NATIONAL WATER AND SOIL CONSERVATION AUTHORITY

PLEASE QUOTE
96/683000

Address replies to:
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National Water & Soil Conservation Authority
P.O. Box 12-191
Wellington North
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Telephone 729 929

15 March 1988

Dear Sir

LAKE ELLESMERE NATIONAL WATER CONSERVATION ORDER APPLICATION

At its meeting on 10 March 1988 the National Water and Soil Conservation Authority resolved to adopt its committee's report on the Lake Ellesmere National Water Conservation Order application under Section 20B(7)(a) of the Water and Soil Conservation Act 1967. They also resolved that costs incurred by parties to the application be left where they fall.

The Committee of the Authority investigating the application decided that Lake Ellesmere had outstanding wildlife habitat features that merited protection by a National Water Conservation Order. The order that they have prepared maintains the existing lake opening regime and prohibits most further development below the 1.13m contour. The order also permits parties to apply for water rights to enhance the existing regime. Water users above the 1.13m contour and throughout the Ellesmere catchment will not be affected by the order.

The full recommendations of the National Authority were that it:

a adopts this report and the attached draft national water conservation order under Section 20B(7)(a) of the Water and Soil Conservation Act 1967.

b makes available the report of the Committee to those who made submissions or objections to the application.

The order will be publicly notified in the "Press" and the "Star" on Saturday 19 March 1988. Under Section 20C(1) of the Act, any parties wishing to make submissions on, or object against, the draft order must contact the Planning Tribunal within 28 days of the public notification of the order.

A copy of the Committee's report to the Authority is enclosed for your information. The Authority wishes to record its thanks to all parties who made submissions, and for the very helpful approach adopted by people at the public hearing on the application.

Yours faithfully

K. E. Waugh

for D G Knowles
Secretary/Chief Executive Officer

Encl

APPLICATION FOR A WATER CONSERVATION ORDER ON LAKE ELLESMERE

REPORT OF THE COMMITTEE OF THE NATIONAL WATER AND SOIL CONSERVATION AUTHORITY

1. INTRODUCTION

In June 1986 the Minister of Internal Affairs applied for a water conservation order, under the Water and Soil Conservation Act 1967, in respect of Lake Ellesmere. The application was referred to the National Water and Soil Conservation Authority to be dealt with as an application for a national water conservation order. To consider the application the Authority established a committee comprising Messrs G.M. Glazebrook (Chairman), B.H. Jones, B.D. Parkes and R.W. Pile. Following the reorganisation of government environmental functions, advocacy for the application was taken over by the Department of Conservation (DoC).

The application sought, under Section 20D of the Water and Soil Conservation Act 1967, an order substantially preserving the present operating regime under which the lake level is controlled. The application sought to enhance that regime by making an extra opening in spring and closing the lake from the sea when the level fell too low. It also asked for a prohibition on stopbanking and drainage, along with any other conditions which might be appropriate.

After carefully considering the many submissions made following the public notification of the application, and inspecting the lake in June 1987, the committee circulated a paper outlining its preliminary conclusions on the application, and identifying those issues still needing clarification. To give parties the opportunity to present further information on the outstanding issues and comment on the committee's preliminary conclusions, a public meeting was held in Christchurch on 18 February 1988. Following that meeting the committee reached its final conclusions, which are presented in this report.

1.1 RULING OF THE COURT OF APPEAL

Interpretation of the Act was unclear until recently, when the Court of Appeal ruled on the Rakaia Water Conservation Order. The Court's main decision was that, where an application for a water conservation order is being considered and where outstanding features such as those of Lake Ellesmere have been identified, conservation of those features is to be the primary concern.

In making this decision, the Court drew attention to the object of the 1981 Amendment Act (which amended the 1967 Act to establish the water conservation order process). This object is *"to recognise and sustain the amenity afforded by waters in their natural state"*. The President of the Court said on this matter:

> *"[The competing uses] are to be weighed, but this [is] to be done bearing in mind that the primary object is conservation of waters in their natural state. In particular cases the needs of industry or other community needs or planning schemes may demonstrably outweigh the goal of conservation. But as a general working rule or guideline preservation of the natural state, either as fully as possible or to the extent of protection of outstanding characteristics or features, is to be aimed at unless clear and sufficient reason is shown to the contrary. The ultimate criterion is the public interest. The presumption is in favour of conservation. A strong, really compelling case is needed to displace it."*

1.2 FRAMEWORK FOR CONSIDERING APPLICATIONS

In reaching its decision on this application the committee has been very mindful of the Court's decision. The committee's consideration of the application has proceeded in three broad stages:

(1) Is Protection Warranted? For Lake Ellesmere to be protected by a national order, it must have features which are outstanding. The features considered need not be limited to those specified by the applicant. This question is addressed in Section 2 of this report (see also the Appendix).

(2) How does the regime need to be reserved to protect the outstanding features? Section 3 of this report considers what constraints on the water regime are necessary to afford the desired protection.

