INDUSTRIES

(Sanu Grass)

1926.

No.

126/26

Forest Officer.

SUBJECT.

1926

Report on Sana Grass sown at Peninsula and the Wireless Station.

22na February.

Previous Paper.

MINUTES.

Minute from Forest Officer of 22nd February. 1926

1. L. w mille

2. The Spelimens of Grases Referred to by the forest Offiles on page 3 of his Report on Shill in his Custody. He Will be represented to Send them to Sixt. Sto. for YE in Spechow. I presume these specimens are those referred to in \$185 minute of some lang on hel 386/35

2. Will segard to the destruction reported as being caused by have, the Coloniai inquies, has been deceted on of the wishwhois to have the fences on the Juin Sula made how - groof,

Ja: 13/26

HCS.

Traps dispused is altricked

16 april 4126.

Subsequent Paper.

U•N•

Despatch to Secretary of State No. 4 19.4.1926. 98. Shis feather war ented to be tranger. who day getter Fring lovario when Mitheadle reland from Shelf ove So. VI. 76 J. She Kidelle lar own retorned to Stanley.

Silling

Orlesect.

28 June 1926 It! I visited the Senin Sula accompanied by Olow G. J. Dellow and M. Kiddle on 4th in the air. The Sand Gobso appears to be doing well; When planted it has established week, and there are dishirch figure of spreading. 2. I have in Structed Motudle le arrange to larry out the thinning and planting . Allow mended by Mr. Reid (Mr. 214/26) as Soon as weather land won's sermit. 30 Sept. 1926 6.f. 30.11.26 Jus 4. 10, 26,

Chief Inspector of Stock,

I presume that this grass seed is still in good condition and fertile ?

2. When is the most appropriate time for its sowing?

(Sgd.) J.M.Bllis. Ag. Col. Sec. 14.2.27.

The Hon. Col. Sec.

The grass seed is in good and fertile condition.

2. I should recommend sowing in early spring or late autumn.

(Sgd.) R.W.Carter, C.I.S. 14/2/27.

I.D.,

Submitted. The handing over would now seem to have been satisfactorily completed.

- 2. In view more particularly of the time during which these two bags of sand grass seed have been in store I think that the sooner it is planted the better.
- 3. Mr. Carter to consider further and submit a definite recommendation as to time and place for planting.

(Itld.) J.M.E. 15. 2. 25.

(Itld.) A.E.B. 16 Feby. 1927.

Chief Inspector of Stock,

Accordingly please.

(Sgd.) J.M.Ellis, Ag.Col.Sec. 16.2.27. The Hon. Col. Sec.

I believe the grass seed should be sown in August or beginning of September of this year.

- 2. Approximately 1/3rd of the seed could be sown on south side of Bastern Wireless Station and the remainder equally distributed in sand patches on
 - A. South coast between Rooker's Point and Lighthouse, and
 - B. On sand hills at Morke Bay.

(Sgd.) R. W. Carter, C.I.S. 5/5/27.

Y.D.,

Submitted. I understood Y.E., to say that Y.E., desires that the Govt. House Gardener should be consulted in this connection?

(Itlā.) J.I.Z. 7.S.J7

H.C.S.,

Inspector of Stock to visit the Camps much more in future than has been the case in the past, I propose that the re-grassing of the Peninsula should come under the general superintendence of the Govt. Ho. Fardener who will be assisted by Mr. Kindle the Forestry Labourer.

(Itld.) A.T.B. 8 March, 1927.

7. 1. Willia With supreme t 1. 10 546 26 cotached.

I have now spoken to the fovenment storice gardener about this matter. The and Mr. Kradle are of opinion that some of this Seed Could be planted now.

