

Grey duck are native to New Zealand, and genetically similar to the Pacific black duck, which occurs in Australia and the southern Pacific region. They favour wilderness areas. The population of grey duck in the Hawke's Bay region appears to be gradually declining. Research has shown hybridisation and habitat loss are the main reasons for their decline.

#### **New Zealand Shoveler duck (*A. rhynchotis*)**

New Zealand shoveler duck are another native species, which favours shallow, productive wetland areas. The birds are very mobile, occupying ranges that extend over large areas of New Zealand, but are reasonably common in the Hawke's Bay region. Shoveler seem to utilise the larger Hawke's Bay wetlands (Lake Poukawa is of significance) as staging grounds in the winter months prior to breeding.

#### **Paradise shelduck (*Tadorna variegata*)**

Paradise shelduck populations thrive in open pasture and have benefited from land development that has occurred in the Hawke's Bay region. Since the 1960's paradise shelduck numbers have gradually increased throughout the region. The popularity of this species as a game bird varies with hunters. Paradise shelduck are relatively easy to hunt, and are therefore a good introductory game bird. This feature also means that they are susceptible to over-harvest if not properly managed.

**Black swan** (*Cygnus atratus*)

Black swan are found in relatively low numbers in the Hawke's Bay region due to a lack of suitable habitat. Swan are generally concentrated around the larger wetland complexes in the region (Ahuriri, Tutira, Poukawa). New Zealand hunters do not generally consider swan to be a highly desirable game bird species.

**Canada goose** (*Branta canadensis*)

Two isolated populations of Canada goose occur in the Hawke's Bay region at the Ngamatea East Swamp and the wider area around the Porongahau Estuary. Canada geese tend to travel and live in flocks which usually number from 50 to 600 birds. These populations tend to retain a high degree of loyalty to a relatively small range. Movements are generally short, seldom crossing major catchment boundaries. Canada goose is a valued game bird species, which provides challenging hunting opportunities.

**Pukeko** (*Porphyrio porphyrio*)

Pukeko are widely distributed throughout the Hawke's Bay region. Although surveys have not been carried out to estimate population sizes, they are present in reasonable numbers. Pukeko is a native species that has adapted well to some changes in land use. It is thought that populations may be decreasing in some areas due to loss of habitat and urbanisation. The birds may cause a nuisance to landowners, in both urban and rural situations. Pukeko are more popular with hunters during poor dabbling duck seasons.

**UPLAND GAME****Pheasant** (*Phasianus colchicus*)

Pheasant occur throughout the region with some of the best hunting found along scrubby river margins, in association with orcharding or cropping land or in forestry plantations. As increasing areas of land are converted to production for orcharding and cropping, it is likely that the pheasant populations will benefit.

**California quail** (*Callipepla californica brunnescens*), **Brown quail** (*Synoicus ypsilophorus*), **Bobwhite quail** (*Colinus virginianus*)

Quail are not common in the Hawke's Bay region. Small scattered populations of California quail are hunted and some breeders are raising bobwhite for release on their properties. Brown quail are either not present or are in very low numbers.

**Red legged partridge** (*Alectoris rufa*)

Red legged partridge have been released in the past with little success. It is not known if any still exist in the wild.

**Chukar** (*A. chukar*)

Chukar eggs were obtained from Dunedin in 1934, with some birds being retained as brood stock. Numerous liberation attempts were made throughout the region up until the 1970's. no liberations were successful and no chukar are thought to exist in the wild today.

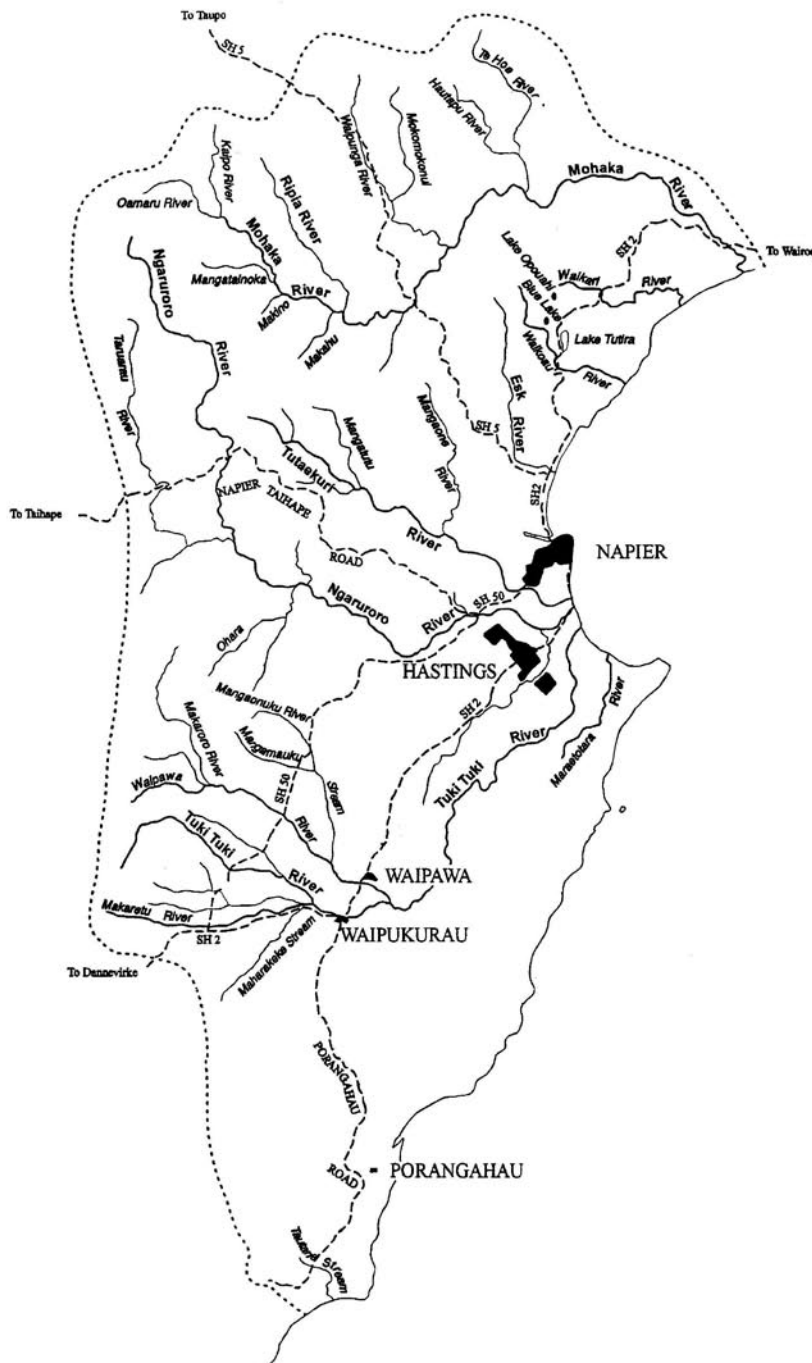
## 3.3 HABITATS

### 3.3.1 SUB-REGIONS

The Hawke's Bay region is divided into three electoral wards. The sports fish and game bird resource descriptions are based on these wards. The three sub regions are described below, and their boundaries are shown on Figure 2.

- *Northern (Napier);*
- *Central (Hastings);*
- *Southern (Central Hawke's Bay).*

**Figure 2: Hawke's Bay Fish and Game region with sub regions**



### 3.3.2 NAPIER (NORTHERN)

The Northern sub-region comprises parts of the Tiniroto, Waikaremoana, Ikawhenua, Kaimanawa, Waihua, Mangaharuru and Heretaunga Ecological Districts, and therefore contains a variety of bioclimatic zones and ecological systems. The terrain includes dissected uplands and mountains, the Hawke's Bay foothills and coastal alluvial plains and low hills.

Much of the original forest of the eastern sub-region was cleared for farming. Areas of indigenous forest remain and increasing areas of land are being converted to exotic plantation forestry. The Kaimanawa Ecological District still retains approximately 87% indigenous vegetation cover consisting mainly of forestlands, scrublands and tussock country. The headwaters of the Mohaka and the Ngaruroro arise here and flow eastwards to Hawke Bay.

The most significant feature in the northern sub-region is that it contains the majority of the Mohaka and the Tutaekuri river catchments. The Mohaka River catchment contains four basic topographic units: pumice unfilled valleys of the headwaters, the greywacke steepplands mantled with a thin layer of tephra, tertiary hill country of sandstone and mudstone and the river terraces of the valleys. The river itself is at times snow fed, cool, and at times can carry a large amount of sediment. Generally the streambed has two distinct forms – the upper river has a boulder bed while the lower reaches have a shingle, silt and pumice base (Hickey, 2002). This catchment, extending from the sub-alpine altitudes to the coast provides a diversity of habitats for a wide range of wildlife species including sports fish, waterfowl and upland game bird species.

Many tributaries of the Mohaka River are very important to the fishery as they maintain flows, provide spawning grounds and offer excellent juvenile rearing habitat. The tributaries are important areas for recruitment into the fishery. Some of the tributaries, such as the Te Hoe, Hautapu, Ripia, Waipunga, are considered to be excellent fisheries in their own right (Hickey, 2002).

The original vegetation of the Mohaka River catchment consisted of podocarp-hardwood-beech forest and tussock grasslands with some shrublands and alpine plant associations. As with the remainder of the region, man has had a major influence on the vegetation of the catchment and the present vegetation patterns illustrate the extent of vegetation changes that have occurred. This is, however, the least modified of all the Hawke's Bay river systems. Extensive areas of pastoral farming with some cropping and horticulture and viticulture are established in the coastal and lowland areas and on the pumice country in the north and west of the catchment. Exotic forestry now occupies large tracts (approximately 15%) of the catchment and the remaining indigenous forest is confined to the steep greywacke lands of the central basin.

The Mohaka holds a good self-sustaining population of brown and rainbow trout. Surveys conducted in the 1980s suggest that there is a movement of adult fish into the smaller streams and tributaries for spawning during the winter. The upper reaches of the Mohaka are classified as being of national importance for recreational fishing, while the middle and lower reaches are regionally important. The overall importance of the river has been rated exceptional. The lower Mohaka River, including the mouth area and adjacent beaches is a traditional supplementary food source for local residents. Residents from the small communities of Mohaka, Raupunga, Kahungungu, Putere and Waihua make regular visits to fish for trout and other species (Hawke's Bay Catchment Board & Regional Water Board, 1986).

The Mohaka currently supports 6, 200 angler days fishing per annum, around 14% of the regions total usage. This makes the Mohaka the 3<sup>rd</sup> most fished river in the region.

At present the Mohaka River catchment does not suffer from any marked eutrophication with its water considered some of the purest in New Zealand. A number of issues could potentially impact on fisheries values and wildlife habitats in the Mohaka including;

- the effects of land use development including large dairy conversions with downstream impacts on maintaining minimum flow requirements and water quality standards;
- exotic forestry;
- changes to channel characteristics and instream channel modification;
- impacts on riparian vegetation;
- gravel extractions

A National Water Conservation Order (NWCO) protects a large portion of the Mohaka River (from its origin to Willow Flat). The NWCO is based on four main attributes of the river, as follows:

- a) Outstanding wild and scenic characteristics on the Mohaka main stem from the origin to Willow Flat and in the Te Hoe Gorge;
- b) Outstanding trout fishery above the junction of the Te Hoe and Mohaka Rivers;
- c) Outstanding amenity and watersport value from Pungahuru to Willow Flat;
- d) Outstanding spiritual and cultural values to the Tangata Whenua over the whole river.

Any dam constructed in the area covered by the NWCO must be under 3m in height and must be on a tributary of the Mohaka River. The dam is not permitted to detract from any of the outstanding features mentioned above.

Nothing within the NWCO shall be construed as limiting any right to the use of water for domestic needs, for the needs of animals, or the needs of fire fighting. Permits will be issued for the removal of water, gravel, the construction, maintenance or protection of roads, bridges, river crossings, pylons, and other necessary public utilities, or for soil conservation or river protection purposes. Provided that in each case the exercise does not detract from the outstanding features and characteristics outlined above.

Physical access on the Mohaka varies greatly. The middle and lower reaches have excellent access while the upper reaches are difficult because of limited vehicle access and the fact that the river flows through privately owned land and the Kaimanawa and Kaweka Forest Parks.

The Tutaekuri River originates at the base of the main Kaweka Range. It flows nearly due east to enter the sea at the Waitangi Wetland complex. The greywacke based Kaweka range rises to 1,724 m above sea level, and provide the headwaters for the Tutaekuri. This area contains both steep mountains and plateau. East of the greywacke ranges the tertiary sediments dominate and form the hill country, which has been tilted parallel to the coast by movement of the earth's crust. The Heretaunga Plains have formed from sediments deposited primarily by the Tukituki, Ngaruroro and Tutaekuri Rivers (HBRC 2000). The eruptions of Tongariro volcano deposited andesitic ash 14,700 years ago, followed by rhyolitic ash from Waimihia volcano and then pumice from the Taupo volcanic centre. These three tephra make up the primary soil forming material in the Tutaekuri catchment (Cheyne 2003).



During the last 250,000 years glacial and interglacial periods have deposited strata of deep gravel beds interlain with sands, silts, and clays which extend over 250m beneath the Heretaunga Plains. This pattern has created a series of interbedded and interconnected aquifers which provide water for the diverse soils of the plains and allows intensive use to be made of them for agriculture (HBRC 2001, Dravid and Brown 1997). It supports a self sustaining population of rainbow and brown trout. The catchment has a number of large tributaries (Mangaone/Mangatutu/Gorge Stream) that are valuable fisheries and recruitment areas. They are also significant fisheries in their own right. The upper catchment is a mix of intensively farmed pasture, exotic forestry and unmodified indigenous vegetation. The lower catchment is surrounded by viticulture and orchards. Despite the large volume of water being extracted the Hawke's Bay Regional Council considers that there is still an allocatable volume remaining.

### **3.3.2.1 SPORTS FISH**

The Mohaka and Tutaekuri River systems are the major fisheries within the sub-region. Lake Tutira and the Esk also provide important fisheries and the Waikari and Waikoau Rivers have some local angling values.

The Mohaka catchment is characterised by a high value brown trout fishery based on a high density of fish of a large average size. The headwaters of the Mohaka above Willow Flat have been identified as a nationally important fishery (Teirney *et al.*, 1982). Brown trout were first introduced in 1878 into the Taharua River, a tributary of the Mohaka. Rainbow trout were released around 1900, and regular liberations of both species occurred until 1964. Brown trout dominate in the upper reaches and rainbow trout are considered to dominate below Pakaututu. The Mohaka fishery is today considered to be self-sustaining for both brown and rainbow trout. The abundance of productive spawning tributaries, a plentiful food supply and relatively stable flow from the unmodified headwater catchments creates ideal habitat for juvenile trout. The nature of the upper river is such that it provides excellent adult habitat and food for the adult fish, enabling brown trout in particular to reach a relatively large average size.

The Tutaekuri River sports fishery is dominated by moderate densities of medium sized rainbow trout. An abundance of spawning tributaries sustain a wild fishery. Occasional large rainbow trout are caught. Brown trout also make a small contribution to the anglers catch. The lower reaches support good populations of trout in the spring months when they feed on whitebait which move into the river at this time. During mid-summer, weed growth and high water temperatures in the lower river and some tributaries force anglers to concentrate their efforts on the middle and upper reaches.

Lake Tutira supports a mixed species fishery which is sustained by supplementary stocking of hatchery reared fish. Lake Tutira is the largest of a complex of two lakes. Liberations have occurred in this lake since the early 1890's, with brook char being the first salmonid species introduced. Since that time many liberations of brown and rainbow trout have occurred, with the first occurring pre 1920. Due to a lack of suitable spawning tributaries the fishery is maintained through supplementary stocking. 5, 000 yearling trout are currently released during autumn and spring each year (2, 500 each) equating to a stocking rate of 33 trout/ha. Rainbow trout are the primary species in the fishery. Brown trout are also liberated annually. These fish are progeny of broodstock sourced from Lake Kuripapango as they are reputed to grow well in the conditions Tutira offers. All trout liberated to the lake are either fin clipped or tagged to allow growth performance to be monitored. Liberation rates will be varied depending on the performance of fishery. The lake used to have an inlet and outlet stream. As the result of intensive pastoral farming and poor land management in the past the inlet stream carried significant amount of nutrients into the lake causing it to become eutrophic. To counteract

this the inlet stream was diverted out of the lake, leaving only an outlet stream. Due to the large catchment size and the propensity of the area to receive heavy localised rainfall, the lake periodically floods across the large delta at the outlet at the northern end. At these times there are reports of large numbers of trout moving out of the lake and down the outlet channel. This has yet to be confirmed.