(3) If the answer to (1) is "yes"' then the matters listed in s. 20B(6) must be weighed. Sections 4 to 6 of this report consider this. Matters which have been considered for this application include:

i. whether the needs of the community and of primary and secondary industry are strong enough to outweigh the primary objective of recognising and sustaining the amenity provided by the waterbody;

ii whether provision for these needs can be made without compromising the protection required to maintain the outstanding features of a waterbody;

iii whether the provisions of a conservation order will be compatible with the provisions of regional and district schemes; and

iv how those features of the lake which do not themselves qualify as outstanding will be affected by a conservation order.

2. DOES LAKE ELLESMERE QUALIFY FOR A WATER CONSERVATION ORDER?

Based on the evidence presented to it, the committee concluded that Lake Ellesmere is without doubt an outstanding habitat for wildlife, particularly waterfowl and wading birds.

The committee heard evidence which claimed that Lake Ellesmere is of outstanding recreational value to shooters, due to an outstanding population of waterfowl. Evidence was also heard suggesting that the lake has outstanding botanical and fisheries values, and that the value of its fisheries makes it an important cultural asset for the Ngai Tahu people.

The committee thought that the botanical and recreational hunting features of the lake were perhaps outstanding, but did not consider this to be proven. The committee decided that the fisheries and Maori cultural values were not outstanding in the national context, although they were regionally important. It took a cautious approach and in preparing a draft order did not name any of these features as outstanding. The committee has concluded that the draft order, by protecting the wildlife habitat values, will also protect these values. Whether these values are outstanding or not is therefore not a major concern.

The Appendix summarises the information on which the committee has based the above conclusions.

3. WHAT PROVISIONS SHOULD AN ORDER FOR LAKE ELLESMERE CONTAIN?

The committee then addressed the question of how the water regime needs to be reserved to sustain the outstanding wildlife habitat provided by Lake Ellesmere. Before detailing this, it is helpful to outline the present operating regime.

3.1 THE PRESENT OPERATING REGIME

The North Canterbury Catchment Board opens the lake to the sea when the lake level is above 1.13 metres above mean sea level (m.a.s.l.) in April to July or 1.05 m.a.s.l. in August to March. In October, November and December the Board sometimes opens the lake at levels up to .075 m lower than 1.05 m.

The Board does this work by virtue of a notified use. Notified uses are those advised as existing in 1967 (when the Water and Soil Conservation Act came into force). Under present law they are perpetual rights which cannot be affected by the provisions of a water conservation order. This limits the ability of the order to influence the lake regime.

The committee found that there was some doubt about the exact mandate under the Act for the Board's notified use to open the lake. The committee came to the preliminary view that the strongest mandate for the notified use is the regime in place in the three years up to 9 September 1966. This regime was similar (but not identical) to the present one. The trigger levels of 1.05 m.a.s.l. in summer and 1.13 m.a.s.l. in winter applied, but on one occasion in November the lake was opened at 1.01 m.a.s.l.

The committee did not attempt to determine whether the Board has any authority to open the lake at levels below 1.05 m.a.s.l. in October-December. The Board told the committee that it had been late notifying of its intention to open the lake at levels up to 0.075 m lower than this during these three months. The order does not explictly allow for such openings because the committee consider that, particularly during late November and December, they often lead to low lake levels over the summer period. This has the same damaging effects upon wildlife habitats as do prolonged openings in summer (see 3.3.4 below).

Opening the lake requires starting the flow with a bulldozed cut. Heavy seas can close a newly made cut, necessitating another attempt at opening. However, in

favourable conditions the outlet channel scours out from its original size, as the lake level typically lowers to between 0.25 and 0.50 m.a.s.l. This typically takes about 10 days.

The lake opening is then tidal, although the ebb and flow is too small (relative to the lake volume) to cause a perceptible tide in the lake. Replacement of lake water with sea water occurs only gradually, also due to the relatively small volume of tidal flow. When the lake is open, it will gradually become more saline.

After a successful opening, the lake is left to close naturally, which it does when ocean waves are high enough. The lake then refills slowly; it can be anything from 3 weeks to 40 weeks before the level is high enough for the Catchment Board to open the lake again.

The average annual costs of opening the lake are about $90,000. Finance for this work comes from rates levied on adjacent landowners, almost all of whom are farmers. Rates are applied differentially, so that owners of the lowest-lying land pay the most. The costs of opening the lake have been subsidised one for one by the Government, but this subsidy is unlikely to continue.

3.2 REGIME REQUESTED BY THE APPLICANT and subsequent changes to this

The application included four main components. The first two of these components sought essentially to protect the existing regime:

(1) The existing lake opening regime be kept as it is at present; and
(2) Stopbanking, drainage and other activities requiring a water right be prohibited on land below a certain contour.

