



Course Development Plan: 2015-2025

Overview

The **Course Development Plan** (CDP) defines a programme of developments and improvements which support and form part of the **Waikanae Golf Club Strategic Plan** (as Annex B to that plan). The CDP is complemented by the **Course Standards and Maintenance Schedule** (Appendix 3) which deals with ongoing maintenance

The **Vision Statement of the Strategic Plan** is “experiencing enjoyable golf at Kapiti’s most welcoming club. The elements of enjoyable golf specifically relevant to the course are:

- Course design that provides interest and challenge
- Course laid out and set up to predictably high standards
- Course grooming that optimises playability and visual pleasure
- Practice facilities that are suitable for all aspects of play

Our Mission is to promote the growth and development of the club and ensure its long term financial viability for the benefit and enjoyment of all present and future members and visitors. Accordingly: The course will be maintained and developed to provide the best possible course for the majority of members given the location, natural characteristics and financial considerations. We must provide an enjoyable and playable course for all members and visitors including new and older players and a challenging course for low handicap players, and events such as the pro-am tournament.

The general nature of the course, governed by the natural land forms will be preserved to the extent practicable. The course is generally open and undulating due to its position on former sand-hills and reclaimed swampland. Streams enhance the course and are essential for drainage of the course and adjacent swampland. Stream boundaries should be improved aesthetically and maintained to minimise maintenance demands. Plantings will be selected and located to have minimal impact on playability of the course, to provide a pleasant and ecologically sound environment and be economically maintained. Trees will generally be native varieties. Those used to define and separate fairways will be predominately Pohutakawa which are suited to the terrain and the weather and wind borne salt air. Structures such as bridges, formed paths and retaining walls will be designed to blend in with the natural land forms and impose minimal visual and physical impact and require minimum maintenance.

Course developments will support economically and ecologically sustainable management practices. This Course Development Plan is supplemented by Appendixes:

- Course Developments Planned – Hole by Hole (**Appendix 1**)
- Long term issues (**Appendix 2**)
- Course Standards and Maintenance Schedule (**Appendix 3**)
- Ecology Strategy (**Appendix 4**)

Development and ratification of plan

The draft plan was developed initially by John McConway, the Greens Committee in conjunction with the Course Superintendent in 2012 and following consultation with members it was developed further and ratified by the Board as club policy for development and improvements to the course. This plan was extremely comprehensive and thorough.

Under John's and Bryan Kilmister stewardship, 7 priorities from the agreed course development plan have been completed 2012-2015 and as part of this review, they have been removed from the updated plan.

Tommy Cushnahan, a successful golf course architect was engaged in April 2015 as a consultant and has produced his recommendations for the improvement of several holes, notably 5th, 7th, 10th, 15th, 16th and 18th and these have been considered by the Green's committee and incorporated into this revised course development plan.

The planning period is 10 years; this revised plan will cover the period **2015 to 2025**. It will be reviewed each year. An annual work plan will be developed each year from this plan by the Greens Committee in conjunction with the Course Superintendent to address significant development requirements. This will involve reassessment of priorities in conjunction with budgetary constraints. Significant projects will be detailed as a standalone project including specifications, timelines and budgets.

Small projects and tasks will be programmed by the Course Superintendent to make the most efficient use of resources within normal course maintenance demands.

Member Consultation

Comments and suggestions are invited from all club members, in writing to the Course Convenor care of the Office Manager or by email to waikanae@golf.co.nz (subject Course Development Plan). The course development plan and all member comments will be reviewed annually and the plan amended accordingly.

Scope

The scope of this plan encompasses all the land the club owns or leases including the course, plant and turf nurseries, practice facilities and maintenance areas. This plan does not include the clubhouse and surrounds or the car park which will be addressed separately. An acquisition and replacement programme for equipment necessary for the maintenance of the course will be developed separately.

This development plan assumes that the course par and course ratings will be maintained at current 2015 values. Should a significant change to these values be proposed the merits and cost of such a change will first be determined then if appropriate any structural changes to achieve such a determination will be considered. It is expected that if fundamental changes to the course are considered then the services of a course architect will be employed.