The Esk River contains both brown and rainbow trout that reach a medium size (1-1.5kg). The upper reaches of the river flow through some scenic gorges but sedimentation problems appear to have affected trout populations and fish numbers in this section are low. In the middle and lower reaches good gravel substrates are present and higher densities of fish exist. There are also reportedly some large trout in the lowermost reaches. Access to much of the river is relatively easy and the Esk is a relatively popular fishery in northern Hawke's Bay attracting 181 visits per year.

The Waikari and Waikoau Rivers are small, relatively short rivers that receive a limited amount of local angling pressure. Rainbow trout dominate but brown trout are also present in both rivers. The trout are typically of a small to average size. Both of these rivers have a number of gorges and provide relatively isolated angling experiences.

### **3.3.2.2 GAME BIRDS**

The Napier sub-region is dominated by three ecological zones that lend themselves to semi intensive or extensive farming and forestry. Large tracts of wilderness country exist in the north-west of the zone. The predominant influences on game birds are the geology and rainfall. The underlying geology (mudstone-sandstone/volcanic tephra) results in highly incised rivers that have low game bird carrying capacities. Rainfall varies across the district from the coastal lowland where there is a growing deficit to the inland ranges where there is a growing surplus but little suitable game bird habitat. The exceptions are Lake Tutira, and Ahuriri Estuary where black swan are common and the hill country where paradise shelduck exist in reasonable numbers. These exceptions are the result of areas of high rainfall or available habitat. Paradise shelduck prosper in the hill country areas, and Tutira and Ahuriri provide an abundance of wetland areas for black swan. Backcountry rivers hold small populations of grey duck and the lowland river valleys such as the Esk are productive for upland game. A burgeoning exotic forestry industry is concentrated in this sub region and offers significant but as yet unquantified upland game habitat.

### **3.3.3 HASTINGS (CENTRAL)**

The Central sub-region is made up of parts of the Eastern Hawke's Bay, Heretaunga, Ruahine, Moawhango and Maungaharuru Ecological Districts. Hill country, broad plains and low coastal plains dominate the topography.

The headwaters of two major rivers, the Ngaruroro and Tukituki, rise in the western ranges and flow across the Ruataniwha Plains in this central Hawke's Bay area in a generally easterly direction to the Hawke's Bay coast.

The source of the Ngaruroro River is at the junction of the Kaimanawa and Kaweka ranges, where it flows through the Kaweka Forest Park and is renowned for its wilderness environment. The surrounding land is characterised by steep sided slopes and narrow gorges. Beyond the Kaweka ranges, it becomes a wide braided river and flows through land that has been heavily modified. A large amount of water abstraction takes place in this area. The lower Ngaruroro has been confined

through flood protection works, but is still a popular area for anglers and other recreational users. The river flows out into the Pacific Ocean sharing a common mouth with the Tutaekuri and Clive rivers.

The most important aspects of the hydrology of the Ngaruroro River in relation to the fishery are the low flows within the river system, which are influenced by both water abstraction and the natural recharge of the Heretaunga aquifer at Fernhill.

The tributaries of the Ngaruroro River are important to the ecological sustainability of the river. They are important refugia for trout during periods of high temperatures and low flows. They are also important in the provision of spawning waters for trout.

Over the years, changes in land use practices throughout the Ngaruroro catchment have modified and affected fishery habitat. These changes include the clearance of indigenous vegetation and riparian zones that has contributed to erosion and aggradation of gravel throughout the system. Grazing practices, fertiliser applications and forestry practices have modified the fishery. Approximately 40% of the catchment has been modified for human use. Land use in the upper reaches consists of areas of indigenous forests, shrubland and tussock areas, and exotic plantations. In the lower reaches, pastoral land dominates. There are also increasing areas of horticultural and viticultural land use.

The river is a nationally important angling resource. (Refer Table 1: Importance of the Hawke's Bay Rivers for Angling). The main values placed on the Ngaruroro River angling experience include ease of access, the river morphology, use of the surrounding land and intrinsic aesthetic values. In recent times, guides and air charter operators have repeatedly expressed concerns relating to the state of the fishery that is being affected by the increase in visitor pressure.

The Taruarau River, the main tributary of the upper catchment, is not heavily fished as it largely flows through private farmland. It is thought to be of exceptional value for its wilderness attributes.

Threats to the Ngaruroro fishery include water abstractions, beach raking, uncontrolled stock access to active river channels, grazing on riparian margins, gravel extraction and increased pressure from anglers particularly in the upper reaches. Recently the Ministry for Economic Development released information that identifies potential power stations on the Ngaruroro River with a total generation capacity of 100mw. This poses a significant threat to the many values of this river.

The Ngaruroro River has been identified as a recommended area for protection under the Heretaunga Protected Natural Areas Report. It is identified as an outstanding example of a braided river channel. The upper river (above Whanawhana) has been identified in the Hawke's Bay Conservation Management Strategy as a place of high wild and scenic values.

The Tukituki River rises in the foothills of the Ruahine Range and flows through undulating to flat country before meeting the Pacific Ocean at Haumoana, 12 km south of Napier. The river is an important source of water for farms and orchards from central Hawke's Bay through to the eastern corner of the Heretaunga Plains. Major tributaries, which feed the Tukituki river include the Waipawa, Makaretu and Tukipo rivers (G C Cooper, 2000).

The Tukituki flows over shingle with large papa rocks in places. The river is typically braided and is a mixture of wide shallow rifles and deeper pools where the channel abuts willows or papa shelves. The river system is complex with an array of tributaries draining a large catchment. This multi-tributary system is especially important during dry summer spells when the main channels of the Tukituki and Waipawa dry. Spring fed streams such as the Mangaonuku, Kahahakuri and the Maharakeke make a valued contribution to flow during these times. These periods of low flows have considerable bearing

on fish movements and juvenile rearing success (G C Cooper, 2000). The Tukituki is essentially a summer fishery with the lower reaches fishing well in October and November when trout prey on whitebait. The bulk of the angling for trout occurs in the middle and lower reaches (83%) and is predominantly targeted at rainbow trout. Large brown trout do however occur in the lower reaches.

Land use in the Tukituki catchment is dominated by agricultural production with few areas of the catchment remaining in their natural state. Of the total catchment area of approximately 250,000ha, approximately 86% is used for agricultural purposes with approximately 2% in exotic forestry plantings. The bulk of these plantings are located in the western foothills and ranges. The Tukituki is modified to some extent for over 90% of its length, which includes large areas of horticultural crops particularly in the Haumoana district and the Ruataniwha Plains.

There are a number of potential threats to angling and the trout fishery of the Tukituki as a result of land use and development. These threats include loss of water quality through nutrient run-off and sewage discharges, algal growth, gravel extraction, beach raking, hydro-electric development and surface and groundwater abstraction.

The threats could impact directly on the fishery, such as hydro-electric power development affecting fish passage and water flows or indirectly such as occurs with nutrient run-off and sewage discharges, on the fishery. These threats can affect the success of spawning, subsequent recruitment and growth in the adult fish. Gravel abstraction and beach raking is likely to affect the availability of adult habitat through the breakdown in the natural pool/run/riffle sequence.

The most popular tributaries of the Tukituki are the Tukipo River and the Maharakeke Stream. These spring fed streams/rivers maintain fairly constant flows and provide good fishing opportunities when other rivers are in flood or during periods of extreme low flows. These streams also have cooler temperatures during summer.

### **3.3.3.1 SPORTS FISH**

Tierney et al (1982) identified the headwaters of the Ngaruroro River as supporting a nationally important wilderness rainbow trout fishery which contains trout of a large size. The headwaters are recognized as having exceptional values for scenic beauty and solitude. Much of the headwaters are within public land and although access is not restricted although it can be physically difficult. The middle and lower reaches of the river support higher densities of medium sized fish, and are classed as regionally important (Tierney et al 1982). Brown trout are also present but are not common in the angler's catch. The exception to this occurs in the estuarine areas during spring months when large brown trout can be taken as they feed on whitebait.

Salmon of an unknown species were liberated in the Ngaruroro in 1877. The ova were sourced from San Francisco. These early liberations failed and further liberations did not occur. Salmon are not found in this system today.

Brown trout were first released into the Ngaruroro River in the 1870's and rainbow trout followed soon after. Liberations of trout into the Ngaruroro continued annually until they were ceased in the late 1990's. The presence of extensive high quality spawning tributaries in the Ngaruroro makes it very unlikely that spawning success limits the fishery. In addition, the relatively fast and shallow waters in braided channels provide favoured habitat for juvenile trout. It is also unlikely that juvenile recruitment limits trout populations. These factors, along with tagging studies done on the nearby Tukituki River and the increasing cost of liberating fish, showed that little, if any benefits were being realized from stocking fish.

Recent research (Young & Hayes 1999) on the extent of fish movement within river catchments highlights the need to ensure fish passage is retained if a high quality fishery is to be maintained.

The Tukituki River supports the most popular fresh water sports fishery in the Hawke's Bay. Some 17, 000 anglers days were fished in the river in the 2001-02 season (Unwin & Image 2003), making it the 5<sup>th</sup> most fished river in New Zealand.

Salmon of an unknown species were liberated in the Tukituki in 1877. The ova were sourced from San Francisco. These early liberations never succeeded and further liberations did not occur. Salmon are not found in this system today.

The dominant species in the Tukituki River is rainbow trout and provides the basis of recreational angling in the river. Brown trout are present although in smaller numbers and perch are also present in the lower reaches but are not a significant part of the fishery.

### **3.3.3.2 GAME BIRDS**

This sub-region transects three ecological regions that are dominated by highly productive horticultural areas in the lowlands and extensive pastoral farming in the foothills of the Ruahine Range. Lack of rainfall and destruction of habitat are the principal factors affecting game bird numbers. Lakes Runanga and Poukawa support large numbers of waterfowl and are likely to have a major influence on the local populations. The greywacke/argillite headwaters of the rivers that dissect the district result in wide mobile sinuous riverbeds which are not highly productive for waterfowl but support moderate numbers of pheasants along their berms.

### **3.3.4 CENTRAL HAWKE'S BAY (SOUTHERN)**

The Southern sub-region is made up of parts of the Eastern Hawke's Bay, Heretaunga, Ruahine, Woodville and Puketoi Ecological Districts. The topography is dominated by dissected coastal hill country, large alluvial plains and small coastal plains.

The Tukituki River rises in the North East of the Ruahine Range flowing east to join the Waipawa River. The upper river is geologically young and very unstable. The steady erosion of material from the ranges contributes to a high volume of material in the active river channel.

Indigenous forest in the Central Hawke's Bay sub-region has been widely logged, apart from areas in the Ruahine Range and isolated lowland pockets. Land use in the Tukituki River catchment is predominantly dairy farming with some pastoral farming and exotic plantation forestry. Much of the original wetland area has been drained and cleared for farming or forestry.

#### **3.3.4.1 SPORTS FISH**

The Tukituki (including the Tukipo, Maharakeke, Makaretu, Makaroro, Manganuku and Mangamauku streams) and Porangahau rivers make up the dominant water features of this sub region.

The Tukituki and Waipawa rivers originate from the geologically young Ruahine Range. The range is predominately greywacke that is in a highly erosive state. This contributes to a very high loading of unstable bed material in the active river channels. The channels tend to be braided and often change with each flood. The river channel within the Ruahine State Forest Park is more confined and stable although it does not support a fishery of any significance. In the early 70's a large slip blocked the top of the Tukituki river and created a large lake. The outlet to this gradually eroded and the lake drained.

The large amount of material present in the slip is now moving through the river system.

Historically the rivers have been stocked with hatchery reared trout. This practice ceased in 1999 after a mark/recapture study showed that stocking was not contributing to the fishery and was unnecessary. This study confirmed the results of previous studies (Graynoth 1973) in the Hawke's Bay.

All the rivers have an abundance of spawning areas and productive juvenile rearing habitat. Like many other Hawke's Bay rivers the biggest issue is quality adult trout habitat which is affected by channel instability. The area is subject to huge demands on water with abstractions occurring throughout its length. Land use practises and effluent discharges in the upper catchment also contribute to poor water quality in the lower reaches. The Porangahau River is not recognised as a fishery of any significance as it is highly modified by land use.

#### **3.3.4.2 GAME BIRDS**

Central Hawke's Bay is characterised by a combination of rolling hill country formed on tertiary mudstone/sandstone/limestone in the coastal region, and an alluvium/loess/moraine complex towards the Ruahine Range. Low rainfall during summer has necessitated the creation of many small stock ponds. These ponds are often suitable for paradise shelduck but generally only support low numbers of dabbling duck. Exceptions to this are where ponds are contiguous with one of the river systems, or on the Ruataniwha plains where groundwater resurfaces to create wetlands in association with historical river channels.

Central Hawke's Bay has a large number of wetland complexes and potentially supports the bulk of the Hawke's Bay dabbling duck population. Two good examples of this are the Wanstead Swamp and Lake Hatuma. Pheasant hunting is moderately successful along the berms of the rivers and in areas of less developed pastoral country.

## 3.4 SUMMARY OF THREATS

- Hydroelectric power development – Degrades system integrity, affects size and growth of trout, reduces fish passage, reduces habitat through flow modification
- Nutrient inputs – From landuse (farming) or sewage discharges, affects size and growth, reduces available habitat, reduces quality of food supply
- Gravel extraction/beach raking – reduces availability of adult habitat, increases sediment loadings
- Water abstractions – reduces quality and quantity of surface water flows

## 3.5 ANGLERS AND HUNTERS

Sports fishing and game bird hunting are popular recreational activities in the Hawke's Bay region. Results from the 2001-2002 National Angler Survey highlight the significance of angling, with an estimated 46, 000 angler days spent each season in the Hawke's Bay region (see table 1). More than 4, 500 sports fishing licences and over 1, 700 game hunting licences were sold during the 2002-2003 season.

Sports fish licence sales contribute approximately 60% of total licence income. Hawke's Bay Region licence holders are able to fish throughout New Zealand, except Lake Taupo. Anglers purchasing a licence in another Fish and Game region are likewise able to fish in the Hawke's Bay region.



## **3.6 FISH AND GAME NEW ZEALAND**

### **3.6.1 GAME FARM**

The main office for the Hawke's Bay Region of Fish and Game New Zealand is located at the Game Farm, Greenmeadows. The property was purchased in May 1934. In 1935 the Mangatera (Dannevirke) hatchery equipment and buildings were transferred to the current site. In 1957 a large duck pond was excavated and the property extensively planted. In 1960 a new staff house was constructed for the curator, this being replaced in 1975. Over the years following until 1966 numerous display birds, including Kiwi were housed on site. In 1966 the then Acclimatisation Society elected to remove the display birds to allow staff to concentrate on sports fish and game bird rearing.

The Game Farm has been an integral part of sports fish management in the Hawke's Bay Region. Trout and pheasant were raised at the Game Farm for release within the region. In recent years it has been recognised that it is either not necessary or uneconomic to continue these liberations. Since this point, the Game Farm has largely served as an education facility for schools. This aspect of the facility has been further developed with the creation of the Hawke's Bay Environmental Education Trust (HBEET). The trust will provide a school based environmental education programme based at the Game Farm. NGATI KAHUNGUNU IWI INCORPORATED have provided verbal support for the development of the site by the HBEET with the Trust continuing to involve NGATI KAHUNGUNU IWI INCORPORATED in the development planning.

## **PART FOUR**

# **MANAGEMENT ISSUES AND IMPLEMENTATION**

## 4.1 SPECIES

***Goal: Sustainable populations of sports fish and game bird species for recreational harvest.***

### INTRODUCTION

Fish and Game New Zealand currently manages a wide range of sports fish and game bird species in the Hawke's Bay Region. Species management programmes are required for these species to ensure that the populations remain healthy, and to ensure that there is sufficient annual surplus to enable sustainable harvest by anglers and hunters. The availability of sports fish and game birds is the most fundamental component of angling and hunting. As a consequence, species management projects are a core activity for Fish and Game New Zealand.

#### 4.1.1 MONITORING

##### BACKGROUND

While the issues related to sports fish and game bird species management may vary, general management principles are similar for most species. A wide range of information is required to effectively manage populations of sports fish and game birds, and to enable the Hawke's Bay Region to make informed decisions regarding regulations<sup>3</sup> and sustainable harvest levels. Estimates of population numbers, recruitment levels, natural mortality, growth, recreational harvest level, and age distributions are all considered when determining appropriate management approaches.