Continue the work of transplanting on the Sand bull, at yorke Bay, and I have in Structed him to proleed there on Thursday 17th March and to Continue working then until Thursday 31th March In adaption to transplanting, he will plant some of this fresh show of Jones Seed which he is young to obtain from Chief Ine seeler of Stocks Office. He will refuse an assistant with him, and I have authorized him to lugace Mi Summers, late Resordant sendene, at the Usual Robe Casual laboure, sat the Usual Robe Casual laboure, sat the Usual Robe Casual laboure,

All Shadle has depresented also that as the planting has how to be done fulls, afield it is noteen any to transport the plants. Considerable distances, to pours out, quite ughtly that considerable hun's and labour is wasted if each sock of plants he to be wan handled. It tells me that when larrying out his last prece of work then he look this own horse, and engured whether he could be wanted that horse, on this vecasion. This, in fortun attey is not possible, so I have arranged for M. Kiddle to hire his two horses to the fixed to horse for a furture for a furture for a lump of horses is 10f-each pe, day)

H. Expenditure in Connection with above is chargeable to skead XV Sten 3.

15 March, 192

The - Treasurer boal artitur Ohif bespector of Work To Lote I when 9. Gl. Lo. Hon. bol. See.
Acted.
M. braige Harrier
15. 8.27 Local auditor. Passed to you. het 15.3.27. Am Coc. Lec. ho Tedhar afer /sy f. 11. \$. 27 6 4. 4. 27. humili from A.E. the ag Soverer, 6/4/27.

Voucher in respect of Mr. Kidale Mr. Summers. 18-19 21. £ 18. 4, 27.

le 11 4, 27.

Inside Minute Paper.

4. 9.5.2. 9 19.4.27.

I had an opportunity on 25. 4, 27. of visiting there stand grans pleateline i company Wh I'm I UPR fruite all him of Haylle, S. Willer at It thereby.

Re say pan ofpens to be the food hold or the penincular. Re seeds planted at plant framplewed are doing well at three is most satisfication Evidence of self-seeding on a comiderable

> Jus -26.4, 27.

22. Minute from Ch. Dusp. Stock of 5 hov 1927.

Chaf lufther of Hord. Please de 11. 348/27 allastel and osustain for Kille the Kresty Calm Oller any sail from seel has been Son this fear on the cree to shirt In refer and, the Soller be les. any sul wat ell. I willer The too 7.11.27 Col Sec I am sony to have

Twowled you in the matter for an above now arentamed sand grass seed has been flanted this year in the w/r paddock.

3 There is no more amade grass seed available

C. S. S 7/4/27 Viel p.l. 370/27

9.9. Silved. I will now take up all C. 1. of 2tral to plate of times frans a de primis des c'ale nextrontent of he of the (hills peldent? al bookers Pail

Il also be made of blady of said fran hatilles to be herebourbal of he 4 When

3. a fuller sypt of sail from seed that who he obtained punch, who is loved willowing at & Chalder. C.l. of the lo estimi ? 1 ml 8.11,27

Phense. You will make the necessary arrangements to moune possession of our preside in due course, ar. He are I spelle to you about, so that it can be planted with

Chief lapole of 2 tral.

Muse su al admie

i de nather of Main a futher

Ifthey of sand pran seel.

2. (1.1. 378/2) in Wil the treller of planty pener is trusted is referred to In Sin Mansing.

10,11,29

In then Cul See

I should like to suggest. that be furchased throught the C.A. from dutton of Som 3 I have inspected the Permante of I am The opinion that a goved deal more and gran end grass would become established on these places I spead out on the more exposed ground I the send grass sever from seed on the Princele + W/T paddock is doing very well M. P. S/119/27.

VIE.,
Submitted. hung b cwt: of
marran brass keed be ordered
through the Crown agents,?

all
fortiges.

Perase.

12 27

12 27

Animals from C. Insp. Stake St 13 July 1915.

Che Engineer

Plans su Red 23. Loud is he beside

for the times to be cut for forthe for the P. to hours.

How both heartary

Justoo is cut from this

plantation, when troquered for the

Phi. horses, and I understand that

when this tissoo is brought to

Stanly more than hall of it is

clearly more than hall of it is

dead to dry. The requirements are

however, neglible in compansion

to the single that the tussoo

le cut and the bogs cleared of

the dry to notted grass.