The application originally sought two different levels for the prohibition on stopbanking and drainage. These were 1.13 m.a.s.l. around most of the lake and 1.98 m.a.s.l. around the Greenpark Sands. The Committee decided that it could not support the higher levels on the Greenpark Sands. DoC was advised of this; and they agreed that the 1.13 m contour should apply right around the lake.

The other two of these components sought to enhance the existing regime for wildlife. In summary they were that:

(1) *An extra opening be made between 15 September and 15 October, provided that the lake is high enough to open; and*
(2) *The lake be closed if at any time between 15 September and 1 May its level falls below 0.30 m.a.s.l.*

The application originally asked for an opening if the lake level exceeded 0.75 m.a.s.l. DoC later accepted the Catchment Board's advice that 0.90 m.a.s.l.is the lowest lake level for which an opening is likely to be successful.

Several submissions received by the committee claimed that these two requirements to undertake works may be *ultra vires*, i.e. beyond the powers of the law. The committee was advised that these claims were probably correct. This view was put to DoC, who concurred with it. DoC instead proposed that the conservation order allow them to apply in future for water rights to carry out such works.

In their letter notifying the public meeting, the committee advised all parties of this change. This meant that the question of who would pay for the likely additional costs involved in enhancing the present regime did not have to be considered by the committee. Instead, this matter could be addressed by DoC, the Catchment Board and other parties at the time of hearings for such water rights. At the public meeting representatives of DoC told the committee how they would be budgetting for Lake Ellesmere management in future. This should please the farming community around the lake, as it seems likely that in future DoC may pay some of the costs of lake level control.

The application did not seek to affect water uses in the catchment of the lake. The committee believes that the draft order that it has prepared will not affect such uses; certainly it does not intend that the order should affect them. This should overcome concerns raised about this by Ellesmere County and Federated Farmers at the meeting.

Similarly the applicants sought no controls on water quality, an issue that is being tackled by the Catchment Board in its preparation of a management plan.

3.3 PROTECTION OF THE OUTSTANDING FEATURES

3.3.1 The Lake Level Regime

Representatives of DoC told the committee that the present operating regime contributed strongly to the maintenance of the outstanding wildlife habitat values of Lake Ellesmere. Most birds that use the lake are adapted to this regime. The regime helps ensure that areas of saltmarsh habitat, including a large area along Greenpark Sands, do not dry out excessively nor remain inundated by water for too long. These saltmarshes are particularly valuable habitat for wading birds,

Few people were opposed to this provision. One who was was Mr Osborne, a local farmer who leases land at the south end of the Greenpark Sands. He believed that the order should provide for the future possibility of a permanent lake opening at Taumutu, with controlled lake levels of around 0.5-0.75 m.a.s.l. Repesentatives of DoC told the committee that this would lead to a major reduction in the wildlife habitat available in the lake. The committee agrees with this assessment, so the draft order does not allow the lake to be controlled over a more narrow range than at present. The order does allow however for the lake to be opened at levels higher than the trigger levels of 1.05 and 1.13 m.a.s.l.

3.3.2 Prohibition on Stopbanking, Drainage etc.

In its preliminary conclusions, the committee advised that it was contemplating a prohibition on stopbanking and drainage below the 1.13 m contour, to help protect the outstanding wildlife values of the lake. The committee recognised that any such prohibition would have to be based on some such arbitrary criterion, and sought comment on this.

No major objections were raised about this proposal. Representatives of both the Catchment Board and Ellesmere County were in favour of this criterion. Although the exact location of this contour is unknown, the Board said that it would soon be surveyed. DoC stated that they believed that around most of the lake edge the 1.13 m contour lay close to the boundary of the wildlife habitat areas they sought to protect. A local farmer, Mr Osborne, produced photographic evidence which showed that at Greenpark the 1.13 m contour coincided well with the change from saltmarsh to terrestial vegetation.

3.3.3 A Possible Spring Opening

Representatives of DoC said that the main direct benefit of an opening at this time is that low or medium lake levels mean that there is ample lake edge habitat for birds such as swans to breed. Little breeding habitat is available for some birds when lake levels are high.

The spring opening might also have indirect benefits for wildlife by promoting the growth of aquatic weedbeds within the lake.

The committee concluded that spring openings were beneficial for wildlife.

3.3.4 Possible Summer Closures

The committee's preliminary paper had identified several detrimental effects of prolonged lake openings on the biota of the lake:

(1) Drying out of the mudflats, especially in summer, causing loss of feeding habitat for waders;
(2) Drying out of lake margins, causing loss of feeding habitat for swamp birds;
(3) The drying out also causes the death of aquatic plants; and
(4) Increasing salinity of the lake (which is tidal when open), leading to poor germination and growth of aquatic plants and lake-edge wetland plants.

This had led the committee to suggest that the possibility of closing the lake when it becomes tidal should be allowed for in the draft order. The committee had questioned however the criteria for closing the lake, and the period for which this was necessary.