This information is provided by an extensive monitoring programme. The initiation of monitoring projects is based on factors such as the priority of species, whether monitoring is feasible, how robust and useful the information will be, and threats to the species.

Inventories are currently being completed that record the status and trends of a number of sports fish and game bird species in the Hawke's Bay region. These inventories provide baseline data. When used in conjunction with specific monitoring programmes, this information guides decision making and makes it possible to determine the effectiveness of new initiatives or management of environmental conditions.

The management and monitoring of some species may need to be done on a national level to account for species mobility, for example shoveler duck.

Tangata whenua share an interest in the results of monitoring and should be provided with the opportunity to review monitoring results through the sharing of reports.

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<sup>3</sup>'Regulations' refers to rules and conditions for sports fish angling and game bird hunting. Fish and Game New Zealand recommends conditions to the Minister of Conservation, as advertised in the Gazette. The term 'regulations' has been

#### **4.1.1.1 ISSUES**

1. Without current information about the status and trends of sports fish and game bird populations, good management decisions cannot be made.
2. Monitoring must be cost-effective and produce useful information.
3. There are gaps in management data on some sports fish and game bird populations in the Hawke's Bay region.
4. There are data gaps relating to current angler use, spawning areas, fish densities and annual population fluctuations
5. Future information requirements can be difficult to identify.
6. Without monitoring information, involvement in Resource Management Act (1991) processes may not be effective.

#### **4.1.1.2 OBJECTIVE**

*Provision of adequate information relevant to the Hawke's Bay Region's needs for effective management of the sports fish and game bird resource.*

#### **POLICIES**

**4.1.1.2(a)** To assess and monitor harvest of sports fish and game bird species using the following criteria when establishing monitoring priorities:

- significance of species, in terms of recreational use and biological value;
- threats;
- consistent methodology;
- cost-effectiveness;
- usefulness of monitoring information;
- annual population variability.

**4.1.1.2(b)** To maintain inventories and monitoring that allow comparisons of sports fish and game bird populations and assessments of changes.

#### **Methods**

*Methods may include:*

1. Surveys of representative river populations of sports fish.
2. Maintaining an information base through surveys of sports fish and game bird populations.
3. Development of a monitoring strategy for sports fish and game species.
4. Identification of gaps in the information available.
5. Monitoring of angler or hunter related impacts on population levels.

6. Monitoring of population characteristics in lake fisheries.
7. Sports fish trapping and tagging programmes, trend counts and banding studies of game bird species, or other appropriate game bird or sports fish monitoring techniques.

## 4.1.2 MANAGEMENT OF SPORTS FISH

### BACKGROUND

A wide variety of sports fish species and fishing opportunities are available in the Hawke's Bay Region. Four species are present:

#### Salmonids:

Rainbow trout (*Oncorhynchus mykiss*)

Brown trout (*Salmo trutta*)

Tiger trout (*Salmo trutta x Salvelinus fontinalis*)

#### Coarse fish:

Perch (*Perca fluviatilis*)

The distribution and population characteristics of each of the sports fish species are described in the resource description of this management plan.

These species contribute to the diversity that is a particular feature of the region. The fisheries management programme is based upon maximising this diversity while maintaining sustainable population levels. A number of management tools can be used to directly influence the size and characteristics of specific sports fish populations. Management tools include establishing annual regulations, statutory advocacy for habitat improvement (such as catchment retirement, artificial habitats), liberations of hatchery reared fish, brood stock selection, and improving hatchery management practices.

### REGULATIONS

Fish and Game New Zealand annually reviews and develops conditions that regulate the way fish are caught, season length, and daily bag limits. These regulations are to ensure that levels of harvest are sustainable, and to avoid inappropriate social interactions. Regulations should be based upon sound biological principles, and are also developed to provide for the legitimate range of preferences that anglers have when fishing.

The Hawke's Bay Region wishes to increase the range of angling opportunities available, particularly to young and novice anglers. Regulations may be used to assist in achieving this by removing barriers to participation. This must be done without threatening the sustainability of sports fish populations.

## LIBERATIONS

Hatchery liberations were previously the main fisheries management tool used in New Zealand. However, research has shown that liberations are a poor management technique except in a small number of situations. Liberations into self-sustaining sports fish populations may be damaging to the genetic integrity of wild populations, and hatchery fish are not usually adapted to compete with wild trout for food or habitat.

In most aquatic systems, the amount of habitat available for adult fish limits population levels. However, in specific cases, spawning or juvenile rearing habitat may be inadequate to support optimal levels of sports fish for angling. In these cases, liberations of hatchery reared stock may be required. Supplementary stocking in appropriate habitats enables the Hawke's Bay Fish and Game Council to enhance the angling experience and to provide a range of angling opportunities. Lake fisheries that are recruitment limited can be actively managed for different characteristics with the use of supplementary stocking. For example, lower stocking rates in suitable habitat can produce lower catch rates of larger fish.

Liberations of tagged sports fish are used to monitor the fishery. Returns of tagged sports fish provide important information for fisheries management decisions. Liberations that are for monitoring purposes generally involve relatively small numbers of fish, and must meet criteria listed in policy 4.1.2.2 (c).

Anglers favour a wide range of angling opportunities, and future satisfaction surveys may indicate a desire for new opportunities to be made available. Liberations of hatchery reared sports fish enable Fish and Game New Zealand to provide a range of species or variants to anglers. Investigations into use of additional species or changes in genetic characteristics may reveal additional opportunities to improve the quality of the angling experience. Any investigations should consider the effects on existing sports fish populations, on existing native fish populations, on indigenous flora and fauna, and on natural character values. Fish and Game New Zealand also needs to meet legislative requirements before new species or variants could be introduced to the Hawke's Bay region. For example, an Assessment of Effects may be required, as well as Environmental Risk Management Agency approval under Hazardous Substances New Organisms Act 1996.

The Hawke's Bay Region acknowledges that the original liberations of sports fish into some lakes and rivers in the Hawke's Bay region may have had adverse effects on indigenous fish populations. Although trout compete with and prey on some species of indigenous fish, it is also recognised that the effects of changes in land use on indigenous fish habitat have been a major contributor to the declines in population levels of some species. It is Fish and Game policy not to release sports fish into natural waterways in which they have previously existed.

## LIBERATIONS OF OTHER FISH SPECIES

Uncontrolled or unauthorised transfers of fish may threaten sports fisheries and New Zealand Fish and Game's management of the fisheries. Pest fish species such as koi carp (*Cyprinus carpio*) are present in the Auckland/Waikato region and brown bullhead catfish (*Ameiurus nebulosis*) in Lake Taupo. Further transfers of these species could have significant negative impacts on lake and river fisheries in the Hawke's Bay region.

Use of grass carp as a weed control measure in drains, canals, lakes, and ponds is becoming

increasingly popular. Organisations or individuals wishing to introduce grass carp, or other fish species, to waterways must obtain approval from the Minister of Conservation. Fish and Game New Zealand may make submissions to such applications in opposition to, or support of, fish transfers. The Hawke's Bay Region also has direct regulatory authority under Regulation 59 of the Freshwater Fisheries Regulations.

The Hawke's Bay Region is aware of the threats that authorised and unauthorised fish introductions may have on the sports fishery. Fish and Game New Zealand should undertake measures to ensure that transfers of fish do not compromise the sports fishery. The Hawke's Bay Region will review applications to transfer fish on a case by case basis and may oppose them where there are adverse effects on sports fish and game bird values.

## **COMMERCIALISATION OF SPORTS FISH**

There is pressure from some sectors of the community to legalise trout farming and to commercialise the sale of these species. Fish and Game New Zealand continues to oppose any commercialisation of trout, char, or other recreational sports fish species. Increased risk of disease in recreational fisheries and the risk of increased illegal poaching and trading of wild sports fish would result from the commercialisation of further species of sports fish. Threats to access opportunities are another potential problem. The Hawke's Bay Region believes that further commercialisation of recreational sports fish species would impede the enhancement of existing sport fish species and angler opportunity.

Fish and Game New Zealand often receives requests for sports fish for display purposes. While it is illegal to sell fish to other organisations, it is possible to lend them in certain circumstances. Sports fish are loaned when applications meet criteria that ensure that there will be no effects on recreational fisheries and where there are advantages in terms of education, promotion, or other benefits for Fish and Game New Zealand.

## **FISH STRANDINGS**

Fish strandings may occasionally occur through events such as flooding or severe droughts. Strandings may also be the result of works involving river diversions or drainage of tailraces on hydro-electricity schemes. In the past, Fish and Game staff often carried out fish salvage operations. Many of these exercises were expensive, with little benefit to the resource or Fish and Game New Zealand. At times there may be public relations benefits from salvaging stranded fish. Net costs incurred by Fish and Game New Zealand against benefits gained need to be assessed before making decisions as to the level of involvement of Hawke's Bay Region staff. Where another individual or organisation is at fault in relation to sports fish strandings, it is their responsibility to salvage those fish.

### **4.1.2.1 ISSUES**

1. Without sustainable management of the sports fisheries by Fish and Game New Zealand the fishery resource will be depleted.
2. Without the maximisation of the range of angling opportunities available within the Hawke's Bay region, anglers will not be encouraged to participate.
3. Liberations into self-sustaining sports fish populations may be damaging to the genetic integrity of wild populations. Hatchery fish are not usually adapted to compete with wild trout or char for food or habitat.

4. Liberations of sports fish may have adverse effects on indigenous fish species.
5. Releases of pest fish species such as cat fish or koi carp may threaten river and lake fisheries in the Hawke's Bay region.
6. There is pressure from some sectors of the community to legalise trout farming and to commercialise the sale of further species of sports fish.
7. Requests to Fish and Game New Zealand for sports fish for display purposes, may not meet legal requirements.
8. Fish strandings may occasionally occur through climatic events and as a result of works involving river diversions or drainage of tailraces on hydro-electricity schemes.

#### **4.1.2.2 OBJECTIVE**

*Maintenance and management of sports fish populations in the Hawke's Bay region to maximise angler opportunity.*

#### **POLICIES**

**4.1.2.2(a)** To manage harvest through establishment and administration of sports fishing regulations that maximise opportunities for anglers without adversely affecting the sustainability, quality, or diversity of the sports fishery. Regulations should:

- be based on sound biological principles;
- maximise angling opportunities;
- enhance the angling experience;
- be simple to understand and enforceable by law;
- where appropriate be consistent with neighbouring regions.

**4.1.2.2(b)** To liberate hatchery reared sports fish to enhance angling opportunities in areas that meet all of the following criteria:

- where suitable adult habitat exists, but there is insufficient natural recruitment to sustain optimal natural populations; and
- where there is no significant adverse effect on existing wild sports fish populations. A significant adverse effect is one that will result in loss of angling opportunity or threaten the sustainability of the population; and
- where benefits obtained outweigh costs; and
- where a range of angling opportunities can be provided through liberations; and
- Council will not liberate sports fish into natural waterways that have never previously held sports fish; and
- where adverse effects on existing biodiversity values or existing natural character in waterbodies that have not previously held sports fish can be avoided, remedied, or mitigated. Department of Conservation and other relevant agencies will be consulted as to these effects; and
- where fisheries are capable of being maintained at optimal levels through natural recruitment, liberations will not take place unless there is total loss of the fishery.

**4.1.2.2(c)** To liberate hatchery reared fish for monitoring purposes in areas that meet all of the following criteria:



- where there is no significant adverse effect on existing wild sports fish populations. A significant adverse effect is one that will result in loss of angling opportunity or threaten the sustainability of the population; and
- where benefits obtained outweigh costs; and
- Council will not liberate sports fish into natural waterways that have never previously held sports fish; and
- where adverse effects on existing biodiversity values or existing natural character in waterbodies that have not previously held sports fish can be avoided, remedied, or mitigated. Department of Conservation and other relevant agencies will be consulted as to these effects.

**4.1.2.2(d)** To oppose unauthorised transfers of fish and to consider applications for transfer of non-pest fish species on a case-by-case basis. Applications will be opposed where sports fish or game interests are adversely affected.

**4.1.2.2(e)** To oppose further commercialisation of the sale of recreational sports fish species, or access to the sports fish resource.

**4.1.2.2(f)** To provide sports fish for display or research purposes that meet all the following criteria:

- benefits should accrue to Fish and Game New Zealand; and
- any fish provided should be sourced from the Ngongotaha trout hatchery where possible, rather than from sports fisheries; and
- applications for sports fish for display or research purposes must meet legal requirements.

**4.1.2.2(g)** To salvage stranded sports fish stocks where all the following criteria can be met:

- benefits to Fish and Game New Zealand are greater than the cost involved; and
- inaction will result in significant loss to the fishery. A significant loss is one that will result in loss of angling opportunity and threaten the sustainability of the population.

**4.1.2.2(h)** To assist waterbody managers in the management of sports fish populations where the following criteria are met:

- adverse effects on conservation values have been identified; AND EITHER
- the fishery no longer provides angler opportunities and is unlikely to provide angler opportunities in the future; OR
- the fishery does not provide a source of genetic stock.

## **METHODS**

*Methods may include:*

1. Development and administration of an Anglers Notice designed to control practices that threaten the sustainability of the sports fish resource or the quality of angling experiences. Conditions may include size limits, creel limits, season conditions, closed areas, gear restrictions or other appropriate controls.
2. Use of monitoring and research information in the development of conditions and identification of components of sports fisheries that may be threatened.
3. Liberations of hatchery reared sports fish using criteria set out in this Management Plan and available information.

4. Optimisation of supplementary stocking rates, liberation sites, age at release, and timing of liberations.
5. Monitoring of hatchery reared trout in areas they are released.
6. Fulfilling necessary legal requirements and appropriate consultation before liberations of sports fish species, including new species, are carried out.
7. Use of statutory processes and advocacy to prevent further commercialisation of the sale of recreational sports fish species.
8. Assessment of applications to display sports fish or use sports fish for research based on the appropriate criteria, and maintenance of an inventory of permits allocated.
9. Fish salvage operations will be carried out where the above fish salvage criteria are met. Authority to salvage fish will be granted in other cases where appropriate.

### **4.1.3 MANAGEMENT OF GAME BIRDS**

#### **BACKGROUND**

The Hawke's Bay Region supports a wide range of game bird species. Hunter use of these resources is relatively high. Distribution and populations of the following species present in the Hawke's Bay region is discussed in the species description:

#### Waterfowl:

Mallard duck (*Anas platyrhynchos*)  
Grey duck (*A. superciliosa*)  
Shoveler duck (*A. rhynchosotis*)  
Paradise shelduck (*Tadorna variegata*)  
Black swan (*Cygnus stratus*)  
Canada goose (*Branta canadensis*)  
Pukeko (*Porphyrio porphyrio*)

#### Upland game:

Pheasant (*Phasianus colchicus*)  
California quail (*Lophortyx californica*)  
Bobwhite quail (*Colinus virginianus*)  
Brown quail (*Synoicus ypsilophorus*)  
Red legged partridge (*Alectoris rufa*)

Fish and Game New Zealand aims to maximise hunter opportunity, while maintaining sustainable levels of each game bird population. Maximising hunter opportunity includes providing for a diversity of species, abundance, and quality of the resource. The quality and quantity of habitat in the region has a large influence on population size of some game bird species, and habitat management is particularly important in the management of these species<sup>4</sup>. Fish and Game New Zealand also recognises the potential impacts that some game bird species may have on other bird species and users of the environment.

## **REGULATIONS**

Game bird regulations are used to make species available to hunters, as well as regulating the manner in which hunting takes place and the total number of birds harvested. This ensures that populations are maintained at sustainable levels and harvest is optimised. There is a strong link between establishment of regulations and monitoring. Information from monitoring programmes is used to establish regulations and to determine their effectiveness or otherwise.

Results from game bird hunters surveys, trend counts, and banding programmes are used to develop regulations for each game bird species. Further monitoring of some species in the future should provide more information on which to base regulations. Regulations may cover season length, bag limits, and hunting methods. Species sustainability and diversity, maximum hunter opportunity, and reduction of potential effects on other users of the environment are all considered in the development of appropriate regulations.

Hunting regulations tend to be set on historical grounds. Improved information from monitoring programmes is leading to significant changes to some regulations, including significant changes from year to year. These changes may mean that there is greater availability of certain species in some years, and very restrictive regulations in other years. Hunters may need to accept that there will be greater changes from year to year in order to maintain a sustainable harvest.