10/white

Ale. let. I have spoke to you is their Correction and I waterstand that all Lily 3. worth is to clear up the plantation ! Nell be place if he will habe arayeneds le de so chanjong the wenney expentitions against Head It 3. Marky of Town at france. Joseph 2.4, 7, 28. Ont. Inspection of Shock. To you to necessary retin pr. C.S. 25.7.28 the love Ishall make the meerany anayments accordings

carried and invededly

37/7/28

NEGO Report on Sand Grass experiments at the Peninsula Wireless Station The area known as the Peninsula, which is situated north east from Port Stanley, has a barren sand covered area, extending roughly 4 miles long to bape Pembroke Lighthouse, and about 22 miles broad from the north to the south shore. It is bounded by Port William on the north side, and the open sea on the south side.

With the strong prevailing winds which are experienced here, a great quantity of sand is continually drifting over this area, from the numerous small bays along both north I south coasts. In October 1923 it was considered essential, that some means should be taken to fix the drifting sand against the action of the wind, (the sand was causing much inconvenience at lake Pembroke of Up till October 1923 sheep had been stocked on the Peninsula and what regetation there was on the most easterly point, was eaten down to the roots, leaving the bogs which the grass had formed in a pretty dry and worn - out condition, only an occasional Sand babbage Genecio candicans would be found widely distributed.

The nature of the ground is patchy with sand, peat, and rocks; over lying blue clay, in some places the sand is but a few inches and other places where the it has banked up, several feet may be found.

The peaty ground has the affearance of being good Succock growing ground, the peat may be found several feet in depth, recently a good few acres have been planted up with Sussock.

In October 1923 a fence was exected from fork Bay on the north side, to Hookers Point on the south of the Peninsula. a quantity of seed heads of marram, Sea Reed or mat grass, was procured locally from Pebble Island West Falklands, also about I cent of marram, from a local firm, who had imported the

the seed and heads were sown in trenches

dinches deep along the north side in October 1923, also in pockets on large patches of sand.

The first signs of germination was noticed 8 weeks after sewing the rate of growth the first year (1924) was very slow. But the following year a fair good growth was noted, some of the plants measured 18 inches high.

Where seeds had blown to some isolated spot the best plants were found.

Unfortunately haves had access to the ground, and they were very destructive to the young grass in the winter of 1924, a great many of the plants were eaten down to the hoot stock.

In 1925 May 1925 most of the plants in the trenches had attained a suitable keight and size for transplanting, 4 men were turned on to this work for 10 days and a fairly large area was covered, the plants were taken from the trenches, and planted singly at 3 feet apar. In October 1925 a further quantity of marran seed Ammophila arundinacea was sown in the

same manner as mentioned before, also a little broadcasting was adopted.

On going over the ground recently the marram grass plants were found in a very flourishing condition, some have made fairly decent bogs and have begun to stop the sand, there are a good many bearing seed heads, and one or two the have seeded last year.

On the whole area a marked difference is noticed

on the vegetation from what it was in 1923.

The north and south sides now are carrying lange areas of different kinds of grasses which have sprung up from the old root stock, also a large quantity of Sand babbage are distributed over the whole area.

The grass bogs are all seeding heavily and are in an excellent condition, some of the bogs measure 3 - 4 feet high and 4-5 feet in circumference.

Others are forming a mat habit and have

commenced to hold the sand drift, also the Sand babbage where old plants are established, thousands

of seedlings are springing up.
There are 6 different kinds of grasses to my knowledge which wheep and cattle feed on, and from information gathered they are very nutritious, and cattle thrive well on them.

attached are duplicate specimens of each grass

for identification, which may be useful if seed was required at any later period:

Should the Peninsula be kept free from stock for several more years I am confident that the whole area can be reclaimed, and will provide good pasture for cattle in winter.

The paddock round the Government Wirless Station which is situated east from Port Stanley, and stands close to the south shore, has in the last 5 years been encroached badly with sand drift. In October 1923 a portion of Sulivan House garden was sown down with set marram seed, and in April 1925 some 1500 plants were available for transplanting.

Those were planted round the south, east, and west sides of the Wireless haddock with a view to stop the sand drift.

The majority are now beginning to establish themselves, and a few are forming seed heads.

One or two have died, thus being caused by the ground becoming covered with pools of water in winter.