At the public meeting representatives of the Catchment Board said that they considered that the criteria for opening the lake in the preliminary draft order were too restrictive. DoC agreed in part with this, but said that some details should remain so that the public would know what was anticipated. DoC stated that closures might be necessary in the October to March period. The order therefore allows for water rights to be applied for to close the lake when it falls below 0.6 m.a.s.l. in that period.

4. EFFECT OF THE PROPOSED CHANGES IN REGIME ON OTHER VALUES OF THE LAKE

The committee addressed the extent to which the regime sought by the applicant would affect the other valued features of the lake. In summary, the committee considers that the proposed changes would likely have more positive than negative effects, but noted that these considerations are subsidiary to protection of the outstanding wildlife habitat provided by the lake.

4.1 FISHERIES

There was little opposition to the proposed changes to the regime from Lake Ellesmere fishermen, and fisheries experts told the committee that they could see no problems. Opening the lake in Spring benefits the fishery by allowing fish with a marine stage in their life history to enter the lake. Artificial lake closures could decrease recruitment, but this effect is expected to be slight.

4.2 BOTANICAL VALUES

DoC told the committee that spring openings benefit the weedbeds, although their own scientific information seems inconclusive on this point. It is clear that the growing cycle of aquatic weeds is at least compatible with a spring opening.

DoC also told the committee that spring openings were essential for the flowering and germination of some wetland plants, a point also noted by some farmers who spoke at the meeting.

The committee was advised that an opening in spring, by avoiding the need for an opening in summer, would act to prevent prolonged periods when the lake is low. Artificial lake closures would also prevent prolonged low periods. The detrimental effects of such low periods are set out in 3.3.4 above.

The committee therefore concluded that the proposed modifications to the regime would benefit aquatic plants and the lake-edge wetland plant community. The committee also noted that stopbanking or drainage of the land on which the wetland plants grow is intended to make that land more suitable for pasture grasses, and hence detrimentally alter the environment for the lake-edge plants.

4.3 CULTURAL VALUES

Mr Tau, a representative of the Ngai Tahu people, told the committee that they consider the lake to be culturally important to them. The Ngai Tahu regard the lake as a "fish basket", as is reflected in the early Maori name for the lake, "Te Kete Ika a Rakaihautu". Mr Tau expressed some concern that the application and the committee's preliminary findings emphasised protection of the wildlife and downplayed the fishery. However the committee concluded that overall the draft order would not detract from the fisheries value of the lake.

The Ngai Tahu stated in their written submission that they also regard the state of the aquatic plants, and the eutrophic state of the lake, as important. DoC stated that enhancing the aquatic plant life is one of their aims (because of the consequent benefit to wildlife). Information presented by DoC indicates that the proposed regime would do this. No information was presented indicating that the proposed regime would greatly affect the lake's trophic state either way.

5. EFFECT OF THE PROPOSED CHANGES IN REGIME ON LANDOWNERS AND LESSEES

The committee did not have sufficient information to assess the effects of the proposed regime on the operations of adjacent landowners with absolute precision, mainly due to lack of exact knowledge about the elevation of the land and about the extent and frequency of windlash. However, the committee was able to draw some reasonably firm conclusions.

A principle concern of the farmers is finance, as discussed in 3.2 above. This is not now a direct concern of the committee. However, the committee noted in passing the financial implications raised by each of the terms of the draft water conservation order.

5.1 The Present Regime

The present regime has been operated for the benefit of adjacent farmers, and has presumably been cost-effective from their point of view. However, with the likely reduction in Government subsidies to help pay for lake openings, adjacent landowners may not wish to have the lake opened as frequently as they do now. The draft order does allow this, as does the Board's notified use.

5.2 Prohibitions

The Catchment Board's present policy on stopbanking prohibits the granting of water rights except with an environmental impact report and with the consent of the Department of Conservation. The committee has been advised that DoC's consent would not be given for areas below the 1.13 m.a.s.l. contour. For that reason, the draft Order largely confirms present Board policy.

A retired farmer from Motukarara, Mr Nutt, told the committee that he believed that it would be impractical to build stopbanks below the 1.13 m contour due to wave lap erosion. As noted in 3.3.2 above, the photographs produced by Mr Osborne showed that at Greenpark the 1.13 m contour coincided well with the change from saltmarsh to terrestial vegetation.

The Committee considers that land below 1.13 m.a.s.l. is generally of only limited value for grazing, although it could be brought into greater production by stopbanking and drainage. Very little stopbanking or drainage has taken place in recent times, an indication that there is no strong demand for more of the lake bed for grazing purposes.

The recent Court of Appeal decision on the Rakaia has confirmed the Planning Tribunal's view that, in considering water conservation order applications, matters of farm economics cannot be regarded as a "need", at least not as of right. But even if they could, the committee did not accept that there is a pressing need for further land development in this case. The committee concluded that in this instance the needs of primary industry certainly do not outweigh the case for including the clause prohibiting stopbanking and drainage in the draft national water conservation order.