## **LIBERATIONS**

Liberations of existing game bird species, or new species to the region, are another tool used in game bird management. Liberations are an appropriate means by which new species can be introduced to an area, but are generally either not viable or less than cost effective as a means of maintaining populations. Species such as red-legged partridge and chukor have been released in the past in parts of the Hawke's Bay region, but did not successfully establish. This experience highlights the need to ensure that future game bird releases are adapted to the available habitat, that the species will be self-sustaining, that releases will not detract from the hunting resources already present, and do not adversely affect non-game bird species or biodiversity. Liberations can be effective where hunters cover the cost of the liberated birds.

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<sup>4</sup>Habitat management is discussed in chapter 2.

## **CROP PROTECTION**

Some game bird species have adapted very well to pastoral land uses. Species such as paradise shelduck, black swan and Canada goose may have adverse effects on other users of the environment and protected species through their feeding and flocking habits. Increasing encroachment of urban development onto wetland areas and riparian margins also creates conflicts. Pukeko, in particular, may be viewed as a problem in some urban situations. The extent of crop predation varies greatly within different parts of the region and from year to year.

Although Fish and Game New Zealand does not have a statutory obligation to be involved in crop protection, the Hawke's Bay region has historically taken action in some circumstances. Where game bird species are shown to have an adverse effect on pasture or crops, the Hawke's Bay region should seek to respond in a cost-effective manner. At present, when the issuing of a permit to disturb is the most appropriate method, Fish and Game New Zealand must arrange for a permit to do so from the Department of Conservation. Hawke's Bay region believes that changes to the legislation to give it the authority to issue permits for the disturbance of game birds would be a more efficient system for dealing with crop protection problems than the present system.

## **PREDATION, LEAD POISONING, AND DISEASE**

Predators such as stoats, weasels, rats, ferrets, and feral cats can cause problems during the game bird breeding season in particular. Predator control is not cost effective over wide areas. However, it may be advantageous in specific and smaller areas, particularly where habitat rehabilitation or enhancement projects are underway.

Work in the Hawke's Bay region has indicated that the incidence of lead ingestion by waterfowl and resultant lead poisoning may be unacceptably high. This cause of mortality may be additional to that caused by other factors.

Waterfowl are susceptible to avian botulism through ingestion of a toxin produced by *Clostridium botulinum* bacteria. Botulism is a paralytic disease, resulting in death, and can be a major problem in some neighbouring regions during the summer. Currently botulism is not believed to be an issue in the Hawke's Bay region.

## **DISPLAY OF GAME BIRDS**

Requests are sometimes received from organisations or individuals to hold or breed game birds in captivity. Fish and Game New Zealand advises the Department of Conservation on the issuing of permits to hold waterfowl or upland game birds. Council needs to ensure that birds held in captivity do not threaten the sustainability of game birds in the wild, and that they are kept in hygienic and humane conditions. A set of criteria has been developed for permit applicants to meet before applications are considered.

### **4.1.3.1 ISSUES**

1. Unless species diversity and population numbers are maintained, the diversity of hunting opportunities will not be maximised.
2. Without regulations, the levels of game bird harvest may not be sustainable.

3. The loss of habitat availability, quality and quantity will lead to a decline in population levels of game birds.
4. Hunting regulations tend to be set on historical grounds, rather than sound biological information.
5. Current bag limits or season lengths may not sustain population levels.
6. Liberations are not viable for maintaining population levels.
7. Game birds may have adverse effects on other users of the rural environment when they congregate in large groups.
8. In some situations the control of populations of game birds, which are affecting amenity values, may not be practical or possible.
9. Outbreaks of avian botulism in high profile areas are a problem.
10. The productivity of game birds may be affected by predators.
11. Lead poisoning may be a cause of waterfowl mortality.

#### **4.1.3.2 OBJECTIVE**

Maintenance and enhancement of populations and diversity of game bird species.

#### **POLICIES**

**4.1.3.2(a)** To manage harvest by seeking development of and administering game bird regulations that:

- maximise hunter opportunity;
- ensure the sustainability, quality, and diversity of the game bird resource;
- are based on sound biological principles;
- seek acceptable standards of hunting behaviour;
- are simple to understand.

**4.1.3.2(b)** To liberate game birds to enhance hunting opportunities in areas that meet all of the following criteria:

- where suitable adult habitat exists, but there is insufficient natural recruitment to sustain optimal natural populations; and
- where there is no significant adverse effect on existing wild game bird populations. A significant adverse effect is one that will result in loss of hunting opportunity or threaten the sustainability of the population; and
- where benefits obtained outweigh costs; and
- where a range of hunting opportunities can be provided through liberations; and
- where adverse effects on existing biodiversity values or existing natural character in areas that have not previously held game birds can be avoided, remedied, or mitigated. Department of Conservation and other relevant agencies will be consulted as to these effects; and

- where game bird populations are incapable of being maintained at optimal levels through natural recruitment, liberations will only take place when there is a total loss of game bird hunting opportunity.

**4.1.3.2(c)** To take appropriate action where there are significant adverse effects of game birds on natural resources and other users of the environment. Significance will be assessed on the basis of:

- number of birds present; and
- recreational and ecological significance of the game bird population involved; and
- value of resource affected; and
- extent of impact of birds on the resource involved; and
- whether there is a significant effect on indigenous flora or fauna, where Department of Conservation will be consulted as to the effects.

**4.1.3.2(d)** To advise the Department of Conservation in the issuing of authorities for the rearing and display of game birds. Advice for issue of authorities will be based on the following:

- whether birds are to be obtained from an authorised New Zealand breeder;
- Fish and Game New Zealand may inspect the birds at any time and advise changes to living conditions where appropriate;
- Fish and Game New Zealand must provide authorisation for release of any birds into the wild.

**4.1.3.2(e)** To seek legislative authority for the issue of permits to disturb or destroy game birds for crop protection purposes and to hold game birds in captivity for display purposes.

**4.1.3.2(f)** To respond to incidents of disease outbreaks and predation in game bird populations where there are benefits to Fish and Game New Zealand and all the following criteria can be met:

- large numbers of birds are affected or there are public awareness issues involved; and
- response will be cost-effective; and
- staff resources are available; and
- pest control measures will meet all legislative requirements and the appropriate authorities will be consulted.

**4.1.3.2(g)** To co-operate in national Fish and Game New Zealand initiatives to identify and respond to the effects of lead poisoning.

**4.1.3.2(h)** To allow for the approval and licensing of upland game bird preserves.

**4.1.3.2 (i)** To manage upland game bird preserves in accordance with the criteria for establishment and conditions of operation adopted by the New Zealand Fish and Game Council.

## **METHODS**

*Methods may include:*

1. Preparation of Gazette Notices that regulate methods and practices which threaten the sustainability and recreational amenity associated with each game bird species while maximising hunter opportunity. Submission of the Gazette Notice to the Minister of Conservation for approval.
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2. Advice given to Department of Conservation to issue permits for game birds in captivity.
3. Use of population and harvest monitoring results to regulate populations of individual species.
4. Liberations of sports fish and game birds where all the criteria listed in policy 1.3.2 (b) & (c) are met.
5. Loan or hire of gas guns for scaring and dispersion of birds
6. Issue of an authority to disturb or destroy birds, or advise the Department of Conservation for issue of an authority where there is no prior agreement with the Department of Conservation enabling the Hawke's Bay Region to issue an authority itself.
7. Coordination with National Office and other Fish and Game New Zealand regions in seeking changes to legislation regarding authority to disturb or destroy game birds and authority to display game birds.
8. Advice to landowners regarding management measures to avoid or reduce crop predation.
9. Assisted hunts where game birds are having an adverse effect on natural resources or farming activities.
10. Appropriate bag limits and conditions for control of game bird species.
11. Maintenance of inventories of permits issued to disturb game birds and of permits to hold birds in captivity.
12. Undertake game bird rescue where the policy criteria are met, and seek assistance for game bird rescue from other agencies or individuals where appropriate.
13. Consideration of applicant's ability to meet criteria for holding birds in captivity.
14. Management plans where appropriate for particular species or game bird populations.
15. Approve registered game preserves in accordance with the New Zealand Council criteria.

#### **4.1.4 RESEARCH**

##### **BACKGROUND**

The availability of new information in the future will allow Fish and Game New Zealand to more effectively manage the sports fish and game resources in the Hawke's Bay region. Research into issues such as hybridisation of mallard and grey duck, optimal sports fish stocking rates for lakes, and management techniques for backcountry wilderness fisheries is essential to optimise angler and hunter satisfaction while ensuring sustainability of the sports fish and game bird resources. Whether hunting has an impact on game bird population sizes and the extent of this impact is another priority for research.

Other areas of research that the Hawke's Bay Region supports are the effects that sports fish and game birds may have on indigenous flora and fauna, and the potential effects of potential pest fish species,

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such as koi carp and catfish, on the fishery. Habitat-related research is also promoted by the Hawke's Bay Region. Fish and Game New Zealand may undertake research into these areas where necessary if a specific problem has been identified.

Tangata whenua share an interest in research. It may be beneficial to involve them in some research programmes. The results of research should be provided to tangata whenua.

#### **4.1.4.1 ISSUES**

1. There is insufficient knowledge available to enable optimal management of some sports fish and game bird populations.
2. There is insufficient knowledge available to optimise angler and hunter opportunities and satisfaction.
3. Adequate information on the impacts of sports fish or game birds, or angling and hunting, on other natural resources or users of the environment is not available.

#### **4.1.4.2 OBJECTIVE**

*Research undertaken that allows Fish and Game New Zealand a better understanding of its resources and allows the Hawke's Bay Region to make appropriate management decisions for the benefit of anglers and hunters and the fish and game resource.*

### **POLICIES**

**4.1.4.2(a)** To identify research requirements.

**4.1.4.2(b)** To undertake appropriate research programmes that meet all the following criteria:

- research must be related to the priority management needs of Fish and Game New Zealand, Hawke's Bay Region; and
- there must be overall benefit to the goals and objectives of Fish and Game New Zealand, the fish and game resource, and anglers and hunters.

**4.1.4.2(c)** To support and recommend appropriate national sports fish and game research programmes.

### **METHODS**

*Methods may include:*

1. Prioritising research projects that demonstrate long-term benefits for sports fish and game bird management, anglers and hunters.
2. Support for research into the impacts of other species or external threats on sports fish or game bird populations.
3. Support for research into the impacts of sports fish or game birds or angling and hunting on other natural resources or users of the environment.



4. Liaison with other Fish and Game New Zealand regions and national office, Department of Conservation, and research agencies to identify research areas and opportunities for collaborative effort.
5. Use of external research providers where appropriate.
6. Seeking external funding and working with government funding agencies, where research may result in benefits to the community.
7. Seeking support for, and input to, research programmes of common interest with tangata whenua. Reporting the results of research to tangata whenua.

## 4.2 HABITAT

***Goal: Maximisation of recreational opportunities for anglers and hunters through management, maintenance, and enhancement of sports fish and game bird habitat.***

### INTRODUCTION

There is a direct relationship between the abundance of sports fish and game birds and the quality and quantity of habitat available to them. Habitat maintenance and enhancement is therefore a primary tool in the management of the Hawke's Bay region sports fish and game bird resources. Trout require high water quality, and aquatic ecosystems that provide spawning habitat, rearing habitat, and a regular food supply. Game birds also require appropriate nesting habitat, loafing, and feeding sites.

In the Hawke's Bay region, sports fish habitat consists mainly of rivers and lakes. Game birds inhabit wetlands, rivers, lakes, canals, riparian margins, sand dunes, and plantation forest areas. Sports fish and game bird habitats have been described in the Resource Description at the front of this plan. The wide range of habitats available contributes to the diversity of angling and hunting opportunities that the Hawke's Bay region offers.

Effluent discharge to waterways, damage to riparian margins, surface water abstraction, vegetation clearance, and river control works have negatively impacted sports fish and game bird habitat. Some species, such as paradise shelduck, have benefited from changes in land use. For most species, however, development activities continue to reduce the quality and quantity of available habitat.

Less than 10% of the original wetland habitat remains in the Hawke's Bay region. Upland game habitats have also suffered due to changes in land use. These have been identified as issues for Council to address. Improvements in riparian management practices, wetland restoration and enhancement of sports fish spawning habitats are other areas that the Council should focus on as a means of enhancing the quality of sports fish and game bird habitats.

### 4.2.1 HABITAT MAINTENANCE AND ENHANCEMENT

#### BACKGROUND

Some of the angling and hunting resources in the Hawke's Bay region are of national significance. These include:

- Upper Mokaka River catchment;
- Upper Ngaruroro River catchment;
- Tukituki River and associated wetlands.

Many other sports fish or game bird habitats are of regional or local importance, for example:

- Waitangi, Ahuriri, and Porangahau coastal wetlands;
- Runanga, Oingo, Poukawa, Hatuma and Wanstead lowland wetlands;
- Lake Tutira;
- Tutaekuri River catchment;
- Esk River catchment;
- Aropaonui/Waikari river catchments.

## **STATUTORY PLANNING PROCESSES**

As the sustainability of sports fish and game bird populations is dependent on the availability of quality habitat, habitat maintenance and enhancement is an important tool in the management of the sports fish and game resource. Ensuring that sufficient habitat is available to maintain self-sustaining populations of sports fish and game birds and angling and hunting opportunities has become a major activity for Fish and Game New Zealand in recent years.

Section 26Q (1)(e)(i) of the Conservation Act (1987) requires Fish and Game New Zealand “*to represent the interests and aspirations of anglers and hunters in the statutory planning process*”. A range of human activities may adversely impact on sports fish and game bird habitat. Some, such as discharges to waterways, reduce water quality and the diversity of aquatic ecosystems. Other activities, such as wetland drainage, may completely destroy a particular habitat type. In addition to the Conservation Act (1987) and Wildlife Act (1953), there are four pieces of legislation that allow the Hawke's Bay Region to promote sports fish and game bird habitat values and angling and hunting values for land and water resources.

### **Resource Management Act (1991)**

The Resource Management Act (RMA) (1991) is the over-riding legislation aimed at sustainable management of New Zealand's natural and physical resources. Regional and District Councils share the responsibility for resource management, and therefore make many of the decisions that may impact on fish and game habitat. However, the RMA(1991) provides the opportunity for Fish and Game New Zealand to have input to these decisions, and to advocate for Fish and Game interests. Furthermore, statutory authorities are required to take note of provisions in the Hawke's Bay Region Sports Fish and Game Bird Management Plan in their own planning processes. Criteria have been developed for decision-making as to the extent of the Hawke's Bay Region's involvement in statutory planning processes. (*See Introduction: Section E, Planning Context.*)

As discussed, within the Hawke's Bay region there are six local governing bodies. These are (from north to south): The Wairoa District Council, the Taupo District Council, the Rangitikei District Council, the Hastings District Council, Napier City Council and the Central Hawke's Bay District Council. The Hawke's Bay Regional Council covers this entire area in terms of its management responsibilities under the Resource Management Act. Through submissions to regional and district plans and resource consents, the Council is able to ensure that the habitat of trout and game birds is not adversely impacted by development proposals, and that angling and hunting values are maintained and enhanced.

In advocating for the interests of anglers and hunters, the Hawke's Bay Region seeks to minimise adverse effects of activities on habitat and to protect recreational and access values. In some cases, concerns of Council may correspond to those of other organisations and stakeholder groups, while in others it may conflict. Where it is not possible to avoid the adverse effects of activities, the best outcome for Fish and Game New Zealand may be to seek solutions in terms of remediation or mitigation.

### **The Local Government Act (2002)**

The Local Government Act (2002) defines the roles and functions of local government. These roles include enabling democratic local decision-making and action by, and on behalf of, communities; and to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future. Through this Act, the Hawke's Bay Region is able to make submissions on draft annual plans and long-term strategies. These are the plans under which local authorities implement the objectives in their regional and district plans.

### **Other Legislation**

The Hawke's Bay Region is also able to make submissions to strategies prepared under the Biosecurity Act (1993) and to have input to decisions made under the Reserves Act (1977).

## **NON-STATUTORY HABITAT MAINTENANCE AND ENHANCEMENT**

Non-statutory processes may also be used to achieve protection of sports fish and game bird habitat. Proactive cooperation with other resource management organisations, iwi, interest groups, and the wider community can be used to realise positive outcomes for fish and game management. Anglers and hunters make major contributions to habitat protection and enhancement work. Fish and Game New Zealand recognises the benefits of these activities, and will continue to support such initiatives through facilitation and assistance where appropriate.

A large area of sports fish and game bird habitat is on private land. It is important for the Hawke's Bay Region to encourage land managers to create, maintain, and enhance sports fish and game bird habitats on their properties. Covenants are one way of ensuring that these areas are protected. Funding from sources such as the New Zealand Game Bird Habitat Trust is another means of assisting the creation of additional habitat in the region.