A quantity of marram seed (ammophila arundinaces) about 50 lbs. was sown in September 1925, and at

the present time a good braind has been got, the young plants are 3 - 4 inches high. In another year there will be a fair quantity of plants which can be distributed over the whole area, and form a complete barrier which will fix the sand, this paddock also will be available for grazing purposes in time to come.

James Reid Jonest Officer 30th January 1926

(3)

GOVERNMENT HOUSE, STANLEY, 19th April, 1926.

Sir,

cont network have

from it, an asse

Enclosure 1.

Enclosure II.

I have the honour to refer to the correspondence mentioned in the annexed Schedule on the subject of the devastation caused by drifting sand on Cape Pembroke peninsula, and to transmit to you a report by Mr. J. Reid, Forest Officer, on the reclamation work which has been undertaken during the last three years.

- Covernment in 1906 to protect the Lighthouse and the Reepers' quarters, which are situated on the eastern extremity of the peninsula, from the drifting sand by the planting of marram and sea lyme grass in the vicinity of the buildings failed to accomplish the object intended, and at the beginning of 1923, owing to the devastating activities of the sand and the grazing of stock, there was no sign of vegetation over an area of about 4 miles long by 25 miles wide.
- 3. It was accordingly decided to plant marram grass on the areas lying furthest to windward, as these constituted the main source of the sand and the spreading of grass by seed over the unplanted areas would thereby be facilitated. The barren land/

in the sortior cor

THE RIGHT HOMOURABLE

L. C. M. S. AMERY, P.C., M.P., SECRETARY OF STATE FOR THE COLONIES.

12

land having been fenced off and all stock removed from it, an extensive and systematic attempt at its reclamation was commenced in October, 1923, by the planting of marram grass along the north shore in the vicinity of Yorke Bay, where the sand cast up on the beach is dried and blown over the peninsula. The areas then planted have been gradually extended by the sowing of seed in the spring and the transplanting of grass in the autumn, and the aggregate effect of these efforts is now quite marked while the large quantities of Sand Cabbage (Senecio Candicans) which has come up is proving an effective sandstay.

- 4. Moreover several varieties of sandbinding grasses which seem to grow more rapidly than marram, have appeared in some profusion; specimens of these are being forwarded under separate cover and as it is desirable that they should be identified, I shall be glad if they be sent to the Director of the Royal Botanic Gardens, Kew, for this purpose. The specimen marked IV is widely distributed throughout the Colony, but the other varieties are believed to have been introduced by a former tenant of the land who is known to have carried out experiments extending over a long period of years, in planting sandbinding grasses.
- 5. The difficulties of the problem of controlling the drifting sands on the large area of the peninsula which had been rendered worthless, are fully explained in the earlier correspondence on the subject, and the success which has attended the reclamation/

reclamation work, inaugurated in 1923, reflects great credit on Mr. Reid under whose personal supervision the grass planting operations have been carried out.

I have the honour to be, Sir,

to . 33 of 1th lay, 1906.

Your most ohedient, humble servant,

J. Middleton.

of the leth of ENCLOSURE NO. I to FALKLAND ISLANDS DESPATCH No. 40 of the 19th of April. 1926.

SHOULD SOME NO. II TO PARKLASED DELANDS DESPATOR

SCHEDULE OF DESPATCHES RELATIVE TO DRIFTING SAND ON CAPE PEMBROKE PENINSULA.

PERINSULA AND WIRELESS STATION.

from Port Stenley, has a berren FROM GOVERNOR TO SECRETARY OF STATE.

The area knows as the Peningula, which is

No. 34 of 10th April, 1905.

No. 18 of 14th February, 1906.

No. 103 of 3rd December, 1906.

No. 19 of 25th March, 1907.

No. 48 of 17th June, 1907.

FROM SECRETARY OF STATE TO GOVERNOR.

experienced here, a great countity of send is con-

tiously drifting over this area from the numerous

- the section of the wind, the sund was

daysing much impossessiones at Cape Pembroke Light-

the comingula, and what vegetation there was on the

most contorly point was eaten down to the roots,

heaving the bogs which the great had formed in 4

by \$111 October 1923 sheep has been stocked on

TOURS!

No. 31 of 5th July, 1905.