Land above 1.13 m.a.s.l. is flooded less frequently and much of it is good pasture. Mr Osborne's photographs showed a good crop of barley grass on the higher land at Greenpark Sands, and submissions from farming interests indicated that much land above 1.13 m.a.s.l. is successfully farmed. DoC stated that it did not wish to interfere with landowners' use of this land, which does not in general form part of the valuable wildlife habitat. The committee decided that it was appropriate to exclude land above 1.13 m.a.s.l. from the provisions of the order.

The committee was advised that there are existing stopbanks and drains, some of which have been in place for many years, which do not have a water right or notified use. Their legal status is therefore unclear. This sit-

uation may well have arisen because it has never been absolutely clear that water rights for stopbanks are required under the 1967 Act. DoC told the committee that it has no objection to almost all of these stopbanks and drains. The committee considered that most of these existing works are compatible with the outstanding wildlife values which are to be protected by an order. Provisions have therefore been included in the draft order allowing for the granting of water rights for stopbanks, drains and diversions in place before 27 June 1986, the date on which the application for the water conservation order was made by the Minister of Internal Affairs.

Two concerns were raised by the Catchment Board. The first related to the possible granting of water rights for the maintenance of the existing outlets of rivers and drains. The draft order now makes specific allowance for such works. The second point was that the Board proposed that a "corridor" either side of the 1.13 m contour be permitted so that relatively straight stopbanks, rather than those following the perhaps convoluted 1.13 m contour, could be built. DoC were stongly opposed to this concept, arguing that it could reduce the area of highly valued wildlife habitat provided by the lake. The draft order does not include provisions for such a corridor.

The Catchment Board also asked that sea level not be defined as at 1988 as in the preliminary draft order, but be left to vary as sea level changes. The committee were puzzled by this request. If sea level rises as is predicted, then stopbanks now legal under the terms of the order may someday become illegal. The committee therefore decided to retain the definition of sea level as at 1988. The committee also realised that the order may have to be reviewed if sea level does rise markedly.

5.2.1 Fish Farming

The committee discussed whether provision should be made for polderisation of parts of the lake for fish farming. This was in response to submissions from Gould Aquafarms Ltd, who already hold a non-consumptive water right for their operations near Taumutu, and wish to polderise a small piece of the lake for fish farming.

The committee considered that a blanket provision for fish farming operations would be inconsistent with the intention of the water conservation order. However the committee could see no objection to fish-farming operations, or research into fisheries, where it could be demonstrated that the effect on the wildlife would be negligible. The draft order therefore includes a priviso

allowing polderisation for these purposes, but only with an environmental impact report and the consent of the Department of Conservation.

Such proposals could benefit waterfowl (which would gain a near-permanent pond provided they could co-exist with the fish) at the expense of wading birds (which would lose an area of mudflat). Gould's proposal is to polderise part of a small bay, in a part of the lake which shelves quickly and has only a narrow band of mudflat. DoC stated at the public meeting that they have no objection to this particular proposal, which is expected to affect only a few wading birds.

5.3 Spring Opening

A further opening in spring, as allowed for in the draft water conservation order, would benefit landowners by lowering lake levels at this time.

The committee heard of no strong opposition to the spring opening. It would only be necessary on average in about 1 in 4 years, and the question of who would pay for this can be addressed at the water right hearings. The committee noted the view expressed by DoC that consultation between themselves, landowners and the Catchment Board would be appropriate.

Speculation that subsequent openings would be made more difficult, due to reduced channel scouring when the lake is opened at a lower level, has not been substantiated. In any case, this matter can be addressed, along with the question of funding, when water rights are to be applied for.

5.4 Closure

Local farmers and their advocacy groups object to any closure of the lake. They are correct in saying that such a closure may hasten the need for another opening, typically by a week or two. However the committee decided that conservation issues take precedence over this concern when the terms of a water conservation order are being considered. The existing notified use to open the lake when it is high cannot be interpreted as ruling out closing the lake when it is low. Where such works are needed to conserve the outstanding values of Ellesmere, the order must provide for the granting of water rights for them.

The committee again noted DoC's expressed willingness to consult with landowners and with the Catchment Board to

work out financial details when water rights are to be applied for.

6. PROVISIONS OF REGIONAL AND DISTRICT SCHEMES

The committee has not been advised of any provision of such schemes that would be incompatible with the granting of a water conservation order on the lake. Ellesmere County Council, Canterbury United Council and the North Canterbury Catchment Board all expressed agreement in principle (although not necessarily in detail) with the preliminary draft order, and stated that the order would not compromise their schemes. Waiwera County Council voiced strong opposition to the application, but did not present any information to show that a water conservation order would conflict with their district scheme.

7. CONCLUSIONS

The committee was firmly convinced that Lake Ellesmere is an outstanding wildlife habitat which warrants protection by a national water conservation order.

