Plant Propagation Protocol for *[Insert Species]*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/*[2024]*/*[SAPO.pdf]*

Source: Svalbard Flora[13]

TAXONOMY	
Plant Family	
Scientific Name	*Salicaceae*
Common Name	Willow family
Species Scientific Name	
Scientific Name	*Salix polaris* Wahlenb
Varieties	*Salix polaris* Wahlenb. var. *selwynensis* Raup *Salix polaris* Wahlenb. var. *glabrata* Hultén
Sub-species	*Salix polaris* Wahlenb. ssp. *pseudopolaris* (Flod.) Hultén
Cultivar	
Common Synonym(s)	*Salix polaris* Wahlenb. var. *selwynensis* Raup *Salix polaris* Wahlenb. var. *glabrata* Hultén *Salix polaris* Wahlenb. ssp. *pseudopolaris* (Flod.) Hultén *Salix pseudopolaris* Flod.
Common Name(s)	polar willow, snow-bed willow

Species Code (as per USDA Plants database)	SAPO
GENERAL INFORMATION	
Geographical range	 *Salix Polaris* Distribution in North America.[1]
Ecological distribution	Grows in harsh sub arctic and arctic environments within moist moss beds, steep slopes, and melted snow beds.[1]
Climate and elevation range	Can grow up to 1,800 meters and can withstand temperatures as low as 40 °C.[2] During a typical growing season temperature ranges from 8-20 °C.[3] Maximum precipitation is 99 cm, and minimum precipitation is 10cm, usually in the form of snowfall.[4]
Local habitat and abundance	Various moss and lichen species *Saxifraga oppositifolia* *Sanionia uncinate* *Aulacomnium turgidum* *DryasoctopetalaL* *Luzula confusa*
Plant strategy type / successional stage	A Dominate species in late succession ecosystems after snow melt and/or glacial retreat.[5] Able to take advantage of ground water during dry months with long root system.[6] Can tolerate stress of long cold winters.[2]
Plant characteristics	A creeping deciduous shrub that retains leaves into snowfall.[2,7] The above ground portion of the plant has small dark green ovate leaves (1 cm diameter) with an entire margin, and short stems (2-9 cm).[4,8]
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Plant

Propagation Method	Vegetative
Product Type	Container
Stock Type	N/A
Time to Grow	Plants will establish better if out planted while still small (1-2 months).[2]
Target Specifications	Plants with a well-established root system, moderate stem growth, and horizontal growth of at least 100cm.[5]
Propagule Collection Instructions	Collect softwood cuttings during late Autumn and cut into 10cm long segments.[2,9,10] Plants are diecious, so ensure cuttings of both male and female plants if plan is to have plants reproduce sexually after outplanting.[4]
Propagule Processing/Propagule Characteristics	Short seed longevity.[2]
Pre-Planting Propagule Treatments	Store cuttings wrapped in moist cloths at -1°C for upwards of 6 months.[11] Remove most of leaves as to prevent water loss, although keep some for respiration[12]
Growing Area Preparation / Annual Practices for Perennial Crops	Grow in media that is a 2:1 ratio of peat soil and perlite and then cover in a thin layer of sand. Plant in 4cm x 4cm pots in a high humidity tent. Keep cuttings at 0-4 °C until spring, and then raise temperature up to 22 °C [11]
Establishment Phase Details	Spontaneous root growth occurs immediately after planting and root establishment occurs in one to two months.[11]
Length of Establishment Phase	one to two months
Active Growth Phase	*Salix Polaris* has a short annual growing phase lasting from June to August in most parts of Alaska and is shorter in more arctic regions.[7] Leaves will occur just after snow melt.[8]
Length of Active Growth Phase	three months
Hardening Phase	After root establishment keep cuttings at 0-4°C.[11]
Length of Hardening Phase	
Harvesting, Storage and Shipping	If harvesting seeds, immediately plant, but if needed seeds can be stored within damp peat in a refrigerator for up to a month.[12]
Length of Storage	Cuttings can be stored for up to 6 months in cold and moist conditions.[11] Cuttings can also immediately be staked[12]
Guidelines for Outplanting / Performance on Typical Sites	Cuttings have shown 90 to 100% rooting after outplanting when planted in Spring.[9] Leaf emergence will occur immediately after snow melt the next winter, and buds will begin to develop the spring following outplanting. Flowering occurs soon after leaf emergence (5-10 days), and fruit will occur shortly after.[8]
Other Comments	
INFORMATION SOURCES	

References	See Below
Other Sources Consulted	See Below
Protocol Author	Sarah Linton
Date Protocol Created or Updated	04/29/24

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[12]Toogood A. 1999. Plant Propagation the Fully Illustrated Plant-by-Plant Manual of Practical Techniques. American Horticulture Society. DK Publishing.

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