No. 33 of 5th May, 1906.

pretty dry and wern-out committee; only on occasional Dane Carbongs (Samedio Candidans) would be found widely distributed. The nature of the ground is patchy with sond, pest, and rocks, over lying blue clay. In some places the sand is but a few inches doop, and off a places there it has banked up, asveral feet the best

ENCLOSURE NO. II TO FALKEAND ISLANDS DESPATCH
No. 40 of the 19th of April, 1926.

REFORT ON SAND GRASS EXPERIMENTS AT THE PENINGULA AND WIRELESS STATION.

The area known as the Peninsula, which is situated north-east from Port Stanley, has a barren sand covered area, extending roughly 4 miles long to Cape Pembroke Lighthouse, and about 2½ miles broad from the north to the south shore.

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In October 1923 a fence was erected from Yorke Bay on the north side to Hookers Point on the south side, cutting all animals off from the east side of the Peninsula.

A quantity of seed heads of Marram, Sea Reed or Mat Grass, was procured, locally, from Pebble Island, west Falkland, also about 1 cwt of Marram seed from a local firm, who had imported the seed straight from New Zealand.

The seed and heads were sown in trenches, 4 inches deep along the north side in October 1925, also in pockets on large patches of sand.

The first signs of germination were noticed 8 weeks after sowing; the rate of growth the first year (1924) was very slow, but the following year a fairly good growth was noted. Some of the plants measured 18 inches high.

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James Reid. FOREST OFFICER.

MUPLICATE



Journing Street, 22 June, 1986.

015.

en dunne.

of Sir John Middleton's despatch Wo. 40 of the 19th of april, and to transmit to you a copy of a letter from the director of the Loyal Betanic Cardene, Law, on the subject of the devastation caused by drifting sand on Cape Fembrake Peninsula, and containing his observations on Mr. Reid's report on the reclaration wars which has been undertaken during the last 3 years.

on the specimitated by hy. Reid.

I have the honour to be,

Sir,

Your most obesient.

hauble corvent,

(Signed) L. S. AMERY

THE COVERNMENT OF

COPY .

ROYAL BOTANIC GARDENS, KEW, SURREY.

11th June, 1926.

Sir,

I have to acknowledge the receipt of Colonial Office letter No.C.10770/26 dated 3rd June and the enclosed copy of the despatch from the Governor of the Falkland Islands on the subject of the devastation caused by drifting sand on Cape Pembroke Peninsula, together with a report by Mr. J. Reid, Forest Officers, on the reclamation work which has been undertaken during the last three years.

The sand-binding grasses which were forwarded under separate cover have been identified as follows:-

Nos.I, III, V and VI are Poa Alopecurus. Kunth
Nos.II is Elymus arenarius L. (an introduced species
which is a native of the Northern Hemisphere).
No.IV is Poa robusta Steud.

I have read the report on the experiments which have been carried out and find the document one of considerable interest. Mr. Reid clearly understands the question thoroughly and has got the situation well in hand. He has discovered the most useful kinds of plants for the peculiar conditions prevailing in the Falkland Islands, and has evidently made good use of his knowledge

I hope Mr. Reid will be given every facility for extending his plantation as the reclamation work he has already achieved is of great value and further work of reclaiming the drifting sand cannot fail to be of great advantage to the Islands.

I am, etc.,

(SGD.) ARTHUR HILL.

Director.

The Under Secretary of State.
Colonial Office,
Downing Street, S.W.1.

Sand grass Fransplanted October 1926

MINUTE. (It is requested that, in any reference to this letter, the above Number and the date may be To Her. A. Loudary Stanley, Falkland Islands. he attached statement of the number of Land ofter plants transplanted on the Suli sula lies given le me this morning by Miteadle, For cally Kipi. Cabours, Who Carried Out the work. It can be attached to Mil in 2. I hope that we will have an opportunity of wispecting the Pentin Sula in the wear fature of

From His Excellency the Governor

SUPT SECRETARYS (SECRETARYS)

to The Honourable the Colonial Secretary.

I attack for lecond on whereast In?

notes of a restal report mede to me

to-day by M. Tradle, Forestry laboures,

in Councetion with his whent grass planting

on the Semin succe.