The committee considered that Lake Ellesmere may have outstanding botanical features and outstanding recreational shooting opportunities, but did not consider that these were proven. The committee also decided that the lake has regionally important cultural value to the Ngai Tahu people, and regionally important fisheries values.

The committee has prepared a draft national conservation order which specifies the outstanding wildlife habitat as the feature which is to be protected. The order includes two provisions for protecting the present lake regime and two provisions for possible future enhancement.

The provisions for preserving the present regime are:

(1) that the present minimum water levels at which the lake may be opened to the sea are preserved; and

(2) that stopbanking and drainage of lake bed below 1.13 metres above sea level is prohibitted (with minor exceptions).

Future enhancement of the wildlife habitat is provided for by allowing water rights to be granted for:

(1) an extra lake opening in early spring; and

(2) closure of the lake opening when the lake has dropped to tidal levels.

The committee believes that the other significant features of the lake will not be detrimentally affected by the provisions in the order. The committee heard little convincing evidence that adjacent landowners and lessees will be significantly disadvantaged by the order.

The question of financing the provisions for opening and closing the lake to enhance the wildlife habitat was beyond the scope of the committee. However, the committee noted the expressed willingness of the Department of Conservation to consult the Catchment Board and interested parties when water rights are to be applied for.

DRAFT ORDER: THE NATIONAL WATER CONSERVATION (LAKE ELLESMERE) ORDER 1988

1 TITLE AND COMMENCEMENT

(1) This order may be cited as the National Water Conservation (Lake Ellesmere) Order 1988.

(2) This order shall come into force on the 14th day after the date of its notification in the Gazette.

2 INTERPRETATION

In this order, unless the context otherwise requires:

"Act" means the Water and Soil Conservation Act 1967

"Lake Ellesmere" means that variable body of water otherwise known as Waihora located at and about map reference NZMS 262 13:468714 having an area of about 20,000 hectares.

"Lake Level" means the water level measured in calm conditions by the recorder at Taumutu (map reference NZMS 260 M37:599064) maintained by the North Canterbury Catchment Board.

provided that the North Canterbury Catchment Board may, at its discretion and when necessary due to windy conditions, estimate the reading which would have been obtained in calm conditions.

"m.a.s.l." means the elevation in metres above 1988 mean sea level at the Port of Lyttleton.

3 OUTSTANDING FEATURES

It is hereby declared that Lake Ellesmere provides an outstanding wildlife habitat.

4 RESTRICTION ON LAKE OPENINGS AND CLOSINGS

Because of the outstanding features specified in clause 3 of this order, water rights shall not be granted under sections 21 or 23 of the Act, and general authorisations shall not be made under section 22 of the Act, allowing Lake Ellesmere to be artificially opened to the sea or artificially closed from the sea,

provided that water rights may be granted:

(i) allowing the lake to be artificially opened to the sea whenever the lake level exceeds 1.05 m.a.s.l. in the months of August to March inclusive, or 1.13 m.a.s.l. in the months of April to July inclusive;

(ii) allowing the lake to be artificially opened to the sea at any time between the 15 day of September and the 15th day of October;

(iii) allowing the lake to be artificially closed from the sea whenever the lake level is below 0.6 m.a.s.l. in the months of October to March inclusive.

5 RIGHT TO DAM OR TO DRAIN LAND NOT TO BE GRANTED

Because of the outstanding characteristic and features specified in clause 3 of this order, water rights shall not be granted under sections 21 or 23 of the Act, and general authorisations shall not be made under section 22 of the Act, allowing the damming, stopbanking, polderisation or drainage of any part of Lake Ellesmere where the lake bed is below 1.13 m.a.s.l. in elevation.

provided that water rights to polderise for fish-farming or for research into fisheries may be granted provided that the applicant provides an environmental impact report and that in the opinion of the Minister of Conservation there will be no significant impact on the features of Lake Ellesmere specified in clause 3

and also provided that water rights may be granted for any stopbanks, drains and other uses of water which existed on 27 June 1986.

and also provided that water rights may be granted for works associated with the maintenance of those outlets of rivers, streams and drains which existed on 27 June 1986.

6 WATER RIGHTS (GENERAL)

(1) No water right shall be granted under section 21 or 23 of the Act, and no general authorisation shall be made under section 22 of the Act, in respect of the waters of Lake Ellesmere, if the effect of such a right or authorisation would be that the provisions of this order cannot remain without change or variation.

(2) Notwithstanding anything in this order, it shall be lawful for water rights to be granted for research into, and enhancement of, wildlife habitats.

7 SCOPE OF THIS ORDER

Nothing in this order shall be construed as limiting the effect of the second proviso to section 21(1) of the Act relating to the use of water for domestic needs, for the needs of animals, and for or in connection with fire-fighting purposes.