Development issues are documented below in relation to the essential course components including greens, tees, fairways and rough:

- **Greens:** The current renovation programme will be continued to reduce organic matter and Poa-Annua making the predominant grass variety creeping bent which is less susceptible to

disease and demands less water. It also provides a smoother, more consistent putting surface.

- **Tees:** All tee blocks will be renovated by rotation to maintain level surfaces, quality turf and sloping surrounds to provide adequate drainage and efficient access for mowers.
- **Fairways:** Fairways will be renovated to provide improved turf quality. A build-up of thatch since irrigation was introduced indicates a need for regular aeration. The on-going process of reinforcing grass varieties which require less water and are more disease and pest resistant will be continued.
- **Rough:** All areas beyond the greens, tees and fairways will be defined as rough; first, second and long. The first cut will generally be within 3 to 5 meters of the fairway. The second cut will be the remaining maintainable areas of the course apart from defined hill areas and amongst significant treed areas. Long rough will be maintained to be predominantly grassed with fescue providing open, sparsely grassed ground in which a ball should be readily found. It should demand minimum maintenance. Areas which are too steep or inaccessible for mowing will be cleared of noxious plants such as blackberry and gorse and planted with native plants which are most appropriate to the specific areas and which will require minimum maintenance.
- **Trees:** The predominant tree variety to define and separate fairways will be Pohutakawa. In other areas native varieties which are most appropriate to the specific location will be selected. Introduced varieties including pines, macrocarpa and willows will be progressively removed and replaced with appropriate native varieties. Where possible pine and Macrocarpa will be culled at a rate which has minimum impact on the playability of the course and enables them to be split and sold for firewood as they are felled. It is important that trees are culled before they become of a size that makes them difficult or expensive to deal with. To the extent practicable, new plantings will be made to achieve a reasonable size before the existing trees are culled. Where appropriate, temporary “nursery” planting will be employed to protect new trees and to achieve the desired effect while the long term trees grow to maturity. Potentially large varieties such as Kahikatea, Rimu, Totara, Karaka and Puriri should be planted as soon as possible in appropriate areas to provide a long term legacy for future generations of club members. Other varieties which are observed to thrive in this environment include Manuka, Pittosporum, Griselinia, Ake Ake Karaka, Kohekohe, Tawa and Silver Beech (*Nothofagus Menziesii*). Banksia, Cabbage trees and Flax will be progressively removed from any areas where they interfere with course maintenance. They all cause unnecessary damage to mowers. Norfolk Pines will be progressively removed or replaced. Their roots create large unplayable areas and their propensity for catching and stealing balls is a cause of slow play.
- **Bunkers:** Bunkers will continue to be maintained with local sand, this being economically and environmentally sound.
- **Irrigation:** The irrigation system will be maintained and incrementally improved. The water rights allocation will be reviewed and application for increased rights made where it is technically and economically feasible. Course management practices including conversion to grass varieties which demand less water will be implemented wherever practical. The cost of irrigation is expected to increase and access to suitable water will become more difficult in the future.
- **Drainage:** Effective drainage is already a problem in some areas and this can be expected to be more challenging in the face of projected global warming and periodic weather variations. While we cannot impede the main stream through the course which drains the adjacent wetlands and is considered to be important for Whitebait breeding, we will investigate options to improve drainage including use of non-return valves for the ditches

which drain into the main stream left of 18, alongside 13 and alongside 2. Improved drainage for the practice fairway and 1st fairway will be investigated.

- **Security:** Fence the access from Atua St adjacent to the existing gate.

Specific course developments planned on a Hole by Hole detailed basis are contained within **Appendix 1**.

Cliff Martin

Cliff Martin - Course Convenor

Appendix 1 - Course Development Plan 2015-2025

Course developments planned – Hole by Hole

The specific developments planned on a hole by hole basis are shown in the table below. The Green's committee have prioritised the developments, in consultation with the Course Superintendent. Once approved by the Board, cost estimates will be obtained, funding through grants, budgets or fund raising and consent approval where required, can be progressed.