Many sports fish and game bird habitats are in a degraded state, but have the potential to be rehabilitated. Maintenance and enhancement carried out by the Hawke's Bay Region may involve activities such as earthworks, management of water levels in wetlands, control of invasive vegetation, desilting, riparian planting or other modifications to streambeds. Such habitat enhancement projects may have effects on other natural resources or users of the environment. Fish and Game New Zealand will undertake appropriate consultation, and is committed to ensuring that these effects are considered and adequately provided for.

### **4.2.1.1 ISSUES**

1. There are a number of activities that may adversely affect the quality and/or quantity of sports fish and game habitat including:
  - gravel extraction;

- stock access to lakes, rivers, wetlands, and their margins;
  - drainage of wetlands and their margins;
  - urbanisation;
  - water abstraction (both surface and ground water takes);
  - urban run-off and stormwater discharge;
  - effluent disposal;
  - weed invasion;
  - point source and non-point source discharges to waterways;
  - river management schemes;
  - changes in land use and vegetation removal;
  - land management practices;
  - beach raking.
2. There is very little shallow wetland habitat in the Hawke's Bay region.
  3. There has been extensive loss of wetland habitat through land development in the region.
  4. It is difficult to manage sports fish and game bird habitat on private land.
  5. Modification of lowland rivers has adversely affected trout habitat and angling values.
  6. Land management practices in upper catchments can have a large influence on downstream habitats, both detrimental and beneficial.
  7. Decisions, such as minimum flow setting, made by external statutory bodies may sometimes have detrimental effects on sports fish and game bird habitat.
  8. There is relatively low public awareness of the importance of many ecosystems and habitats, or the degraded state of some of these.

#### **4.2.1.2 OBJECTIVE**

*Advocacy for sports fish and game bird habitat values, angling and hunting values using statutory processes.*

#### **POLICIES**

**4.2.1.2(a)** To encourage other statutory authorities to make provision for the goals and objectives contained in the Hawke's Bay Region Sports Fish and Game Bird Management Plan.

**4.2.1.2(b)** To use statutory planning processes, including Water Conservation and Heritage Orders, to promote the maintenance, protection, and enhancement of sports fish and game bird habitat at local, regional, and national levels including but not limited to the Schedule listed in Appendix 5 (*see Appendix 5: Significant Sports Fish and Game Bird Habitats in the Hawke's Bay Region*). Hawke's Bay Region involvement in statutory planning should take the following into account:

- significance of the sports fish or game bird habitat values;
- significance of the angling or hunting values involved;
- vulnerability of the resources to the adverse effects of human use and development;
- degree of protection sought by the Hawke's Bay Region;

- the scale of proposals, the significance of effects of proposals, and the degree of uncertainty of effects on sports fish and game habitat or angling and hunting values;
- conditions included by applicants to avoid, remedy, or mitigate adverse effects on sports fish or game habitat or recreational values.

Appendix 5 is attached for information purposes. It lists significant sports fish and game bird habitats in the Hawke's Bay region and is not exhaustive. The significance of habitats not listed in Appendix 5, or the significance of their angling or hunting values, will be determined by assessing:

- level of angler or hunter use, as determined by surveys or angler/hunter use data obtained by the Hawke's Bay Region;
- wilderness values, including remoteness, solitude;
- natural character values;
- spawning habitat values;
- game bird feeding, loafing, or breeding values;
- ecological values;
- whether the site or waterbody is important locally, regionally, or nationally;
- whether there are other similar representative areas in the Hawke's Bay Region.

**4.2.1.2(c)** To seek, through the Resource Management Act (1991), provisions in plans for:

- protection and enhancement of wetlands;
- rules on land and water use that maintain or enhance aquatic ecosystems;
- angler and hunter access;
- maintenance and enhancement of riparian margins;
- catchment protection;
- other provisions that will benefit sports fish or game bird habitats or recreational values;
- protection and enhancement of sports fish or game bird resources as determined by the criteria in (b) above, or of those listed in Appendix 5.

**4.2.1.2(d)** To advocate Fish and Game New Zealand interests to statutory authorities to promote protection and enhancement of sports fish and game bird habitat.

**4.2.1.2(e)** To promote the development of national environmental and planning standards and legislation which provides for the maintenance, protection, and enhancement of values associated with angling and hunting and sports fish and game bird habitat.

## **METHODS**

*Methods may include:*

1. Use of formal submission processes to provide for and recognise Fish and Game New Zealand interests in all appropriate statutory planning matters. Consultation under the First Schedule of the RMA (1991) with regional and territorial authorities on all relevant planning documents.
2. Involvement in all aspects of resource consent processes. The Hawke's Bay Region will advocate for decisions and conditions that promote sports fish and game bird interests and the interests of anglers and hunters.
3. Seeking solutions in terms of remediation or mitigation where adverse effects of activities on

sports fish and game habitat or recreational values cannot be avoided.

4. Regular liaison with regional and district councils.
5. Promotion of the development of national environmental and planning standards and legislation. Assistance with advocacy to the Ministry for the Environment and other national organisations.
6. Promotion of good riparian management practices, wetland enhancement, catchment protection, fish and game habitat enhancement initiatives to regional and territorial authorities, the Department of Conservation, land managers and iwi.
7. Development of effective protocols with other resource management authorities for managing key environmental impacts.

#### **4.2.1.3 OBJECTIVE**

*Protection, maintenance, and enhancement of sports fish and game bird habitat using non-statutory processes.*

#### **POLICIES**

**4.2.1.3(a)** To increase community awareness of the importance of good sports fish and game bird habitat management practices.

**4.2.1.3(b)** To liaise with land managers, iwi, and statutory authorities to promote the protection and enhancement of sports fish and game bird habitats.

**4.2.1.3(c)** To evaluate opportunities to purchase or manage land for sports fish and game habitat protection or enhancement purposes using all the following criteria:

- The habitat is of significance for the region; and
- The only way to protect it is by direct intervention; and
- review of the effectiveness of current ownership or management agreements; and
- benefits should outweigh costs where property is retained under Fish and Game control; and
- that the area meets the criteria in policy 2.1.2(b); and
- where purchase is considered, purchase should be the most cost-effective means of achieving protection.

**4.2.1.3(d)** To promote the establishment of formal protection instruments e.g. covenants in order to protect sports fish and game bird habitats and recreational values. Where the Hawke's Bay Region is involved in seeking protection the instruments should:

- protect sports fish or game habitat values;
- provide for the management, maintenance, and enhancement of sports fish and game bird habitats.

**4.2.1.3(e)** To pursue funding through the New Zealand Game Bird Habitat Trust and other sources for sports fish and game habitat enhancement work and for raising awareness of the benefits of habitat protection.

**4.2.1.3(f)** To carry out sports fish and game habitat maintenance and enhancement works where appropriate.

## **METHODS**

*Methods may include:*

1. Provision of advice and assistance to landowners to establish covenants, and on habitat matters.
2. Applications for funding for habitat enhancement projects.
3. Provision of information and advice to land managers regarding management, enhancement, and creation of fish and game habitats.
4. Publication of habitat information through various forms of communication.
5. Liaison and co-operation with other land management agencies, land managers, and environmental interest groups where appropriate.
6. Provision of financial or physical assistance for appropriate habitat maintenance and enhancement works.
7. Development of best management practices for habitat maintenance and enhancement works that are carried out by or supported by Council.
8. Support for appropriate angler and hunter initiated habitat maintenance and enhancement works.

## **4.2.2 INFORMATION REQUIREMENTS**

### **BACKGROUND**

Input to statutory processes and appropriate proactive habitat management is reliant on a base of information that documents available habitat in the Hawke's Bay region. Such information is essential for effective submissions to planning documents at all levels, and for the identification of areas that are deficient in particular types of habitat. On-going development of baseline inventories of resources and monitoring of trends and habitat loss is an essential aspect of habitat management.

#### **4.2.2.1 ISSUES**

1. Effective statutory and non-statutory advocacy cannot be carried out without baseline information on the status of sports fish and game bird habitat in the Hawke's Bay region.
2. There has not always been a flow of information relating to habitat between agencies.

#### **4.2.2.2 OBJECTIVE**

*Development of appropriate databases of sports fish and game bird habitat in the Hawke's Bay region to facilitate effective habitat management.*



## **POLICIES**

**4.2.2.2(a)** To develop and maintain inventories of sports fish and game bird habitat in the Hawke's Bay region.

**4.2.2.2(b)** To make the inventories accessible to internal staff and outside agencies.

## **METHODS**

*Methods may include:*

1. Maintenance of inventories that detail the condition and trends of ecosystems as habitat for sports fish and game birds.
2. Integration of databases with other regional and national resource management databases.
3. Identification of areas deficient in wetland, upland game, and sports fish spawning habitat in the Hawke's Bay region.

## **4.2.3 ANGLER AND HUNTER IMPACTS**

### **BACKGROUND**

Angler and hunter activities, such as poor maimai construction or failure to remove rubbish, may have adverse effects on the environment or other users of natural resources. Failure to remove undesirable aquatic weed or fish species from boats or equipment may result in transfer of these species between waterways. *Hydrilla verticillata* is an example of such an aquatic weed present in Lake Tutira. This weed could easily be transferred to other wetland bodies if anglers do not take adequate precautions. The Hawke's Bay Region has a role to educate anglers and hunters to minimise the impacts their recreational activities may have on the environment. Responsible behaviour includes checking for, and removal of, undesirable fish and aquatic weeds from boats and equipment.

Dogs are a vital part of game bird hunting. Dogs are not permitted on some lands managed by the Department of Conservation, including Scenic Reserves, National Parks, and Wildlife Management Reserves established under the Wildlife Act (1953). A recent amendment to the Conservation Act allows the Department of Conservation to establish open and controlled dog areas with conditions for all conservation areas, to protect wildlife and to ensure that conflict does not occur between user groups. District Councils also often place restrictions on dog use in some reserves. The Hawke's Bay Region will seek dog access in those areas where there will be minimal adverse effects on flora and fauna or other users.

Fish and Game New Zealand carries out habitat maintenance and enhancement activities that may have adverse effects on natural resources and other users of the environment. The Hawke's Bay Region is committed to ensuring that adverse effects of these activities are avoided, remedied, or mitigated, and that they meet the requirements of the Resource Management Act (1991).

The ingestion of lead shot by waterfowl has been recognised as an undesirable but avoidable cause of mortality in waterfowl. Government has determined that lead shot will be phased out in favour of non-toxic alternatives, the programme to be implemented over a five year period that commenced in

2001. The Hawke's Bay Region is committed to implementing and completing this transition away from lead shot.

#### **4.2.4.1 ISSUES**

1. Some angler and hunter activities such as the inadvertent transfer of weed or pest species, unauthorised game bird habitat development, inappropriate structures and use of dogs, and the use of lead shot for the hunting of waterfowl over open water, may have adverse effects on the environment or other users of natural resources.

#### **4.2.4.2 OBJECTIVE**

*Minimal negative impacts on the environment from Hawke's Bay Region or licence holder activities.*

#### **POLICIES**

**4.2.4.2(a)** To promote national standards on issues associated with the impacts of angling and hunting on the environment.

**4.2.4.2(b)** To encourage anglers and hunters to minimise their impacts on the environment and on other users of natural resources, including inappropriate structures.

**4.2.4.2(c)** To provide a code of practice for responsible behaviour for licence holders.

**4.2.4.2(d)** To recognise other natural resources and other users of the environment where Hawke's Bay Region activities may have a negative impact on the environment or its users.

**4.2.4.2(e)** To meet all legal requirements relating to habitat maintenance and enhancement projects.

#### **METHODS**

*Methods may include:*

1. Response to Fish and Game New Zealand initiatives on matters regarding environmental impacts of angling or hunting.
2. Application for resource consents where required.
3. Development of guidelines and/or methods for planting of appropriate species, weed management practices, and vegetation removal for habitat maintenance and enhancement projects.
4. Consultation with affected parties and with other agencies regarding angler or hunter impacts.
5. Development of guidelines for construction, maintenance, and management of structures associated with angling and hunting.
6. Development of guidelines for responsible angler and hunter behaviour.

7. Provide educational information regarding checking for, and removal of, undesirable fish and aquatic weeds from boats and equipment.
8. Prohibit the use of lead shot for waterfowl hunting within 200 metres of open water.

## 4.3 ANGLER AND HUNTER PARTICIPATION

***Goal: To encourage angler and hunter participation while maintaining the quality of the recreational experience.***

### INTRODUCTION

Section 26Q(1)(c) of the Conservation Act (1987) states that Fish and Game New Zealand is to promote recreation based on the sports fish and game resources. The Hawke's Bay Region also has a statutory responsibility to keep anglers and hunters informed on matters affecting their interests. As licence sales make up Fish and Game New Zealand's revenue base, it is in the Hawke's Bay Region's interests to encourage potential anglers and hunters to take up angling and hunting as recreational activities. It is equally important that current anglers and hunters enjoy these activities, and that factors that may limit participation are minimised. At the same time, the Hawke's Bay Region must ensure that increased use of the sports fish and game resource does not compromise their sustainability or the quality of the experience.

The long term viability of Fish and Game New Zealand is dependent on maximising opportunities for wide public participation in angling and hunting. In order that anglers and hunters do not view the purchase of a licence as merely a legal requirement or a tax, the Hawke's Bay Region aims to promote licences as value added products. Licence holders purchase the opportunity to fish and hunt. Fish and Game New Zealand provides them with the ability to realise this opportunity through a range of products and services.

Guidance, assistance, and on-going satisfaction for licence holders is part of ensuring continued participation and satisfaction in sports fish angling and game bird hunting. In recent years the Hawke's Bay region has been committed to promoting all aspects of angling and hunting, the sale of licences, and communicating with licence holders to access the sports fish and game opportunities in the region.

### 4.3.1 ACCESS

#### BACKGROUND

The availability of access to sports fishing and game bird hunting has been identified as a significant factor limiting participation. Maintenance and enhancement of access opportunities to the Hawke's Bay region sports fish and game resource is a key responsibility for the Fish and Game New Zealand. Section 26Q(1) of the Conservation Act states that Fish and Game New Zealand should

*“ maintain and improve the sports fish and game resource...by maintaining and improving access”.*

Legal access to New Zealand's rivers, lakes, coastline, and their margins is something valued by sports fish anglers and hunters. The ability to gain access to these areas is a fundamental part of fishing and hunting. Restrictions on access to waterbodies, wetlands, or upland game habitat may result in the creation of exclusive rights to sports fish and game populations. While we can control or facilitate access on land managed by Fish and Game New Zealand, or public lands, many sports

fish and game resources are either on private land or in areas only accessible across private land. It is therefore important to maintain and improve access across private land. The Hawke's Bay Region can seek access provisions through statutory processes, or through negotiations with land owners.

Physical access to angling and hunting areas is not currently possible in some parts of the region. Dense riparian vegetation may reduce fishing opportunities, and tracks may be non-existent, overgrown, or in poor condition.

While legal and physical access to water and land for angling and hunting are issues to be addressed, it is important that licence holders are aware of the opportunities available. Anglers and hunters need to be informed of the areas open to them, how to reach these areas, and where public access points are located. Signposting of significant angling and hunting access points enable licence holders to easily identify opportunities. In conjunction with national brand initiatives, access signs also promote public awareness of Fish and Game Councils and their brand "Fish and Game New Zealand".

Land managers are increasingly restricting access to their land for dogs, as the result of the threat uncontrolled dogs pose to some wildlife. Managed access to land for recreational game bird hunting dogs is important, and the advocacy for access for gun dogs needs to be promoted.

#### **4.3.1.1 ISSUES**

1. Access to sports fish and game bird hunting opportunities is a significant factor limiting participation.
2. Many sports fish or game bird resources are on private land, or only accessible by crossing private land.
3. Restrictions on legal access to fishing and hunting opportunities may lead to the creation of exclusive rights to sports fish and game bird populations.
4. Statutory processes can be used to provide legal access, or the Hawke's Bay Region can negotiate with landowners.
5. Where legal access is available, physical access may be impeded by vegetation or lack of tracks.
7. Licence holders may not be aware of access points to angling or hunting opportunities.
8. Access to land for gun dogs is being restricted. Gun dogs are important tools for humane hunting.
9. Undesirable angler or hunter behaviour may lead to access restrictions.

#### **4.3.1.2 OBJECTIVE**

*Maintenance and improvement of public access to a wide range of sports fishing and game bird hunting opportunities within the Hawke's Bay region.*

### **POLICIES**

**4.3.1.2(a)** To advocate and negotiate for the protection and creation of access rights on public and

private lands to and along rivers, lakes, and wetlands and to upland game hunting areas.

