Research for identification of specimen from April Fools Lake Core (Lesleigh Anderson) 7/2017

D7, 85cm. Final specimen id.- Juniperus horizontalis stem fragments.

***Chamaecyparis nootkatensis* vs. *Juniperus horizontalis***

***Trees and Shrubs of British Columbia Key:***

***Juniperus***- twig and leaves cordlike, 1mm thick, each leaf with a resin spot on the back.

***J. horizontalis***: leaves scale-like and opposite, shortly needlelike and transitional leaf forms often occur on vigorous long shoots, acute (tapering to a point with straight sides), glandular on back. Boreal transcontinental and southward along the Rocky Mountains to Colorado. Widespread in central and northern BC east of the Coast Range in open woods and balds, at low to middle elevations.

***Chamaecyparis***- leaves distinctly keeled (with distinct longitudinal ridge) and sharp pointed, unspotted on the back.

***C. nootkatensis***: Leaves angular rather than rounded with slightly divergent (spreading) tips especially on vigorous terminal shoots. In BC on the coastal islands mostly between 600-900m extending down to sea level where it prefers swampy habitats.

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***J. horizontalis*:** leaves scale-like, appressed (pressed to stem), cuspidate (short tipped), rocky and sandy places, young Alaskan specimens are said to have subulate (awl shaped), spreading leaves.

***C. nootkatensis*:** twigs 4-angled or somewhat flattened, scale-like, appressed, pointed (occasionally acicular), scattered in small groups in coastal forest from sea level up to about 1,000m but best developed below 400m.

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***J. horizontalis*:** Prostrate to decumbent shrubs; scale-like leaves apiculate at apex (ending abruptly in a small slender tip), (J. scopulorum, leaves not overlapping or not by more than 1/5 of length.) branchlets erect, 3--4-sided in cross section, ca. 2/3 or less as wide as length of scale-like leaves. Leaves green but turning reddish purple in winter, abaxial gland elliptic, conspicuous, exudate absent, margins entire (at 20´ and 40´); whip leaves 4--8 mm, not glaucous adaxially; scale-like leaves 1.5--2 mm, mostly overlapping to 1/3 their length, apex rounded or obtuse to acute and apiculate, spreading. Sand dunes, sandy and gravelly soils, prairies, slopes, rock outcrops, and stream banks; 0--1000 m; St. Pierre and Miquelon; Alta., B.C., Man., N.B., Nfld., N.W.T., N.S., Ont., P.E.I., Que., Sask., Yukon; Alaska, Ill., Iowa, Maine, Mass., Mich., Minn., Mont., Nebr., N.H., N.Y., N.Dak., S.Dak., Vt., Wis., Wyo.

Juniperus horizontalis, a prostrate species, hybridizes with the trees J . virginiana and J . scopulorum (R. P. Adams 1983; N. C. Fassett 1945; M. Palma-Otal et al. 1983) and is closely related to both. The hybrid between J . horizontalis and J . scopulorum has been named J . ´ fassettii Boivin.

FEIS has a photo of J. horizontalis

***Chamaecyparis*:** Branchlets terete or rhombic in cross section, in fan-shaped or pinnately flattened sprays. Leaves opposite in 4 ranks. Adult leaves usually appressed, lateral and facial pairs similar, closely overlapping, scale-like, free portion of long-shoot leaves to ca. 7 mm; abaxial glands present or absent, circular to linear.

***C. nootkatensis*:** leaves usually without glands, these circular when present; apices of facial leaves of branchlets often overlapping the base of next facial leaf. Leaves of branchlets mostly 1.5--2.5 mm, stout, occasionally glandular on keel, apex rounded to acute or acuminate (gradually tapering to a sharp point forming concave sides along the tip, bases of facial leaves often overlapped by apices of subtending facial leaves; glands usually absent (circular when present). Coastal mountain ranges; 0--1500 m; B.C.; Alaska, Calif., Oreg., Wash.

Disjunct inland populations of *Chamaecyparis nootkatensis* occur in British Columbia and Oregon (V. J. Krajina et al. 1982).

**Porsild and Cody, Vascular Plants of NW Territories, Canada.**

***Juniperus horizontalis***: Rocky and gravelly places and apparently restricted to soils derived from calcareous rocks, barely reaching SW Alaska.

**Hosie, Native Trees of Canada**

***C. nootkatensis:*** leaves, 1/8-1/4 in long, pointed, scale-like, with the tips often diverging, sometimes pitted with glands on the surface. Unlike arbor-vitae, the leaves are all alike, twigs are 4-sided but slightly flattened, unpleasant to touch because of sharp spreading leaf tips. Habitat-found in the Coast Forest Region and in the coastal parts of the subalpine forest region. North of Knight inlet it grows down to sea level, but south from there its normal habitat is higher. Near the ocean it makes its best growth in deep soil where there is planet of moisture and in these circumstances will usually grow singly or in small clumps in mixture with other conifers.

***J. horizontalis***: most leaves are scale-like.

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***J. horizontalis***: scale-like and imbricated, bluffs alluvial fans, terraces, and rocky slopes.

Cassiope mertensiana – photo at USDA Plants