The priority column indicates the priority for action, with **1 indicating this is the top priority for development, within 3 years; 2 is medium priority and 3 is lower priority.**

Hole	Detail of development	Agreed priority		
		1	2	3
1st	<ol style="list-style-type: none"> 1. Remove Norfolk Pine behind the green: provides unwanted shade to green on frosty day and delays start times 2. Willows to the right of the fairway which define the dogleg and protect the practice fairway will be replaced by Pohutakawas. 3. The rough to the left which is a natural thoroughfare for course maintenance vehicles will be developed as a formed road to the extent possible while retaining natural drainage to the swamp. This will help define the extent of the hazard more clearly. 	X		X X
2nd	<ol style="list-style-type: none"> 1. The ditch to the right will be realigned and formed as a wide swale to follow the base of the hill. 2. The fairway will be built up using fill from realignment and smoothed to provide natural drainage to the ditch which will be formed as a wide swale. 			X X
3rd	<ol style="list-style-type: none"> 1. Remove Banksia to right of green: cones cause damage to mowers 2. The ground between the fairways will be mounded and maintained as secondary (long) rough. The Pohutakawas will remain and develop into a barrier between the 3rd and 5th fairway. 3. The hill to the right will be modified to enable it to be maintained more easily. 4. The existing bridge from the 3rd to the 12th will remain for light foot and cart traffic only. A new bridge will be built, approximately halfway up the 3rd fairway and this will be the major access bridge for greenkeeping equipment. Plans have been drawn up, grants applied for and application for consents from both Wellington Regional Council and KCDC will be submitted. Once these conditions have been complied with, the bridge will be built. 	X X X	X	
4th	<ol style="list-style-type: none"> 1. Move the green to the right, in the longer term, to take the hill out of play and reduce the likelihood of balls flying into gardens of the neighbouring properties 			X
5th	<ol style="list-style-type: none"> 1. Remove the willows left of the tee blocks to allow more light onto the tees, minimise root intrusion and reduce wind blown debris. 2. The right hand greenside bunker on 5th is very quick to flood and could easily be converted into a grassy mound meaning less time out of play. 			X X

Hole	Detail of development	Agreed priority		
		1	2	3
6 th	<ol style="list-style-type: none"> 1. 6th Hole. A new fence no lower than 1.8 metres with close mesh will be constructed alongside the RHS of the green to replace the current, shabby OOB fence. This will provide some measure of fairness for a player whose ball that may be marginally off line and currently kicks over the fence. It is highly unusual and extremely unfair for an OOB to be sited so close to the side of an elevated green. The drop zone remains. 2. Eliminating the grass bunker in front of the 6th green. 3. The grass below the ridge line between the green and the fence will be allowed to grow longer to reduce the likelihood of balls going out of bounds while retaining an element of punishment for poor shots. 4. The ridge to the right of the green will be carved off and a catching bunker created from abeam the front edge of the green to 3 to 4 meters from the back of the green. 5. Cut out the pines on the hill to the left before they become difficult to manage. 	X	X X	X X
7 th	<ol style="list-style-type: none"> 1. The area between the 6th and 7th, below the 6th tee, will be allowed to become rough and planted with fescue grass to make the landing area for shots hit from the 7th tee to be less attractive when hitting out onto the 6th fairway. 2. The apron in front of the green will be built up to reduce the likelihood of balls running off the green when putting from top to bottom tier. 3. The high area to the left of the fairway will be lowered as soon as sand mining in that area is complete to reduce the slope and reduce water runoff so that turf quality on the slope and in the gully in front of the green can be improved. 	X		X X
8 th	<ol style="list-style-type: none"> 1. The hill to the right between the alternative paths to the 8th green will be re-contoured and planted in low maintenance plants to make it lower and enable it to be more effectively maintained. 2. The slope in front of the left hand tee block will be planted with grasses and small trees and shrubs. 3. Renovate tee blocks 		X	X X
9 th	<ol style="list-style-type: none"> 1. This hole is the subject of major realignment and reconstruction as a result of agreement reached with Maypole Development Trust, the details of which are available on the website, via this link 			
10 th	<ol style="list-style-type: none"> 1. Remove willow on left of bridge guarding green: Tommy C. advises that this tree makes the hole unfair, unlike the opposite willow which adds a challenge for the golfer who finds themselves attacking the 10th green from the 13th fairway. 2. The gateway willow to the right of the green will be retained, for the time being and an appropriate tree, possibly Kahikatea, will be planted to replace it. 3. The northern bank of the stream will be retained with materials sympathetic to the course (possibly railway sleepers or similar). The retaining structure should be in two levels to dissipate the force of flood water more effectively and enable players to recover balls from the stream reasonably easily. A significant reason for erosion is damage by players clambering up and down the existing bank. The southern bank will be maintained as a gentle slope to provide a relatively open water course, dissipate storm water force and enable reasonably easy retrieval of balls. 	X	X	X