**4.3.1.2(b)** To facilitate maintenance and enhancement of physical access to key sports fish angling and game bird hunting areas.

**4.3.1.2(c)** To inform anglers and hunters of access opportunities, including access rights and physical access.

**4.3.1.2(d)** To encourage responsible angler and hunter behaviour on private and public land.

**4.3.1.2 (e)** To advocate and negotiate for the continued use of dogs for game bird hunting on land not managed by Fish and Game New Zealand.

## **METHODS**

*Methods may include:*

1. Submissions to relevant statutory processes to maintain and improve access.
2. Negotiation and liaison with district and regional authorities, Department of Conservation, landowners, iwi, and other appropriate parties to maintain and improve access opportunities.
3. Promotion of public awareness and formation of links with other recreational groups in relation to protection of access rights.
4. Facilitation and coordination of physical works to maintain and improve access tracks to, or along, key angling and hunting areas.
5. Provision and maintenance of Fish and Game New Zealand signs at appropriate public access points to hunting and fishing areas.
6. Development and maintenance of inventories of public access points throughout the Hawke's Bay region.
7. Provision of a range of associated services that assist license holders to gain access to angling and hunting opportunities, including publication of pamphlets and access information.
8. Promotion of responsible angler and hunter behaviour.

## **4.3.2 INCREASED PARTICIPATION AND SATISFACTION**

### **BACKGROUND**

Increasing competition for the public's recreational time and money mean that the Hawke's Bay Region must ensure that licence holders are satisfied with both the experiences they obtain and the services that are provided to assist them. A range of services are provided to anglers and hunters, both to encourage participation, and to assist licence holders in enjoying the sports fish and game resource. Increased participation may be through new anglers and hunters or the return of lapsed participants. Encouraging young anglers and hunters is one area that the Hawke's Bay Region should focus on. A relatively low number of females currently fish or hunt. If it were possible to overcome

the low participation of women, Fish and Game New Zealand would have access to a far larger target audience.

Training for young anglers and hunters, allocation of balloted hunting stands, and management of fishing competitions are some of the services that the Hawke's Bay Region provides to encourage participation and achieve licence holder satisfaction.

Fish and Game New Zealand can continue to assist anglers and hunters to access and enjoy the sports fish and game resource in the Hawke's Bay region through provision of information services, for example pamphlets and Internet services. The angling and hunting information service is an important component of the Hawke's Bay Region's annual work programme. It is structured to inform licence holders of angling and hunting opportunities, as well as providing regular updated information. Direct communications with licence holders enable the Hawke's Bay Region to inform anglers and hunters of changes to regulations, topical issues, work projects, and progress with Hawke's Bay Region initiatives.

Guides are an important aspect of angling and hunting in the Hawke's Bay region, and play an important role in ensuring that anglers and hunters enjoy a quality experience. As there are a high number of visitors to the region, guides are able to provide local knowledge to the area and facilitate access to the fish and game resource for these visitors. Guides are also able to introduce new participants to sports fishing and hunting, through the provision of information and a quality experience for novice anglers and hunters.

To improve participation levels, it is essential that Fish and Game New Zealand is able to provide anglers and hunters with an enjoyable experience. It is therefore necessary to determine what anglers and hunters are seeking and whether there is a high level of licence holder satisfaction.

#### **4.3.2.1 ISSUES**

1. There is increasing competition for recreational time and money. Fish and Game New Zealand needs to be competitive in the recreational market.
2. Young anglers and hunters are an important market, and may need assistance to learn about fishing and hunting.
3. There are relatively low numbers of female anglers and hunters.
4. Fishing and hunting guides, fishing competitions, balloted hunting stands, and organised events are ways in which Fish and Game New Zealand can assist and encourage participation.
5. Anglers and hunters may not be aware of all of the angling and hunting opportunities in the Hawke's Bay region, or how to access them.
6. Anglers and hunters require regular, updated information on the sports fish and game bird resources and the recreational opportunities available.
7. Licences have been traditionally viewed as a legal requirement, rather than a value added product.
8. Fish and Game New Zealand needs to be aware of the types of experience that anglers and hunters are seeking in order to try to provide these opportunities for them.

### **4.3.2.2 OBJECTIVE**

*Increased participation in angling and hunting, and improved client satisfaction.*

### **POLICIES**

**4.3.2.2(a)** To communicate with licence holders in the Hawke's Bay region.

**4.3.2.2(b)** To increase the value of fishing and hunting licences and improve customer services.

**4.3.2.2(c)** To provide training opportunities for young and novice anglers and hunters to participate in sports fishing and game bird hunting.

**4.3.2.2(d)** To review permits for appropriate fishing competitions, and to support appropriate participation based competitions. Criteria considered during permit review are:

- location of the competition;
- number of entrants;
- the impact on the sustainability of the resource.

**4.3.2.2(e)** To encourage participation in organised game bird hunting and sports fishing events.

**4.3.2.2(f)** To recognise the role of angling and hunting guides in providing a quality experience for licence holders.

**4.3.2.2(g)** To assess angler and hunter satisfaction levels to determine what services and opportunities anglers and hunters are seeking.

### **METHODS**

*Methods may include:*

1. Identification and implementation of opportunities to provide additional services to licence holders.
2. Children's fishing programmes, novice hunter education.
3. Consideration of fishing competition applications, dependent on the potential impacts on the sustainability of the resource.
4. Allocation of ballots for stands.
5. Maintenance of Internet services and telephone information services.
6. Publication of pamphlets, fishing reports, newsletters, magazine supplements, and media information packages.
7. Written communication with angling and hunting clubs and attendance at club meetings.
8. Maintenance of communications with angling and hunting guides.



## 9. Angler and hunter satisfaction surveys, monitoring of participation.

### 4.3.3 SOCIAL IMPACTS<sup>5</sup>

#### BACKGROUND

Social impacts<sup>5</sup> on the angling and hunting experience are an issue that is becoming of increasing concern to Fish and Game New Zealand. The experience associated with fishing or hunting in some areas, particularly wilderness fisheries, may be adversely affected by the growing numbers of anglers or hunters visiting them. Values such as solitude, remoteness, and wilderness may be reduced through higher angler and hunter pressures. In some cases the wilderness values that licence holders are seeking are being diminished by recreational use. Waterfowl hunting, particularly in balloted areas and public water areas, appears to be subject to the same pressures.

In order to maintain the quality of the angling and hunting experience, some control of effort in some locations may be required. Management of social impacts will become even more important as increased growth in the tourism industry occurs. Control of social impacts on resources involves managing social interactions between anglers or hunters, rather than management of the biological resource. While some of the management options may limit the ability of anglers and hunters to access opportunities, the Hawke's Bay Region needs to take a proactive position on the issue if the quality of angling and hunting experiences are to be maintained.

#### 4.3.3.1 ISSUES

1. Values such as remoteness, solitude, or wilderness, associated with many angling and hunting experiences, may be adversely affected by growing numbers of anglers and hunters visiting certain areas.
2. There may be too many anglers in some wilderness fishing areas, or too many hunters shooting in some areas.
3. Relatively little information is available on social impacts in New Zealand, although a large amount of research has been carried out overseas.

#### 4.3.3.2 OBJECTIVE

*Management of social impacts of anglers and hunters in a manner that maintains the quality of angling and hunting experiences.*

#### POLICIES

**4.3.3.2(a)** To identify pressure sensitive fisheries and hunting areas where social impacts may be a problem, and to evaluate their social carrying capacities.

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<sup>5</sup>This section deals with social impacts in terms of high angler or hunter pressure having negative effects on the angling or hunting experience. Issues relating to angler or hunter impacts on other users of the environment are covered in chapter 2.

**4.3.3.2(b)** To seek to establish control mechanisms for access to and use of pressure sensitive fisheries and hunting areas.

**4.3.3.3(c)** To be proactive in the development of a nationally coordinated approach to the issue of social impacts.

## **METHODS**

*Methods may include:*

1. Consideration of a range of approaches to angler and hunter management.
2. Creel and satisfaction surveys and monitoring of key fisheries and hunting areas.
3. Liaison with national and regional Fish and Game Councils and their staff.
4. Liaison with Department of Conservation where social impacts are of mutual interest.
5. Communication with organisations in New Zealand and overseas with similar issues.
6. Identification of a number of management options.

## 4.4 PUBLIC AWARENESS

***Goal: To maximise public awareness of the values and issues associated with the sports fish and game resource, and support for the management role of Fish and Game New Zealand.***

### INTRODUCTION

The Hawke's Bay Region of Fish and Game New Zealand is responsible for management of the sports fish and game bird resource. This management responsibility involves relationships with many other stakeholder groups, for example statutory organisations, interest groups, and iwi, and the wider community. The level of support for the organisation impacts upon the Council's capacity to successfully achieve its purposes and functions. To function effectively, the Hawke's Bay Region requires high public awareness of its role and activities, and the contribution it makes to environmental enhancement, and an acceptability of Fish and Game activities.

National survey results indicated that public awareness of Fish and Game New Zealand was relatively low, with 55% of all New Zealanders being aware of Fish and Game in a 1996 survey. This compared to a 98% awareness level for the Department of Conservation. Fish and Game took a series of major steps to develop an effective public awareness capability throughout the organisation through the provision of resources, staff training, appointment of public relations staff, and the creation and implementation of public awareness strategies. As a result, public awareness of the organization, and understanding of its role, has steadily grown to 76% in 1999 and 84% in 2003. In this same period public awareness of related conservation organizations has either fallen or stagnated.

#### 4.4.1 PUBLIC ADVOCACY AND EDUCATION

##### BACKGROUND

Angling and hunting are becoming less acceptable as recreational activities than they were in the past, a change partly due to urbanisation and changes in social values. This trend impacts on the ability of Fish and Game New Zealand to operate effectively. The Hawke's Bay Region needs to ensure that the recreational pursuits of angling and hunting continue to be viewed as socially acceptable. Fish and Game New Zealand and licence holders are significant contributors to habitat protection and conservation initiatives. Many of these projects benefit a wide range of species and user groups, for example fully protected species. Increased promotion of the conservation role of the Hawke's Bay Region and anglers and hunters can be used to improve public awareness of Fish and Game New Zealand's responsibilities.

One of the most positive aspects of angling and hunting is that they provide the incentive for the community to participate in an outdoor activity. The benefits, enjoyment, and satisfaction gained from outdoor recreation needs to be promoted. The Hawke's Bay region has a unique resource available to it, in terms of the Game Farm site. These assets provide an ideal opportunity for use as educational facilities. Education of the general public, particularly school groups, further increases community understanding of the fish and game resource and Fish and Game New Zealand's role in managing it.

Group visits to the Game Farm and presentations to groups enable community members to gain first hand experience of some of the processes involved in sports fish and game bird management.

#### **4.4.1.1 ISSUES**

1. There is relatively low public awareness of the Fish and Game New Zealand's role in sports fish and game bird management, conservation work, and environmental enhancement. The Hawke's Bay Region has a higher public awareness than most other regions.
2. Hunting is becoming less acceptable as a recreational activity than in the past.
3. Many physical, social, and educational benefits of angling and hunting are not widely recognised.
4. There are many opportunities to educate the general public, particularly schools, about the conservation and environmental advocacy carried out by Fish and Game New Zealand.
5. The Game Farm site provides opportunities for use as educational facilities.

#### **4.4.1.2 OBJECTIVE**

*Promotion of the role of the Hawke's Bay Region and its contribution to conservation and sustainable use of natural resources.*

#### **POLICIES**

**4.4.1.2(a)** To develop an education programme that promotes the wider ecological benefits resulting from protection and enhancement of sports fish and game bird habitat, and the wider benefits of angling and hunting.

**4.4.1.2(b)** To cooperate with development and delivery of national public awareness programmes.

**4.4.1.2(c)** To promote a professional image in the operation of Fish and Game New Zealand.

**4.4.1.2(d)** To advocate for fish and game interests through the media.

**4.4.1.2(e)** To participate in relevant promotional opportunities, including appropriate promotions with other organisations with mutual goals or interests.

**4.4.1.2(f)** To identify opportunities, and respond positively to appropriate requests, to address members of the public on sports fish and game matters.

**4.4.1.2(g)** To communicate relevant public awareness information to tangata whenua.

#### **METHODS**

*Methods may include:*

1. Development of information and display areas at the Greenmeadows site to cater for angling, hunting, and conservation education projects.

2. Facilitation of educational visits to the Game Farm complex.
3. Presentations to schools.
4. Consultation with the wider community to gain an understanding of the areas where the Hawke's Bay Region may contribute to conservation or sustainable resource management initiatives.
5. Use of education kits and publicity material compiled and distributed in conjunction with New Zealand Fish and Game Council and in line with the New Zealand Environmental Education Strategy.
6. Maintenance of effective media communications, including press releases.
7. Positive response to adverse public criticisms of angling and hunting where appropriate.
8. Support and promotion of the Fish and Game New Zealand brand.
9. Council representation at appropriate public events such as the Hawke's Bay A&P Show.
10. Positive response to requests from outside parties to cooperate on appropriate projects.
11. Demonstrations of, and community involvement in, habitat enhancement projects where appropriate.
12. Public participation in Fish and Game New Zealand activities where appropriate.

## **4.4.2 STAKEHOLDER GROUPS**

### **BACKGROUND**

There are a number of statutory and interest organisations whose functions and goals are closely aligned to protection of natural resources. At times other groups may impact on fish and game values through their activities. Conversely, some Fish and Game New Zealand operations may have the potential to impact on other users of natural resources. Where possible, it is in the Hawke's Bay Region's best interests to work together with these organisations. Regular liaison and communications are an effective way of ensuring that issues affecting sports fish and game or recreational values are addressed.

The Department of Conservation, in particular, has a number of interests in common with Fish and Game New Zealand. A memorandum of Understanding was established between Fish and Game New Zealand and the Department of Conservation in 1996. It states how both organisations will work together, and is a useful guide for developing long-term goals. There are opportunities for the Hawke's Bay Region to work with the Department of Conservation on resource management issues, habitat enhancement, reserves management, and other areas where our responsibilities coincide. There may be instances where Hawke's Bay Region interests are in conflict with those of the Department of Conservation. Maintenance of good communication channels and consultation should ensure that satisfactory compromises can be attained in these cases.

#### **4.4.2.1 ISSUES**

1. The functions and goals of other organisations may affect the interests of Fish and Game New Zealand and vice versa.
2. Lack of consultation may result in unresolved conflicts.

#### **4.4.2.2 OBJECTIVE**

*Positive relationships between Fish and Game New Zealand and key stakeholder groups.*

#### **POLICIES**

**4.4.2.2(a)** To liaise with key stakeholder groups where appropriate.

**4.4.2.2(b)** To seek opportunities to increase public awareness of sports fish and game interests within other groups.

**4.4.2.2(c)** To share information and work together on common interests and issues with other organisations and groups where appropriate.

**4.4.2.2(d)** To consult with the Department of Conservation on matters that affect the Department's responsibilities and interests.

#### **METHODS**

*Methods may include:*

1. Attendance at meetings as appropriate.
2. Regular communications and liaison with resource management, interest, and iwi groups.
3. Coordination of joint advocacy initiatives on matters of common interest and where benefits will accrue to the Hawke's Bay Region. For example, wetland forum groups.
4. Support for those public awareness programmes of other agencies that involve Hawke's Bay Region interests. For example, the undesirable fish awareness programme carried out by Department of Conservation.
5. Inclusion of articles promoting sports fish and game values in the publications of other organisations.
6. Regular communication with Department of Conservation staff and Conservation Boards.

#### **4.4.3 TANGATA WHENUA**

#### **BACKGROUND**

There are a number of iwi and hapu based organisations within the Hawke's Bay Fish and Game

Region. The Tangata whenua of the region have strong ties with the land and water resources, and are often involved in resource management issues. Tangata Whenua share many common values with Fish & Game New Zealand with respect to sustainable management of natural resources, sustainable harvest of resources, and habitat maintenance and enhancement. The Hawke's Bay Region considers it is beneficial to both parties to meet collectively on matters of common interest or concern. There are instances where iwi knowledge may be beneficial for Fish and Game New Zealand. Likewise, Fish and Game New Zealand may be able to provide assistance to Tangata whenua on sports fish and game bird matters or Resource Management Act (1991) planning processes.