APPENDIX

LAKE ELLESMERE NATIONAL WATER CONSERVATION ORDER APPLICATION

QUALIFICATION FOR A NATIONAL WATER CONSERVATION ORDER

1 INTRODUCTION

To qualify for a National Water Conservation Order, Lake Ellesmere must be considered to have outstanding features. The applicant claims that the lake meets this criterion because it has outstanding wildlife habitat values. The Committee needs, however, to consider other features of the lake to see if they also qualify as outstanding.

Outstanding is defined as "prominent amongst its kind". When considering previous National Water Conservation Order application, committees of the Authority have equated this to mean "of national importance". This paper discusses the significnat values of Lake Ellesmere, and considers whether or no they can be considered as being outstanding.

2 WILDLIFE HABITAT VALUES

An extremely wide range of birdlife is found at Lake Ellesmere. One hundred and sixteen species of bird, over one-third of the 305 species recorded in New Zealand, have been recorded using the lake and its marginal vegetation. About 80 species regularly use the lake. This probably gives the lake the widest diversity of species of any New Zealand locality.

The birds for which the environment of Ellesmere is singularly suitable can be grouped into three types: waterfowl, swamp birds, and waders.

Table 1 summarises present knowledge about the bird populations on the lake, and their importance nationally. Total bird counts on the lake are typically in the range 20,000-50,000.

2.1 Waterfowl

Waterfowl include ducks, geese and swans. These birds seek the shallow waters of lake margins, where they feed mainly on aquatic plants, although some also feed on adjacent pasture. They loaf on lake waters, and most species breed around the lake margins.

The lake supports substantial populations of at least three species of duck: the Grey Teal (native), the Shoveler (endemic) and the Mallard (introduced). There are also notable populations of three other introduced waterfowl. The main New Zealand population of Mute Swans, numbering about 40, is found on the lake. Black Swans, although not as numerous as before the Wahine storm, number about 6,000, about 10% of the estimated national population. Lake Ellesmere is the most important assembly point for Canada Geese. Several thousand birds (up to half the national population) winter over there before heading inland to breed.

2.2 Swamp Birds

These include three species of rail and one bittern. This refers to their habitat preference for emergent swamp vegetation such as Raupo and Scirpus. They live in the marginal wetlands around the lake rather than on the open water. In fact, three of the four are very secretive and are seldom seen.

Ellesmere is very good habitat for Pukeko. These swamp birds are common at Ellesmere and are breeding.

Three other native swamp birds are much less common at Ellesmere, but these populations may nevertheless be significant. The Spotless Crake is very rare at Ellesmere and in most of the South Island. Counts of more than 20 of the Marsh Crake and of the Australasian Bittern indicate significant populations, especially for the very secretive Marsh Crake.

2.3 Waders

A very wide variety of wading birds have been recorded at Ellesmere. They feed predominantly on invertebrates in wet or damp areas around the lake margin or in adjacent ponds. Most species breed elsewhere but use the lake for wintering over and/or as a staging point during migration. Two groups are considered: those that breed in New Zealand, and those that migrate to New Zealand each year from the Northern Hemisphere.

2.3.1 Indigenous Waders

Lake Ellesmere is a very important habitat for three species of native wading birds.

The endemic (and possibly endangered) Wrybill Plover nests on South Island braided riverbeds and winters on mudflats in the Auckland region. Most of the total population of about 6,000 pass through Ellesmere, althouth numbers at any one time are typically less than 500.

Thousands of Banded Dotterels use Ellesmere. Most birds are migrating from riverbed breeding sites to the North Island and Australia, but about 1,000 winter over on Ellesmere, and about 250 pairs breed on the shingle of Kaitorete Spit.

Pied Stilts are very numerous at Ellesmere. At times up to about 10,000 birds, half the national population, may be present. The extremely rare Black Stilt has been seen at Ellesmere in all seasons. White Herons, White-faced Herons and South Island Oystercatchers are also seen at Ellesmere.

2.3.2 Arctic Migratory Waders

Many species of wader which breed in the Northern Hemisphere migratory to the Southern Hemisphere to avoid the Arctic winter. Of those species which migrate to New Zealand, a significant proportion use Ellesmere. They are typically present in numbers of 100 or less, although in most cases this represents a considerable proportion of the population reaching New Zealand. Often the first sightings of migrants previously unrecorded in New Zealand are made at Ellesmere.

2.4 Other Species

Various species of tern, gull and shag are present at Ellesmere, including a significant wintering-over population of Black-billed Gull. About 50 Cattle Egrets now migrate from Australia for the winter.

2.6 Summary of Wildlife Values

The Department of Conservation considers Lake Ellesmere to be an outstanding wildlife habitat on the basis of many criteria. For instance, the lake meets many of the right criteria chosen by the International Union for the Conservation of Nature (IUCN) for determining a wetland of international importance. (Note that their definition of wetland includes lakes and coastal waters up to six metres depty). Further, the lake meets most of these criteria at least several times over.

During a nationwide survey conducted by the Wildlife Service, Lake Ellesmere was rated as "outstanding", the highest value on a five tier rating system.