Hole	Detail of development	Agreed priority		
		1	2	3
11 th	<ol style="list-style-type: none"> 1. The stand of pines to the left, adjacent to the Atua St entrance to be cut out for firewood. 2. Cut out agapanthus to the left of the first hill 3. Extend the tree cover and establish long rough grass closer to the fairway. 4. The ridge below and west of the 13th white tee block will be modified to the extent necessary to enable effective maintenance as long rough. 	X		X X X
12 th	<ol style="list-style-type: none"> 1. The southern side of the hill will be planted with Ngaio to replace areas where flax and Toi Toi plantings have been unsuccessful. 2. A shallow bunker will be created between the green and the path to the southwest of the green to catch long right shots. A bunker shot is considered fairer than a shot from the rough beyond the path given the extreme slope of the green. 		X	X
14 th	<ol style="list-style-type: none"> 1. Remove the Norfolk Pine between the tee and green: This tree does not challenge the best golfers but becomes a huge problem for those golfers with a lower ball flight and is a disproportionate obstacle for what is the 3rd easiest hole on the course. It is still growing and will likely join up with the neighbouring Pohutakawa in due course if left. After its removal, the right of the green will still be guarded by the greenside bunker 2. Level the top tier to eliminate the slope away from the tee direction. 3. Replacement protective trees to be planted to protect the 15th tee and protect the stream boundary from erosion. 	X		X X
15 th	<ol style="list-style-type: none"> 1. The Norfolk Pines to the right of the fairway between the 15th and 18th at the drive landing area are unfair ball catching 'machines' and if removed will not affect the course rating. 2. The area of long rough will be extended south from the base of the hillock. 3. The two ponds will be deepened so that the water temperature will be more constant and less subject to algal blooms and seasonal weed infestation. These 2 ponds are frequently unsightly. 	X X		X
16 th	<ol style="list-style-type: none"> 1. Remove the one remaining Norfolk pine to the left of the fairway 2. The pine trees between 16 and 17 will require action toward the end of this review period. 	X		X
17 th	<ol style="list-style-type: none"> 1. The 17th tee will be levelled and the hill front right cut back to provide fill and enable the path to be straightened or alternatively realigned behind and west of the tee block. 	X		
18 th	<ol style="list-style-type: none"> 1. Remove the Norfolk Pine beside the new Ladies tee: it takes light and nutrients from the tee. 2. Remove the willow nearest the fairway alongside the 'Crocodile Pond': Tommy C. advises that this tree does nothing to pose a risk or reward shot it merely forces most mid to high handicap golfers to take a route that leaves them behind the sentinel left Norfolk pine. 3. Replacement planting of Kowhais for the remaining willows before they are removed from around the pond. 4. Retain the Norfolks guarding the approach to the green but find and plant replacement trees more suited to the course. 5. The fairway adjacent to the swamp will be raised and sloped toward the swamp to provide better drainage and to lift it above the flood level of the stream to eliminate salt damage to the turf. 	X X	X X	X
	<p>Practice fairway</p> <ol style="list-style-type: none"> 1. The practice fairway will be levelled providing a drained surface to the extent practicable without compromising the quality of the 1st fairway. 2. Erect a safety fence for protection from stray shots from the 1st tee. 	X		X

Appendix 2 - Course Development Plan 2015-2025

Long term issues

The following suggestions are documented as “long term issues “. They are generally possibilities should the club wish to extend the course but are considered to be prohibitively expensive in the short to medium term.

