Water Conservation
FACTSHEET

BRITISH COLUMBIA
Ministry of Agriculture, Food and Fisheries

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EVAPOTRANSPIRATION RATES FOR TURF GRASS IN BRITISH COLUMBIA

The proper design and operation of a turf irrigation system requires accurate evapotranspiration (ET) data.

The reference ET_o shown in the table is for a well watered grass crop. These values must be adjusted to determine turf grass ET values. Factors used to determine turf grass ET are the crop coefficient for turf grass and allowable stress for turf. The irrigation requirement (IR_T) for turf grass should also include an application efficiency. Where no other information is available, the following can be used:

Turf crop coefficient	- 0.75
Allowable stress	- 0.70
Irrigation Efficiency	- 0.70

Example: Water Use in Kelowna in July

From the table the reference ET_o = 7 inches.
The irrigation requirement for turf grass (IR_T) taking into account the above factors will be:

$$IR_T = \frac{ET_o \times \text{crop coefficient} \times \text{allowable stress}}{\text{irrigation system efficiency}}$$

$$= \frac{7 \times 0.75 \times 0.70}{0.70} = 5.25 \text{ inches}$$

The irrigation system efficiency should be determined by actual field measurements. Efficiencies can vary greatly. It is recommended that an irrigation system audit is conducted to determine all of the above factors. The Irrigation Industry Association of British Columbia (IIABC) can provide a list of certified landscape irrigation auditors.

Irrigation station operating times should be adjusted based on the turf irrigation requirement calculated for various stages of the season, and also take into account the irrigation system application rate, soil storage factor and soil infiltration capability. The ET_o values shown here are to be used as a guide only. ET data from local weather stations should be used if data is available. Daily climate data for BC can be found on www.farmwest.com. ET data on farmwest is for a **grass** reference crop.

Reference ET_0 (inches)						
Location	**Annual**	**May**	**June**	**July**	**August**	**Sept-Oct**
Abbotsford	13	2	2	4	4	1
Agassiz	7	1	1	2	2	1
Alexis Creek	14	2	2	4	4	2
Armstrong	17	2.5	2.5	5	5	2
Ashcroft	30	4.5	4.5	9	9	3
Aspen Grove	17	2.5	2.5	5	5	2
Barriere	17	2.5	2.5	5	5	2
Campbell River	13	2	2	4	4	1
Canal Flats	19	3	3	6	6	1
Castlegar	26	4	4	8	8	2
Cawston	30	4.5	4.5	9	9	3
Chase	20	3	3	6	6	2
Cherryville	18	2.5	2.5	5.5	5.5	2
Chilliwack	7	1	1	2	2	1
Clinton	20	3	3	6	6	2
Cloverdale	11	1.5	1.5	3	3	2
Comox	15	2	2	4.5	4.5	2
Creston	20	3	3	6	6	2
Douglas Lake	20	3	3	6	6	2
Duncan	11	1.5	1.5	3	3	2
Ellison	21	3	3.5	6.5	6	2
Fort Fraser	11	1.5	1.5	3	3	2
Fort Steele	14	2	2	4	4	2
Golden	14	2	2	4	4	2
Grand Forks	14	2	2	4	4	2
Grandview Flats	23	3.5	3.5	7	6.5	2.5
Grasmere	18	2.5	2.5	5.5	5.5	2
Grindrod	11	1.5	1.5	3.5	3	1.5
Hazelton	4.5	0.5	0.5	1.5	1.5	0.5
Hixon	10	1.5	1.5	3	3	1
Hope	13	2	2	4	4	1
Invermere	22	3.0	3.5	7	6.5	2
Kamloops	27	4	4	8	8	3
Kelowna	24	3.5	3.5	7	7	3
Keremeos	27	4	4	8	8	3
Kimberley	23	3.5	3.5	7	6.5	2.5
Ladner	11	1.5	1.5	3	3	2
Langley	9	1.5	1.5	3	2.5	0.5
Lillooet	24	3.5	3.5	7	7	3

Reference ET_0 (inches)

Location	Annual	May	June	July	August	Sept-Oct
Lister	20	3	3	6	6	2
Lumby	20	3	3	6	6	2
Lytton	30	4.5	4.5	9	9	3
Malakwa	12	1.5	2	4	3.5	1
Merritt	26	3	4	8	8	3
Nanaimo	14	2	2	4	4	2
Notch Hill	18	2.5	3	5.5	5	2
Oliver	29	4	4.5	9	8.5	3
100 Mile House	21	3	3	6	6	3
Osoyoos	30	4.5	4.5	9	9	3
Oyster River	9	1.5	2	3	2.5	1
Parksville	14	2	2	4	4	2
Pitt Meadows	9	1.5	2	3	2.5	1
Port Alberni	15	2	2.5	5	4.5	1
Prince George	14	2	2	4	4	2
Princeton	22	3	4	6.5	6.5	2
Quesnel	12	1.5	2	4	3.5	1
Radium	16	2.5	3	5	4.5	1
Riske Creek	20	3	3.5	6	5.5	2
Saanichton	13	2	2	4	4	1
Salmon Arm	17	2.5	3	5	4.5	2
Smithers	12	1.5	2	4	3.5	1
Spillimacheen	18	2.5	3	5.5	5	2
Sumas	11	1.5	2	3.5	3	1
Summerland	24	3.5	3.5	7	7	3
Terrace	12	1.5	2	4	3.5	1
Vancouver	14	2	2	4	4	2
Vanderhoof	12	1.5	2	4	3.5	1
Vavenby	17	2.5	3	5	4.5	2
Vernon	20	3	3.5	6	5.5	2
Walhachin	25	3.5	4	7.5	7	3
Westwold	25	3.5	4	7.5	7	3
Williams Lake	18	2.5	3	5.5	5	2

FOR FURTHER INFORMATION CONTACT
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