Ellesmere ranks very highly on a national level as a wildlife habitat on a number of grounds. These include total usage, number of species recorded, number of wetland species recorded and permanently resident, habitat diversity, value as a staging area and value for breeding. On the basis of these and other criteria, the Committee has no doubt that the lake is an outstanding wildlife habitat.

3 RECREATIONAL HUNTING

Lake Ellesmere is heavily used by recreational hunters. The North Canterbury Acclimatisation Society, in a survey on the opening day of the 1987 season, estimated that 1,000 hunters used the lake that day. Few comparative data are available. It is known that about 36,000-41,000 game shooting licences are sold annually, and that about 700 hunters use Lake Wairarapa and its associated wetlands each season. The Committee therefore considers that Lake Ellesmere may be an outstanding waterfowl shooting area, but believes that there is not enough evidence to be conclusive. Further information would be helpful.

4 FISHERIES

4.1 Commercial Fisheries

The main commercial fishery in Ellesmere is for eels. This fishery has followed a classic 'boom and bust' sequence (see figure 1). The peak annual catch was 847 tonnes in 1976, 56% of that year's national catch. Since then the catch steadily declined and has been about 110 tonnes for the last few years.

The eel population is at present in a poor state: only short-finned males are left, and these are generally small. As eels breed at sea, this situation will not noticeably affect long-term national eel populations. However, fish of a commercially desirable size are now few.

The commercial value of other fisheries is much less. Flounder catches are erractic (10-300 tonnes per annum) (Figure1), principally due to variable recruitment, which in turn depends when the lake is open.

Catches of Yellow-eyed Mullet (often called "herring") vary from virtually nil to about 60 tonnes/year. Variable demand is a major factor in the catch, and variable recruitment may also be a significant factor.

4.2 Recreational Fisheries

The main recreational fisheries are for brown trout, flounder and whitebait.

The trout fishery was once said to be one of the finest in the country. However, it has declined markedly over the last few decades, to be a mere shadow of its former self. A fish trap recorded 309 fish migrating up to the Selwyn River to spawn in 1985, compared to tens of thousands 30 or 40 years ago.

The whitebait catch is almost entirely juvenile inanga. It is said to be an important fishery. However, whitebait caught at the lake mouth are frequently heavily contaminated by other small fish. Whitebaiting is also carried out at the mouths of streams entering the lake. Whitebaiting is only successful in those years when a lake opening occurs in Spring.

Flounders, principally Black Flounder, have been caught in gill-nets for many years. The catch fluctuates widely.

4.3 Maori Fishery

The Ngati Tahu have a long association with Ellesmere, which they see as a "fish farm". Eel and flounder, among other species, have long been taken.

No formal or legal recognition has been given to Maori fishing practices. However, representations from the Maori community in the late 1970's sought to have a Maori fishery declared for Taumutu lagoon (in the southern corner of the lake). This was not done, but Taumutu was closed to commercial eeling.

4.4 Summary: Fisheries

The lake supports some significant fisheries, although brown trout are no longer numerous, and the commercial eel fishery cannot provide a high sustainable yield. The Committee considers that none of the fisheries qualify as outstanding.

5 BOTANICAL VALUES OF ELLESMERE

Lake Ellesmere is considered to be a good example of a brackish lagoon. It is certainly the largest such lagoon in New Zealand. Brackish lagoons offer an environment midway between that of salt marshes (in tidal lagoons) and freshwater lakes and wetlands. The shoreline vegetation of brackish lagoons is of interest because the intermediate and variable salinity gives rise to a distinctive biological balance.

The original Lake Ellesmere wetlands have been reduced to about a fifth of their pre-European extent. Those that remain are often heavily modified by burning and grazing. However, there are considerable lengths of lake shoreline that are considered to have significant botanical values.

The most prominent of these are the Greenpark Sands, which are "an example of an extremely rare vegetation type in New Zealand; the saline lagoon margin on sandy soil". The high porosity of the soil and summer evaporation from the lake combine to create an environment that is seasonally more saline than tidal salt marshes. Glasswort, a common plant elsewhere in the lake, is dominant on the sands.

No nationally rare species are found in the lake itself. However Lake Ellesmere, together with the Rakaia River mouth, is the southern limit for many species and the northern limit for others.

In summary, the Committee considers that Lake Ellesmere has considerable areas of notable wetland vegetation, despite destruction or modification of much of the lake shore plant life. The Greenpark Sands offer a distinctive botanical environment, but the Committee considers that they do not clearly qualify as being

6 CONCLUSIONS

The Committee has no doubt that Lake Ellesmere is an outstanding wildlife habitat. The lake may also be of outstanding value for recreational hunting.

The lake has high but not necessarily outstanding botanical value. Its commercial and recreational fisheries have in the past been highly valued, but are no longer particularly notable.

FIG. 1: LAKE ELLESMERE REPORTED EEL AND FLOUNDER CATCHES