Hole	Long term issues
2 nd	Long term consideration will be given to extending this as a par 4 utilising the plateau across the stream and more or less below the 13th blue tee (a draft proposal is on file)
5 th	Long term consideration will be given to extending the blue tee back to the boundary fence
6 th	Long term consideration will be given to extending or relocating the 6th green to the west to help minimise the out of bounds problems. Protection of players on the 5th fairway must be a high priority in the event of such a change. The gas pipeline which passes under part of the current green will be a consideration
8 th	Long term consideration will be given to lengthening the hole by moving the green to the open area to the left of the current green
12 th	Long term consideration will be given to relocating the green to the foot of the slope between the current green and the stream. From the blue tees the 12th is considered by some to be an unrealistic Par 3. The stream and access for course maintenance will have to be taken into consideration.
16 th	Long term consideration will be given to relocating the green further toward the 17th tee.

Appendix 3 - Course Development Plan 2015-2025

Course Standards & Maintenance Schedule

Background

The Course Standards and Maintenance Schedule has been developed by the Greens Committee in conjunction with the Course Superintendent.

The standards and maintenance schedules are based primarily on the informal or de facto schedules and practices indicated by past monthly course reports and guidance material from NZ Golf and the NZ Sports Turf Institute.

The Course Standards and Maintenance Schedule is posted on the club web site for information to all club members. Suggestions, feedback or proposals can be made directly to the Course Convenor or through any member of the Greens Committee.

Purpose

The purpose of this document is to establish standards and schedules which define mutually agreed expectations of club members and guidance and performance outcomes for the Course Superintendent and staff. It is intended to support consistent management and of the course through inevitable changes in elected club representatives and committees and to employees of the club.

This document addresses day to day maintenance issues; a separate document will detail course development issues. The standards and schedules will provide a baseline for determination of course maintenance budgets and staff levels.

In establishing standards and guidelines it must be understood these apply in ideal weather conditions for the seasons and variances dictated by seasonal or short term weather patterns must be accepted.

Assessment of achievements of standards and performance in respect of the schedule will be assessed regularly by the board in conjunction with the Greens Committee.

Review

Annually; (during February)

Key aspects to be considered are:

- Greens
- Tees
- Fairways
- Rough
- Bunkers
- Supplementary issues: (paths, signs, trees, out of play areas)

Communication and delegation

The Course Superintendent and his staff are responsible to the Course Convenor appointed by the Board of Management. This responsibility includes meeting set standards and maintenance schedules and doing so within annually agreed budgets.

All supplementary instructions or requirements not documented in this document will only be accepted through the Course Convenor and will be submitted to the Course Superintendent in writing or email with the exception of requirements for tee and pin placements as detailed below.

The Club Captain or a nominated member of the Greens Committee may specify tee marker and pin placements with a minimum of 7 days notice in accordance with procedures in the Tee and Greens sections of this document.

All suggestions for changes or complaints in respect of course issues must be channelled through the Course Convenor who will consider the issue in consultation with the Greens Committee and such other bodies as considered necessary and take appropriate action.

The Course Convenor will meet the Course Superintendent at least monthly to review conditions and activity.

The Course Superintendent will submit a course report each month to the board and the Greens Committee.

Match Programme

A Match Programme is prepared monthly by the office manager and will be used to determine course presentation requirements. It should detail start times, tees to be used for starting and any particular requirements such as tee or pin placements and specific grooming requirements. Grooming requirements which are not able to be accommodated within normal staff resources and budget must be approved by the Course Convenor.

Major events should be notified as soon as possible.

Priorities

The first priority of the Course Superintendent shall be maintenance of the “in play” areas of the course and practise areas in accordance with this schedule and standards.