Section 4 of the Conservation Act (1987) states that

*“this Act shall be so interpreted and administered as to give effects to the principles of the Treaty of Waitangi”.*

The Act places a responsibility on the Hawke's Bay Region to act in accordance with these principles. This responsibility must be undertaken within the overall context of meeting the Fish and Game New Zealand's primary purpose for the management, maintenance and enhancement of sports fish and game in the recreational interest of anglers and hunters. It is important that a co-operative working relationship with iwi is developed. Such a relationship should include consultation with iwi on matters of common interest. For the purposes of consultation, Appendix 6 shows the rohe boundaries and contacts for NGATI KAHUNGUNU IWI INCORPORATED.

#### **4.4.3.1 ISSUES**

1. The Treaty of Waitangi establishes a partnership between the Crown and Maori. Sports fish and game bird resources are managed on behalf of the Crown by Fish and Game New Zealand.
2. The Hawke's Bay Region of Fish and Game New Zealand has a number of interests in common with Tangata whenua, for example, sustainable management of natural resources, sustainable harvest of resources, and habitat maintenance and enhancement.

#### **4.4.3.2 OBJECTIVE**

*Development of positive relationships between Fish and Game New Zealand and iwi in the Hawke's Bay region.*

#### **POLICIES**

**4.4.3.2(a)** To identify opportunities to work together on areas of common interest.

**4.4.3.2(b)** To consult with iwi on sports fish and game issues that may affect their interests.

#### **METHODS**

*Methods may include:*

1. Recognition of iwi interests in resource management issues.
2. Regard for how management activities may affect Maori values on lands managed by Fish and Game New Zealand.

3. Facilitation of appropriate avenues for consultation between the Hawke's Bay Region and iwi.
4. Consultation and involvement of tangata whenua in relevant public awareness activities.
5. Recognition of and regard for the Draft Ngati Kahungunu Iwi Incorporated Eel Management Plan.



## 4.5 COMPLIANCE

***Goal: Protection of the sports fish and game bird resource and its user management through enforcement and education of legislative requirements.***

### INTRODUCTION

Fish and Game New Zealand has a statutory responsibility to recommend fishing and hunting regulations<sup>6</sup> for our licence holders<sup>7</sup>. The Hawke's Bay Region is also obliged to ensure that the regulations are enforced. S26Q(1)(b) of the Conservation Act (1987) requires Fish and Game New Zealand to:

*Maintain and improve the sports fishing and hunting resource:*

*iv) by ensuring that there are sufficient resources to enforce fish and game regulations.*

#### 4.5.1 ENFORCEMENT OF REGULATIONS

##### BACKGROUND

Offences range from poaching activities, to failure to purchase a licence, to non-compliance with fishing and hunting regulations. Enforcement is necessary for two main reasons. It is important to ensure that all anglers and hunters purchase a licence, thereby contributing to the costs of fish and game management. Secondly, illegal poaching activities and non-compliance with regulations such as bag limits may compromise the sustainable management of the sports fish and game resource.

Maintenance of law enforcement in high-use areas is important to ensure that Fish and Game New Zealand's licence base is not threatened. While other parts of the region may be less utilised, in these instances the sustainability of biological resources is of concern. Poaching activities on significant spawning streams, in particular, may threaten the sustainability of biological resources. Illegal shooting of game birds at game bird moult sites may also threaten local populations of species such as paradise shelduck.

For serious offenders, prosecution is the only successful deterrent to repeat offences. In many relatively simple cases, such as fishing without a licence, the cost of prosecution often outweighs the penalties imposed. More effective means of prosecution, such as instant fines, are being investigated and may be introduced by Fish and Game New Zealand in the future.

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<sup>6</sup>'Regulations' refers to fishing and hunting conditions, or rules, that the Hawke's Bay Region recommends to the Minister of Conservation. These conditions are advertised in the Gazette. The term 'regulations' has been used in this plan instead of 'conditions', as most readers more easily understand 'regulations'.

<sup>7</sup>Objectives and policies relating to the setting of regulations are found in the Species chapter.

For compliance and enforcement operations to be cost-effective, it is necessary to prioritise time and financial resources. Priority for law enforcement should therefore be targeted at high use areas and periods. Those illegal activities posing the greatest threat to the sustainability of the fish and game resource will also receive priority for compliance work.

The size of the Hawke's Bay region, and the isolated nature of many of the fishing and hunting areas mean that significant coverage by staff is not possible. Rangers make a large contribution to law enforcement and compliance efforts. Rangers are warranted by the Director of Fish and Game New Zealand and trained by the Hawke's Bay Region. They are often the front line contact between anglers and hunters and Fish and Game New Zealand. Their assistance increases the enforcement effectiveness of the Hawke's Bay Region.

#### **4.5.1.1 ISSUES**

1. Licence sales are Fish and Game New Zealand's revenue base. Non-licensed anglers and hunters create additional costs, but do not contribute to the management of the fish and game resource.
2. Poaching and non-compliance may threaten the sustainability of the sports fish and game bird resource.
3. Spawning streams and game bird moult sites are particularly susceptible to poaching activities.
5. Compliance and enforcement operations have not always been cost-effective or well organised in the past.
6. Achieving contacts with anglers and hunters of the Hawke's Bay region is difficult, time consuming and not cost effective as the region has many isolated hunting and angling areas.

#### **4.5.1.2 OBJECTIVE**

*Angler and hunter compliance with sports fishing and game bird hunting regulations to a level of 95% or more.*

#### **POLICIES**

**4.5.1.2(a)** To conduct targeted enforcement exercises at priority high use times of the year.

**4.5.1.2(b)** To seek cost effective penalty systems for offences against the sports fish and game bird hunting regulations, for example instant fines.

**4.5.1.2(c)** To maintain an effective number of well-trained rangers and stipendiary officers, who are capable of effective enforcement.

**4.5.1.2(d)** To make field contact with 10% of licence holders each year.

**4.5.1.2(e)** To initiate prosecution procedures, consistent with national policy, where offences concerning sports fish and game birds are detected.

## **METHODS**

*Methods may include:*

1. Reported incidents of illegal activity will be given priority for enforcement efforts.
2. High usage areas and times will be given priority for enforcement efforts.
3. Advocacy for implementation of instant fines.
4. Development of a system for evaluating and acting upon information on non-compliance.
5. Maintenance of a database for ranger activity, incident reports, offence reports, and prosecutions.
6. Criteria for the appointment of rangers, and annual review of their performance.
7. Performance measures set for rangers.
8. Training and appropriate resources for all warranted officers.
9. Trained personnel available to prosecute in courts throughout the region.
10. Education of licence holders as to the sports fish and game bird hunting regulations as published annually in the New Zealand Gazette.

### **4.5.2 COMMUNITY ASSISTANCE**

#### **BACKGROUND**

Licence holders are an integral part in achieving Fish and Game New Zealand's compliance objectives. Illegal activities are not condoned by the majority of licence holders. Increasing numbers of anglers and hunters, and members of the community in general, report illegal activities to Fish and Game New Zealand. One of the strengths of the Fish and Game system is the ability for users of the resource to self-police their own system. Fish and Game New Zealand can reinforce this sense of ownership. It is important that the Hawke's Bay Region effectively encourages reporting of offences and makes use of the assistance of licence holders and the general public to achieve compliance objectives.

#### **4.5.2.1 ISSUES**

1. Often members of the community are not aware of the need for fishing and hunting regulations.
2. Licence holders need to retain a sense of ownership of the fish and game management system.
3. Licence holders and the community need avenues through which to report fish and game offences.

#### **4.5.2.2 OBJECTIVE**

*Licence holders and a community who are aware of the need for compliance with sports fish and game bird hunting regulations.*

#### **POLICIES**

**4.5.2.2(a)** To encourage the general community to report offences when they occur.

**4.5.2.2(b)** To build public co-operation.

**4.5.2.2(c)** To publicise successful enforcement efforts, without compromising future compliance activities.

#### **METHODS**

*Methods may include:*

1. Use of educational material to encourage the public to report offences or concerns.
2. Promotion of the 0800 phone service for reporting offences. Investigation into additional ways for the public to easily contact Rangers.
3. Publication of successful enforcement efforts, without compromising future compliance activities.

## 4.6 LICENSING

***Goal: To optimise the sale of angling and hunting licences as valued products.***

### 4.6.1 LICENCE ADMINISTRATION

#### BACKGROUND

Funding for fish and game management is obtained almost solely from the sale of hunting and fishing licences. Fishing and hunting licences purchased in the Hawke's Bay region are inter-available throughout New Zealand, apart from the Taupo Fishing District. Hawke's Bay Region licence sales are therefore affected by national and regional marketing strategies. In recent years, implementation of computerised systems has facilitated the sale and distribution of licences, collection of income, and communication with licence agents and licence holders.

The implementation of a fishing guide's licence seems imminent. National policy has yet to be developed for this licensing. The Hawke's Bay Region would need to manage licences for guides in accordance with national policy when it is developed.

#### 4.6.1.1 ISSUES

1. Without the sale of fishing and hunting licences it is not possible to finance fish and game management activities.
2. Fish and Game New Zealand licences are inter-available throughout New Zealand apart from the Taupo Fishing District. As a consequence the Hawke's Bay Region of Fish and Game New Zealand does not have direct communication with each angler or hunter who fishes or hunts the region.
3. National licensing strategies influence the sale of Hawke's Bay Region licences and may impact upon regional licence revenue.
4. Fishing guides benefit from the use of the sports fish resource. A rental for the commercial use of the resource should be recovered.

#### 4.6.1.2 OBJECTIVE

*Effective and efficient administration and marketing<sup>8</sup> of the sale of hunting and fishing licences.*

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<sup>8</sup>Marketing and promotion of licence sales is covered in chapter 3 – Participation.

## **POLICIES**

**4.6.1.2(a)** To ensure that the licensing system returns 100% of monies owed to the Hawke's Bay Region and that licence books are promptly returned.

**4.6.1.2(b)** To maintain a licensing system that accounts for all licences sold throughout the year.

**4.6.1.2(c)** To develop appropriate marketing and sales strategies based on licence sales.

**4.6.1.2(d)** To sell licences in accordance with national and regional marketing strategies.

**4.6.1.2 (e)** To operate and administer a guides licence regime as provided by section 26Q (1) (f) (iii) of the Conservation Act 1987, inline with Fish and Game national policy when developed.

## **METHODS**

*Methods may include:*

1. Maintenance of a computer database of all licence holders, including electoral details.
2. Review and monitoring of licence sale trends.
3. Maintenance of a computer database of all licence books and licence agents.
4. Financial incentives for licence agents to promptly return licence books and money.

## **4.6.2 LICENCE AVAILABILITY**

### **BACKGROUND**

Part of Fish and Game New Zealand's commitment to improve the services offered to its clients is to ensure that recreational anglers and hunters can easily purchase a licence. A range of licence sale options have been put in place. These enable anglers and hunters to purchase the licence that best meets their requirements. Although an increasing number of licences are sold directly by the Hawke's Bay Region, the majority are sold by licence agents. As a direct link with Fish and Game New Zealand's clients, effective communications between the Hawke's Bay Region and agents are vital.

### **4.6.2.1 ISSUES**

1. Angling and hunting are more accessible if it is easy to purchase a licence.
2. Licences agents are not always provided with appropriate information and as a consequence licence holders are not as well informed as they could be.
3. The licence categories available do not necessarily meet the requirements of all anglers and hunters.

#### **4.6.2.2 OBJECTIVE**

*Licences are readily available for purchase.*

#### **POLICIES**

**4.6.2.2(a)** To provide opportunities for anglers and hunters to purchase licences.

**4.6.2.2(b)** To ensure that licence agents have the ability to sell licences and communicate with anglers and hunters.

**4.6.2.2(c)** To provide and maintain a range of licence sale categories for anglers and hunters.

#### **METHODS**

*Methods may include:*

1. Investigation into innovative and alternative licence purchase options such as mail, telephone, and Internet ordering for purchase of licences.
2. Maintenance of regular communications with, and provision of, information and education to licence agents.
3. Prompt distribution of licences to approved agents.
4. Advocacy for licence categories that reasonably meet the requirements of anglers and hunters while maintaining the financial base of the Hawke's Bay Region.

## 4.7 COUNCIL

***Goal: To provide for the governance of the fish and game system by fish and game licence holders.***

### INTRODUCTION

Fish and Game New Zealand is a user pays user says organisation. Twelve regional Fish and Game Councils manage it on a regional basis. Adult whole season licence holders elect council members for each region for a three year term. Each Council is made up of 12 members who are current adult whole season licence holders.

#### 4.7.1 COUNCIL ROLES

##### BACKGROUND

The main role of the Council is to establish the policies and direction for the operation. Section S26ZD of the Conservation Act (1987) requires regional Fish and Game Councils to meet at least six times each year. Meetings are held for Council to consider issues affecting fish and game management. The major roles of Council are to set policy and ends objectives, approve the Operational Work Plan and budget, to monitor the achievement of outcomes as specified in the Operational Work Programme. Council is subject to the Local Government Official Information and Meetings Act 1987. All Council meetings are therefore publicly notified and open to licence holders and interested parties to attend.

In order to achieve its functions, it is essential that Council is effectively serviced. Preparation of agendas, meeting reports, and minutes are part of the manager and staff's commitment to Council. These papers associated with meetings are available to licence holders and the general public. Any organisation or individual may contact the Council for consideration of agenda items for discussion at meetings.

##### 4.7.1.1 ISSUES

1. Fish and Game Councils are required to meet sufficiently regularly to meet statutory requirements as well as operational needs.
2. Council meetings require adequate notification to ensure that the public has a reasonable opportunity to attend.
3. Council needs to be effectively serviced in order to carry out its governance role.

##### 4.7.1.2 OBJECTIVE

*Maintenance and support for the Council in its governance role.*



## **POLICIES**

**4.7.1.2(a)** To hold Council meetings on a regular basis as per Section 26ZD of the Conservation Act 1987, including one Annual General Meeting.

**4.7.1.2(b)** To provide accountability through monitoring achievement of outcomes as described in the Operational Work Programme.

**4.7.1.2(c)** To encourage public participation at Council meetings, including the Annual General Meeting.

## **METHODS**

*Methods may include:*

1. Provision of information by the regional manager and staff to enable Council to develop policy and provide direction to the Operational Work Programme.
2. Preparation of minutes resulting from Council meetings.
3. Meeting agendas and minutes available to licence holders.
4. Advertisement of the date and location of its meetings.
5. Opportunity for organisations to raise issues for discussion at Council meetings where appropriate.
6. Opportunity for members of the public to have input at Council meetings.

## **4.7.2 COUNCIL ELECTIONS**

### **BACKGROUND**

Maintenance of democratic processes is central to the user pays user says concept. Fish and Game Council elections are therefore held at three yearly intervals. The Conservation Act 1987 sets out requirements and procedures for elections. These processes must be met in order to ensure that elections are democratic and held in accordance with the statute. Licence holder ownership of fish and game management and involvement is based upon the Council system, so it is important that all full season licence holders are given the opportunity to vote for Council representatives. Vacancies may arise on the Council from time to time, and these are dealt with in an appropriate manner.

#### **4.7.2.1 ISSUES**

1. It is necessary to maintain democratic elections to ensure the continuation of the “user pays user says” concept.
2. Vacancies may arise on the Council in the period between elections.

#### **4.7.2.2 OBJECTIVE**

*Three-yearly Fish and Game Council elections.*

#### **POLICIES**

**4.7.2.2(a)** To ensure that no licence holder is denied the opportunity to be on the electoral role and to encourage a high voter participation.

**4.7.2.2(b)** To ensure that all statutory requirements are met in an efficient and timely fashion.

**4.7.2.2(c)** To follow national guidelines for replacement Councillors where a vacancy arises.

#### **METHODS**

*Methods may include:*

1. Promotion of participation and licence holder involvement in elections.
2. Maintenance of an electoral roll of all adult whole season fish and game licence holders.
3. Briefings for new Councillors as to the responsibilities and functions of the Fish and Game Council following an election.

## 4.8 PLANNING AND REPORTING

***Goal: Cost effective and appropriate business management of fish and game resources is ensured.***

### INTRODUCTION

The Hawke's Bay Region of Fish and Game New Zealand is an independent business and requires effective planning and reporting systems. Preparation of key planning documents assists the cost effective management of Fish and Game activities. Planning and reporting systems also enable the Hawke's Bay Region to establish clear direction and to provide accountability to licence holders. As there are formal procedures for consultation with users of the resource, anglers and hunters are able to contribute to the planning process.