6 april 1927.

Melersey vouckers for payment of Mr. Summers and for live of horses showed now be prepared.

. A.

Sheet No.

Porbae Report by M. Made defending

1. Work Commenced 17th hearch

We. The sent of the Senin has occasion we. The part of the Senin hale due South of the larger Fusace bland in Part William. In the larger Fusace bland in Part William. In the larger Fusace bland in Part William. In the larger of this area of seed of running nevers the area ? and is. about 100 yands to the last of this area a further than Jentished from 11. to S. were planted from 11. to S. were planted from the West of the Light Norse a further, three lows stretching seros. The feminished were sown thuist in the Light three grounds a clump of 500 plants was stage all norms the fight stores building.

Dapri. 1727.

(10)

FALKLAND ISLANDS.

P No.

HEAD OF SERVICE

(or A/c.)

XV. STOCK DEPARTMENT.

(Other Charges).

SUB-HEAD

3. Planting Grass.

COLONIAL GOVERNMENT,

8th April, 192 7.

Dr. to Mr. D. Kludle.

in the sum of TEN FOUNDS

being the sum authorized for payment to Mr. D. Kiddle in respect of the hire of two horses from the 17th March to 51st March for use in connection with the work of planting grass plants and sowing grass seed at the Peninsula.

M.P. 126/26.

Authority for Expenditure

General Tarrant.

I CERTIFY that the above account is correct, the expenditure incurred under the authority quoted, and that the state charged a fair restriction which is correct, the expenditure incurred under the authority quoted, and that the state of the correct with the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the authority quoted, and that the state of the expenditure incurred under the expenditure incurred under the expenditure incurred under the expenditure incurred under the expension of the

£ 10. 0. 0.

Acting Colonial Secretary. Head of Department.

192

Received from the Colonial Treasury the amount specified in the foregoing warrant; to the correctness of which I hereby certify.

Witness.

FALKLAND ISLANDS.

No.

HEAD OF SERVICE

(or A/c.)

XV. STOCK DEPARTMENT.

(Other Charges).

SUB=HEAD

3. Planting of Grass.

COLONIAL GOVERNMENT,

8th April. 192 7.

Dr. to Mr. E. Summers.

in the sum of FIVE POUNDS EIGHTEEN SHILLINGS AND TENPENCE......

being the amount of wages due to him in respect of his services in planting grass plants and sowing grass seed at the Peninsula.

> Work commenced 17th March and finished 31st March -113 hours 50 minutes @ 1/- = 25. 18s. 10d.

> > M.P. 126/26.

Authority for Expenditure

General Carrant.

I CERTIFY that the above account is correct, the expenditure incurred under the authority quoted, and that the mixing and the authority quoted,

 f_0^0 5. 18s. 10d.

Acting Col. Secretary.

Head of Department.

192

Received from the Colonial Treasury the amount specified in the foregoing warrant; to the correctness of which I hereby certify.

MINUTE. 5. Thorember 192 y. (It is requested that, in any reference to this minute the above Number and the date may be quoted). From this busper don of Block ToStanley THE COLONIAL SECRETARY, Stanley, Falkland Islands. on the South side of the Eastern writers station There is about 2 acres of ground on which the sand is shifting # some of it. he sown on these sacres of among found to helf to stop the sand alufling. 3 of the prenment gardener has any 1 an Carter

MINUTE. (It is requested 15 July that, in any reference to this minute, 16 JUL. 1928 the above Number and the date may be anoted). ToStan lang THE COLONIAL SECRETARY. Stanley, Falkland Islands. alleg to report that it have was be the besses & sand grass flantations or the feverenta + have found that although the cand grass is from unarhelety well the have his not improved to any great-extent amount of sum and to the young busin plants. · have not - allowed them a chance & grow. 3 The hoese in bookers \$1. plantation is not doing long was & I helieve that " Cutting of this flantation wanted

the plantation at the Eastin bureless Sti. I have granged the young flants off Consider and have taken steps to have the gate into this faddock forefery account I this well probably sologe the graying of of the going turner i 1 to Carler 6.18.