To the extent practicable the Course Superintendent will:

- implement upgrades and changes to the course in accordance with the Course Development Plan (under development and to be posted on the website for consultation)
- develop and improve non playing areas within the club property in accordance with the Course Development Plan.
- Maintain the Club House surrounds and car park areas

Greens

- Putting surfaces should be firm and smooth
- Characteristics of all greens, including the practise green should be consistent. Green speed 9 to 11 feet under ideal conditions.

To achieve these standards it is anticipated that the following schedules will be applied:

Mowing Heights 3 to 3.25 mm	Heights will be adjusted according to seasonal issues to achieve the desired green speed and over the height of summer may be raised to 4mm to protect the turf.
Frequency	Daily except Thursday and Saturday. Additional mowing on Saturdays may be required for interclub and other special events.
Hole rotation	Minimum twice per week
Pin placement	Rotated through four quadrants at the judgement of the Course Superintendent in accordance with conditions and wear. Rotation at least twice a week. The Match committee may specify location by quadrant for specific events provided at least a week’s notice is provided.
The course length used for establishment of the course rating shall be maintained as far as practicable by coordination of pin placement and tee marker placement except that during summer the distance may be extended by up to 20m and during winter reduced by 20m.	

Alternative holes should be cut, one short and one long to manage wear and to permit adjustment for strong wind conditions.	
Generally holes should be positioned at least 3 paces from the edge of any green	
The area within 750mm to 1m around any hole should be as nearly level as possible. Holes should not be positioned within 4 paces of any severe slope or ridge	
Rolling	Minimum once per week
Sand top dressing	not less than monthly except that and during winter the schedule will be dictated by growth conditions
Verticutting	Monthly except during winter and during hot summer conditions
Renovation (coring)	Annually during September and April
Fertilising	As required
Pest control	As required

Tee Blocks

- Tee Blocks should be level and firm.
- The areas should be adequate to enable adequate recovery. They should be aligned with the fairway
Mowing height 10 to 15 mm
- Mowing Frequency - weekly except for par 3 Blue blocks which shall be mowed twice weekly including on late Thursday or Friday to ensure suitability for Sunday Club Day.
- Sand divot repairs – weekly
- Rotation of tee markers - weekly – positions consistent with pin placements; twice weekly for par 3 white and blue blocks. On wide tee blocks the markers shall be set at a width of 4 to 5 paces for effective rotation of wear.

Fairways

- Fairways should be firm with a consistent quality of turf. Clearly defined and maintained to the width and profile used to establish the course rating.
- Mowing height - 12.5 to 18mm
- Frequency - Weekly during spring and summer; fortnightly autumn and winter to achieve a consistent surface. Balls should sit on top of the turf and permit a clean strike of the ball.

Rough

The rough is defined in two categories:

- a. Rough
- b. Long rough

Ideally, readily adjustable mowers should allow for cutting to different levels however until suitable equipment is provided the conditions may be approximated by variable frequency of mowing.

The intention is to minimise mowing costs in terms of time, fuel use and wear and tear on equipment and consequently to minimise impact on the environment. This will progressively punish wayward shots or, conversely reward accuracy. This will be addressed in the Course Development Plan.

Height 75mm which will allow a ball to nestle into the turf but be readily visible from within 20 to 30m.

Long rough

Areas clearly beyond normal play and including the hill areas which will be designated in due course in an accompanying schedule. These areas will be exclusive of hazards, GUR and other specified areas. These areas should be maintained to the extent that balls should be observable by a player within 1m.

The grass variety in these areas should be predominately fescue. These areas will be sprayed to minimise the effects of other plant varieties.

Areas which are too steep to mow safely will be designated and mitigation of the terrain will be considered in the context of the course development plan.

Bunkers

Bunkers should be maintained to collect balls in a central depression with adequate room for a full swing from this position. There should be consistency within and between bunkers

They should be shaped and raked to gather balls away from the bunker edge Sand should be clean and free of weeds and pests

Sand depth should be between 75 and 100mm

Fringe edges will be cut to a similar length as the surrounding rough Raked at least once each week

Supplementary issues - Course markings

Out of bounds

Where out of bounds is not defined by a fence or wall out of bounds will be defined by white marker pegs or flags. Where the direct line between pegs or flags cannot be readily observed, the out of bounds is indicated by the change from mown to unmown grass. The internal out of bounds between the 1st and practice area and the 5th and 6th (when playing the 6th hole) is marked by a burnt line and stakes. The boundary of the course is also out of bounds.