#### 4.8.1 EFFECTIVE BUSINESS PLANNING

##### BACKGROUND

In addition to standard business planning practices, the Conservation Act 1987 places a number of statutory requirements on Fish and Game New Zealand. The responsibilities to be met by Council include:

- Preparation of a Sports Fish and Game Bird Management Plan. The plan sets out the ways in which the Council will management the fish and game resource for the following 10 years. The plan must be reviewed after 10 years, but may be reviewed sooner.
- Approval of an Operational Work Programme (OWP). OWP must be approved annually by the Minister for Conservation until an approved Sports Fish and Game Bird Management Plan is in place. The OWP describes projects to be completed for the year, staff time and costs involved, and budgetary requirements. The OWP should address the objectives defined in the Management Plan.
- Preparation of an annual report, including a Statement of Service Performance. An annual report is presented to Parliament, and to the Annual General Meeting of the Hawke's Bay Fish and Game Council. The annual report provides assistance with on-going management planning. It documents activities undertaken for the year, and the degree to which objectives are being met by the Hawke's Bay Region.
- A bi-monthly budget and financial report for Hawke's Bay Region of Fish and Game New Zealand, quarterly to New Zealand Fish and Game Council and the Minister of Conservation, and annually to Parliament and the Annual General Meeting.

The reports are a public check on the Hawke's Bay Region's performance. They provide an assessment of the organisation as a cost effective manager of the fish and game resources in the Hawke's Bay region.

### **4.8.1.1 ISSUES**

1. Responsibilities will not be met by the Hawke's Bay Region without meeting statutory planning requirements.
2. Without effective planning, management by Fish and Game New Zealand in the Hawke's Bay region will not be cost effective.

### **4.8.1.2 OBJECTIVE**

*Plans and reports that enable the Hawke's Bay Region to operate a successful business while sustainably managing the Hawke's Bay region sports fish and game bird resource.*

### **POLICIES**

**4.8.1.2(a)** To monitor performance on a regular basis.

**4.8.1.2(b)** To consult with licence holders and interested parties in the planning process.

**4.8.1.2(c)** To prepare annual budgetary estimates for the Hawke's Bay Region and New Zealand Fish and Game Council.

**4.8.1.2(d)** To plan annual Operational Work Programmes through the Sports Fish and Game Bird Management Plan.

**4.8.1.2(e)** To complete all statutory reporting within the time frames set by the Hawke's Bay Region and legislation.

### **METHODS**

*Methods may include:*

1. Review financial performance and compare to budget.
2. Operation of a consultative process with anglers and hunters and interested parties to develop Annual Operational Work Programmes.
3. Comparison of work efforts and projects with the Operational Work Programme.
4. Preparation of annual reports, including Statement of Service Performance and financial statements to present to Parliament and the Annual General Meeting of the Hawke's Bay Fish and Game Council.
5. Provision of an operational report and financial report to each meeting of Council.
6. Reviews to ensure that the Annual Operational Work Programmes conform to the requirements of the Sports Fish and Game Bird Management Plan.

## **4.8.2 NATIONAL CO-ORDINATION**

### **BACKGROUND**

The Hawke's Bay Region does not operate in isolation. An important aspect of effectively managing fish and game throughout New Zealand is liaison with other regional councils and the New Zealand Fish and Game Council. Fish and Game regions can work co-operatively on a regional basis to improve the management of the resource. Opportunities also exist for Councils to work collectively on nationally important issues. Further opportunities to share information and skills should be identified to ensure that regions work effectively together.

#### **4.8.2.1 ISSUES**

1. National coordination has been ineffective in the past.
2. Some issues cannot be effectively dealt with in isolation from other Fish and Game regions.
3. Some regions may not be familiar with nationally important issues.
4. Communication and cooperation between regions, for better value and services for licence holders, needs to be improved.

#### **4.8.2.2 OBJECTIVE**

*All Fish and Game regions and New Zealand Council working effectively together.*

### **POLICIES**

**4.8.2.2(a)** To maintain effective liaison with New Zealand Fish and Game Council and regional Fish and Game Councils.

**4.8.2.2(b)** To attend organised meetings within the national Fish and Game structure.

### **METHODS**

*Methods may include:*

1. Maintenance of good communications with New Zealand Fish and Game Council and regional Councils.
2. Response to requests for comment or information from within the Fish and Game structure.

## **4.9 ADMINISTRATION**

***Goal: The business of Fish and Game New Zealand is managed in an effective and cost efficient manner.***

### **4.9.1 ADMINISTRATION**

#### **BACKGROUND**

Administration is made up of a wide range of non-specific activities that are necessary for the general functioning of Fish and Game New Zealand. Effective administration contributes to the high level of professionalism within the Hawke's Bay Region, and between the Hawke's Bay Region and outside organisations. Financial administration requires well-planned budgeting, reporting and accounting systems. Systems have been developed to ensure that both national and regional objectives for fish and game management are met.

Council and staff require a suitable work environment in order to effectively carry out their responsibilities and functions. The work environment includes office areas, administrative support, field, office, grounds; and off-site buildings. On-going maintenance and replacement of these assets and systems is an important aspect of Fish and Game New Zealand's operations.

#### **4.9.1.1 ISSUES**

1. Well-planned budgeting, reporting, and accounting systems for financial administration may not be always undertaken.
2. A suitable work environment for the Hawke's Bay Region Council and staff may not be always provided.

#### **4.9.1.2 OBJECTIVE**

A suitable work environment, equipment, and effective administrative support for the Hawke's Bay Region Council and staff.

#### **POLICIES**

**4.9.1.2(a)** To provide suitable field and office equipment for staff to effectively carry out their duties.

**4.9.1.2(b)** To provide administrative support for the operations of the Hawke's Bay Region.

## **METHODS**

*Methods may include:*

1. Maintenance of all Hawke's Bay Region assets and a replacement schedule for all office, field, and hatchery equipment.
2. Maintenance of administrative systems to ensure effective running of Fish and Game New Zealand's activities.
3. Maintenance of an efficient accounting system.

### **4.9.2 STAFF**

#### **BACKGROUND**

One of the regional manager's roles is to develop an operational structure for the staff group. The regional manager therefore allocates individual responsibilities and accountabilities according to the Sports Fish and Game Bird Management Plan and annual operational work programmes. In order for Fish and Game New Zealand to carry out its functions, it is important that there is a well-trained and capable staff resource available. Staff training is essential to ensure that staff are kept up-to-date with advances in knowledge on fish and game matters, resource management, administration, and technology. Opportunities for staff development improve the skill base and functioning of the staff team as well as individual performances.

##### **4.9.2.1 ISSUES**

1. Staff are not always aware of their responsibilities and roles.
2. Staff are not always up-to-date with advances in fish and game knowledge, resource management, and technology.

##### **4.9.2.2 OBJECTIVE**

*An effective and efficient staff group.*

#### **POLICIES**

**4.9.2.2(a)** To provide for the regional manager to allocate individual staff responsibilities and accountabilities according to the Sports Fish and Game Bird Management Plan and annual operational work programmes.

**4.9.2.2(b)** To meet national guidelines regarding staff employment.

**4.9.2.2(c)** To meet the requirements of Sections 56 and 58 of the State Sector Act (1988).

**4.9.2.2(d)** To provide equal opportunity for all job applicants.

**4.9.2.2(e)** To maintain effective internal communications amongst staff.

**4.9.2.2(f)** To provide opportunities for staff training and development.

**4.9.2.2(g)** To provide for staff welfare as per the Occupational Safety and Health Act.

## **METHODS**

*Methods may include:*

1. Maintenance of regular staff and planning meetings.
2. Specific training opportunities to suit the individual requirements of staff and the Hawke's Bay Region Council.
3. Annual staff salary and job assessments carried out between staff and the regional manager.
4. Adherence to the provisions and intent of the Health and Safety in Employment Act, Privacy Act, and other legislation relevant to Fish and Game New Zealand's operation.
5. Meeting national policies relating to occupational health and safety.

## **4.9.3 SPONSORSHIP**

### **BACKGROUND**

While Fish and Game New Zealand's work is financed through the sale of licences, there are some projects where alternative sources of funding are more appropriate. Outside funding may also be useful in cases where projects have a high public profile and there is benefit in terms of publicity or public relations to external organisations.

#### **4.9.3.1 ISSUES**

1. Relying totally on licence revenue to fund projects restricts the activities that can be undertaken.

#### **4.9.3.2 OBJECTIVE**

*Funding from sources other than licence revenue for specific projects where appropriate.*

### **POLICIES**

**4.9.3.2(a)** To investigate alternative options for funding of projects that may be external to Fish and Game New Zealand's core activities.

**4.9.3.2(b)** To pursue sponsorship or advertising that is compatible with fish and game management values.



## **METHODS**

*Methods may include:*

1. Promotion of fish and game values and mutual benefits to external organisations.
2. Consideration of a wide range of funding options.
3. Investigation into potential for long-term partnerships to contribute to the management of the Hawke's Bay Region.
4. Investigation of support for or assistance with sponsorship applications with appropriate whanau, hapu taiwhenua and NGATI KAHUNGUNU IWI INCORPORATED.

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# APPENDIX 1

## FIRST SCHEDULE OF THE WILDLIFE ACT 1953

### Wildlife declared to be game

- Black swan (*Cygnus atratus*) (except on Chatham Islands)
- Canada goose (*Branta canadensis*)
- Chukar (*Alectoris graeca 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*)
  - Spoonbill duck (New Zealand shoveler) (*Anas rhynchotis*)

### Partridge—

- 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 ypsilophorus*).
  - Californian quail (*Lophortyx californica*).
  - Virginian quail (*Colinus virginianus*). •

## APPENDIX 2

### FIRST SCHEDULE OF THE FRESHWATER FISHERIES REGULATIONS (1983).

For the purposes of the Act and these regulations, “sports fish” means—

- (a) Brown trout (*Salmo trutta*):
- (b) Rainbow trout (*Oncorhynchus mykiss*, formerly known as *Salmo gairdneri*):
- (c) American brook trout or char (*Salvelinus fontinalis*):
- (d) Lake trout or char (*Salvelinus namaycush*):
- (e) Atlantic salmon (*Salmo salar*):
- (f) Quinnat or chinook salmon (*Oncorhynchus tshawytscha*):
- (g) Sockeye salmon (*Oncorhynchus nerka*):
- (h) Perch (*Perca fluviatilis*):
- (i) Tench (*Tinca tinca*):
- (j) Rudd (*Scardinius erythrophthalmus*) found or taken in the Auckland Acclimatisation District—

and includes any hybrid and the young, fry, ova, and spawn, and any part of any such fish; but does not include salmon preserved in cans and imported into New Zealand.

## APPENDIX 3

### GAZETTE REFERENCE: HAWKE'S BAY REGION

New Zealand Gazette, 24 May 1990, No. 83, p 1861

Pursuant to section 26a (1) (c) of the Conservation Act 1987 (as inserted by section 17 of the Conservation Law Reform Act 1990), I, Philip Tosswill Edmond Woollaston, Minister of Conservation, hereby define for the purposes of part V A of the Conservation Act, the following fish and game regions:

5. *Hawke's Bay Fish and Game Region*

There is hereby defined a Fish and Game Region, to be known as "The Hawke's Bay Fish and Game Region", which shall comprise the area delineated on S.O. Plan 10031, deposited with the Chief Surveyor of the Hawke's Bay Land District.

## **APPENDIX 4**

### **SIGNIFICANT SPORTS FISH AND GAME BIRD HABITATS IN THE HAWKE'S BAY REGION**

#### **NORTHERN SUB-REGION**

Catchments of;

- Waikari River
- Aropanui River
- Esk River
- Mohaka River
- Lake Tutira
- Margins of all the above

Wetland associations of;

- Waitangi wetland
- L Oingo
- L Runanga
- Tukituki River mouth
- Hurimoana Swamp
- Ahuriri Estuary

#### **CENTRAL SUB-REGION**

- Ngaruroro River catchment
- Tukituki River catchment
- Margins of the above
- Wetland associations of Lake Poukawa

#### **SOUTHERN SUB-REGION**

- Tukituki River catchment
- Porangahau River catchment

Wetland associations of:

- L Hatuma
- Pirimu L
- Horseshoe L
- Porangahau Estuary and coastal area north of the estuary
- Wanstead Swamp

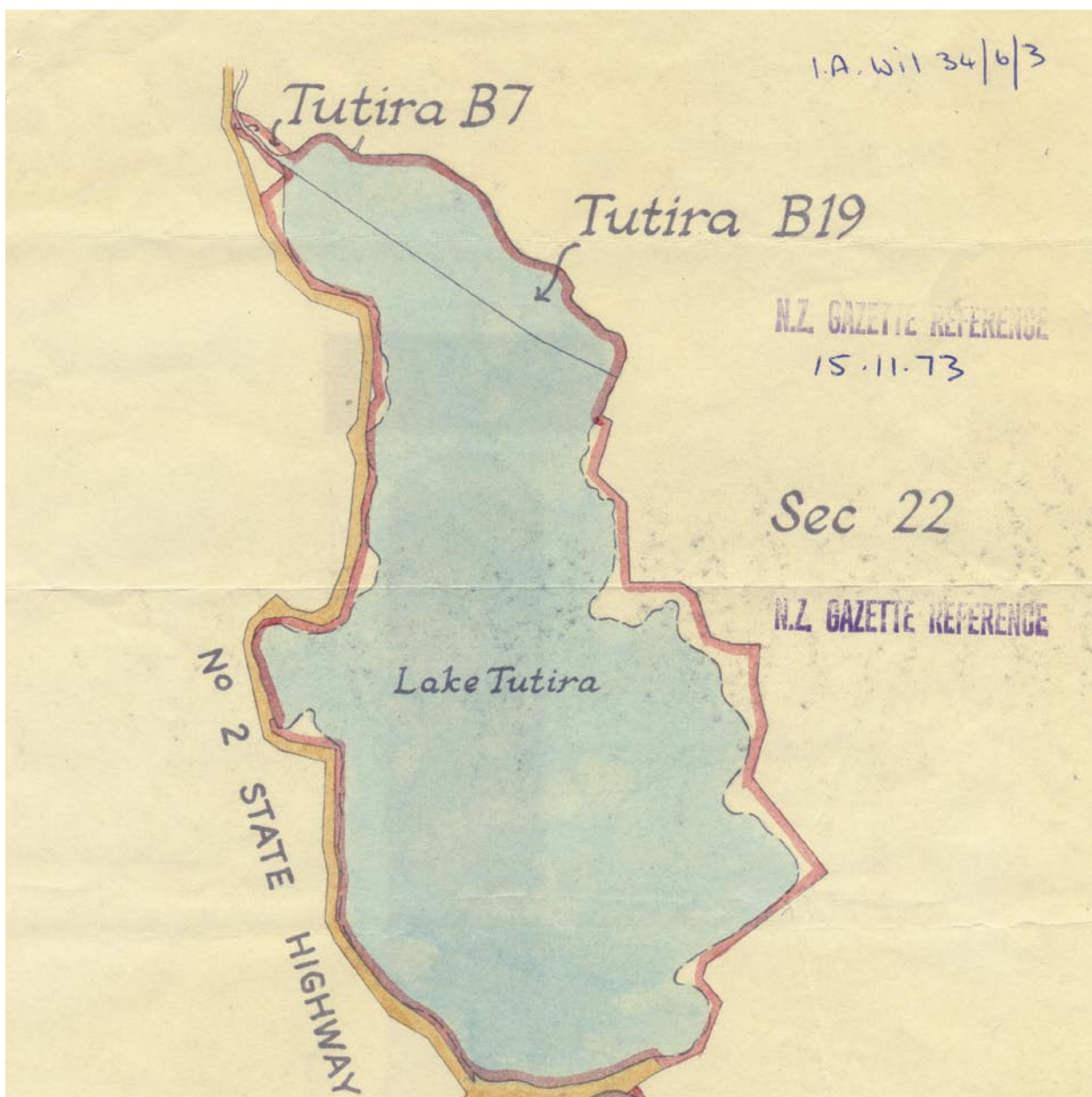
## APPENDIX 5

### LAND MANAGED BY FISH AND GAME NEW ZEALAND, HAWKE'S BAY REGION

The bed of the northern end of the lake (16 ha) is Maori owned, reference plan S.O.5343, Tutira B19 (ML 1707) and B7 (ML 1711), and is currently leased at no cost by Fish and Game with the lease due to expire in 2016.

As a condition of the lease Fish and Game are required to pay any rates demand and carry out any plant or animal pest control as directed under any pest management strategy in force for the area.

The following map outlines the areas currently leased by Fish and Game.





## APPENDIX 6

### BOUNDARY MAP AND CONTACTS FOR TAIWHENUA

# Taiwhenua o Kahungunu contacts