Hazards

- Lateral hazards will be indicated by red stakes.
- Water hazards will be marked by yellow stakes.

The boundary of hazards are indicated by a change of mowing, from mown to unmown grass.

Drop Zones

Drop zones will be established where the golf committee considers it impossible for relief to be otherwise taken in accordance with the rules. Drop zones will be identified by the words drop zone or letters DZ. The extent will be identified by a paint line. The areas will be maintained as for the first cut of rough.

Miscellaneous

The rubbish containers at each tee shall be emptied once a week and following any major events and sponsored tournaments. The water buckets and ball cleaners shall be replenished each week.

Ecology Strategy

Prepared by **Jim Lynch**

- Former chairman of Wellington Forest and Bird Protection Society.
- Author of “Natural Wellington” 1992 plan to bring the birds back to Wellington Founder of Zealandia
- Contractor to DOC for education and management systems

Introduction

This paper sets out the ecological issues relevant to course development and maintenance. There are various reasons including good citizenship, requirements to meet certain local and government regulations (e.g. with streams) and making the golf course a more enjoyable place for members.

Definitions

- **Ecology** is the study and management of living natural systems.
- **Biodiversity** is the number and variety of organisms and ecosystems.
- **Ecosystems** are assemblages of species that naturally occupy and interact with certain physical and climatic environments and each other.
- **Habitat** is the living space needed for certain species.
- **Indigenous** means characteristic of or originating in a certain place.

Purpose

The purpose of this strategy is to provide policy guidelines for future action in four matters with ecological relevance. These are; ecosystem preservation, habitat improvement, species welfare and regulatory compliance. The strategy must be considered within the context that the purpose of the club and the course is to provide an enjoyable golf experience for golfers. There may be opportunities to secure funding for ecological purposes which are in sympathy with golfing prerequisites.

Ecosystem preservation

- The golf course occupies about 40 ha of land, about 10 to 15% of that is peat swamp and shrublands. The main area is between the 1st, 2nd and 13th fairways and there seems to be a smaller area adjoining the QE II block boundary and adjacent to the 7th fairway, the 8th green and the ninth tee block. A check of the aerial maps and cadastral boundaries can confirm the extent of these.
- The course occupies land on what constitutes one of New Zealand’s rarest ecosystems. This is lowland swamp/dune forest and wetlands. Landcare data indicates that there is as little as 2% of this remaining nationally. Consequently any remnants of these are regarded as being of very high biodiversity value. KDC and GWRC have policies which are specifically aimed at encouraging the preservation of these remnants.
- These old ecosystem on which the course is built would have consisted of a mosaic of old sand dunes with dune lakes in the swales and peat swamps in the low lying areas between the dunes, all intersected by very slow moving streams. The area would have been very flood prone with extensive inundation in winter. The vegetation would have been flax/raupo beds in the permanently wet areas, tall kahikatea, pukatea, kanuka forest in the periodically wet areas and rimu, matai, totara, tawa, titoki forest on the dryer dunes. The best remaining examples of this ecosystem are Nga Manu (Waikanae) and Papataonga (Levin) reserves.
- The course has been massively modified ecologically. The golf areas (fairways, rough, tees, greens) are intensively managed as a monoculture, hazards and waste ground are full of invasive weeds and the stream flows have been altered by drainage ditches and flood control. However this does not

detract from the relative value of the remnants. There is also some potential for restoring areas which are between golf areas and which have no golfing value.



Map of historical Wellington ecosystems

- Issues for consideration in ecosystem protection may be; what protection should the remnants have (if any), how should they be managed, improved and maintained (if at all), what local biodiversity rules and regulations do we need to comply with, how should we manage the streams and their riparian zones, do we want to restore any areas outside the existing remnants, what should we avoid doing that might degrade the ecosystem further (e.g. planting invasive species or using sprays which are detrimental), what species can we plant on the golf areas which are sympathetic to the indigenous ecosystem?
- The action to enable us to answer these questions would be to complete a survey of the existing and potential areas, develop an indigenous species list for the area, investigate options for ecosystem remnant protection and their costs, benefits and implications for the future, define a set of management policies for the ecosystem areas.

Habitat improvement

- The course is home to many indigenous fauna species, especially birds and fish. Native wetland birds seen by me on the course include; pukeko, royal spoonbill, black swan, paradise duck, grey duck, grey teal, shoveller, heron and bittern. Terrestrial native birds seen include; tui, bellbird, pigeon, harrier, falcon, fantail, silvereye and grey warbler. There will be galaxid fish (whitebait) and eel in the wetlands and streams. The wetlands are potential habitat for spotless crane and fernbird. The ponds are potential permanent habitat for brown teal.
- If the ecosystem remnants are managed well then they will continue to provide critical habitat for wetland birds. If the large trees are eventually restored to some of these areas they will be improved as habitat for terrestrial birds.
- The habitat value of golfing areas can be improved by planting bird friendly species (flowering trees) as fairway trees, as tee block shelter and in hazards.
- The fairways are already extensively used as grazing and foraging ground by pukeko and paradise duck. Sprays and other maintenance and control products should be selected which will not adversely affect them.

- The ponds and other hazards could be improved by riparian and other planting, e.g. carex secta grass around pond edges.
- Exotic trees such as willows and pines can be managed out over time and replaced by bird food species.
- An issue to be considered is the planting of native plants which are not indigenous to the area, exotic plants which are highly valuable and attractive to birds for nectar and grazing and native species which are hybrids. For example, Australian species such as bottlebrush and banksii are very attractive to tui and bellbird when in flower. Also pohutukawa and karo are not native to Wellington and their planting is discouraged by DoC. Some of our Pohutukawa appear to be a Kermadec islands variety. Many existing plantings, especially pittosporum and coprosma spp. are hybrid varieties.
- Generally if we were serious about planting in sympathy with the ecosystem we would only plant locally indigenous species which were not hybrid. Our policy is to take a wider view and plant native varieties which best meet the needs of a golf course and provide a good habitat for native fauna. There are many options for fairway and other planting which are specifically local and are very attractive to birds; e.g. kowhai, ngaio, kanuka, wineberry, totara and so on. Most of the issues around habitat improvement relate to those of planting and spray use policy.

Species welfare

- Species welfare relates to the safety of bird and fish species from non-natural agents; exotic predators and competitors, habitat disturbance and chemical application.
- Policies described above on chemical and spray application and restrictions on planting invasive weed species would be all we could practically do in this area.
- There are many exotic birds living on the course; including mallard duck, spur wing plovers, magpies, starlings, rosella, blackbird, thrush and various finches and small passerines. Generally these birds cause few problems as competitors to native birds and nothing needs to be done about them (it wouldn't be practical anyway). They actually add another dimension of interest to the course.
- Predator (stoats, rats and cats) control and browser (possum and rabbit) control is a potential black hole which we almost certainly don't want to get into except perhaps where pests damage fairways. Hawks are natural predators and should be left alone.

Regulatory compliance

- There are regulations; both local and national which relate to ecology which the club is required to comply with. They primarily centre on stream management, existing habitat preservation and chemical spray application.
- Each of these has been discussed above but should be all identified and listed so that they can be added to other compliance requirements that the club has in the strategic plan.

Summary of actions to complete an ecological strategy

- Work with KCDC to map and inventory the remnant ecosystems and habitat potential and develop an indigenous species list for the area.
- Explore options for ecosystem protection and improvement and future management policy (including special funding options) for consideration by the board in due course.
- Develop a planting policy which is in tune with the golf purpose and member's desires, which is sympathetic to the ecosystem, which will improve fauna habitat and which will prevent invasive species spread.
- Review policy on application of chemicals to ensure it is in accord with ecosystem protection and species safety.
- Develop a list of all ecological compliance issues for consideration with the strategic plan.