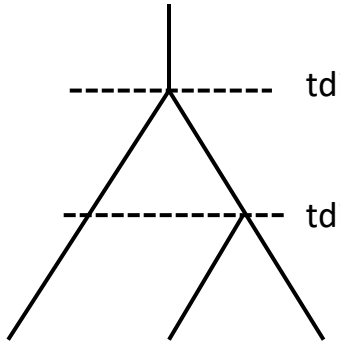
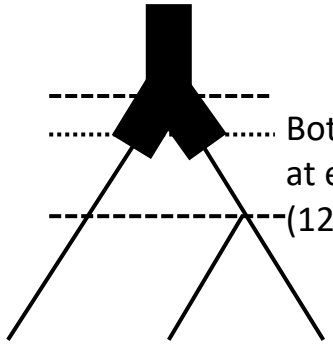
a



tdiv (<20,000)

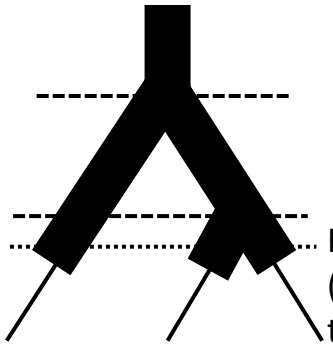
tdiv (20,000-9,000ya)

b



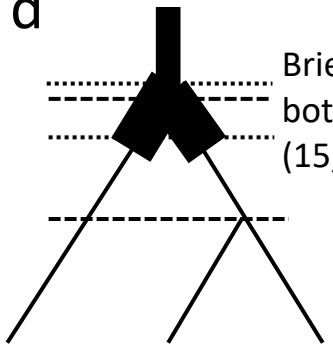
Bottle neck beginning at end of ice age (12,000-10,000ya)

c



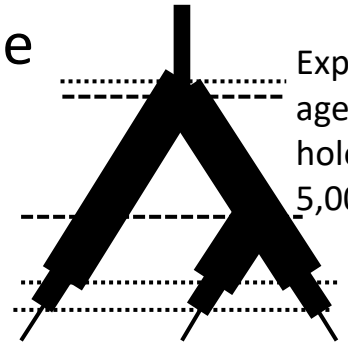
Bottle neck beginning (7,000-5,000ya similar range to sub alpine fir before this point)

d



Brief expansion then bottleneck after LGM (15,000-9,000ya)

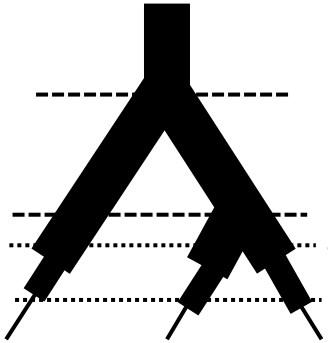
e



Expansion at end of Ice age through mid holocene (15,000-5,000ya)

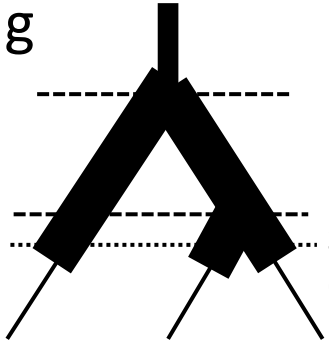
Gradual decrease in pop as climate continues to warm(5,000-3,000ya)

f



Same, as c, just with gradual bottleneck (5,000-3,000ya)

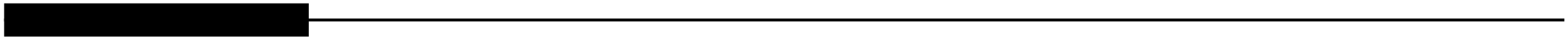
g



Same as c with population expansion

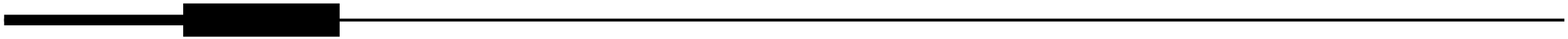
a: null

b: LGM and early Holocene= goldilocks zone; soon into of Holocene, too warm



c: LGM through mid Holocene= goldilocks zone; mid-Holocene, too warm

d: LGM too cold; early Holocene= goldilocks zone, pop expansion; soon into Holocene, too warm

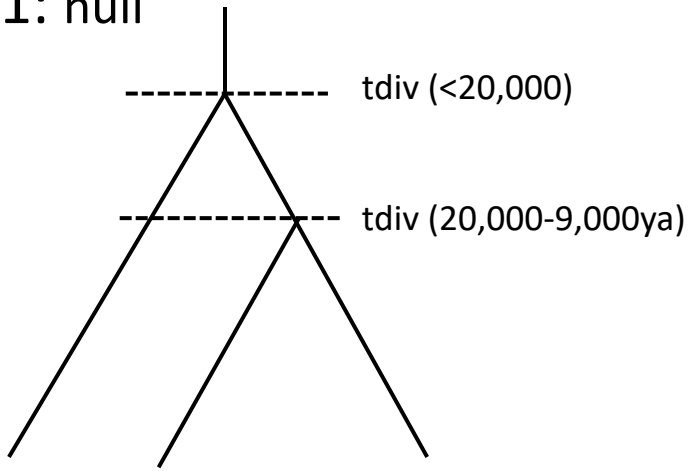


e: LGM too cold; early Holocene= goldilocks zone, pop expansion; gradual contraction as things warm

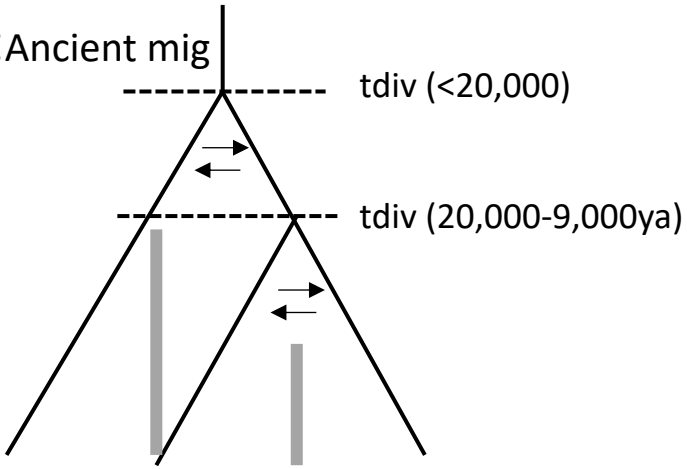
f: LGM and early Holocene= goldilocks zone, pop expansion; gradual contraction as things warm

g: LGM too cold; Holocene= goldilocks zone, pop expansion; mid-Holocene too warm

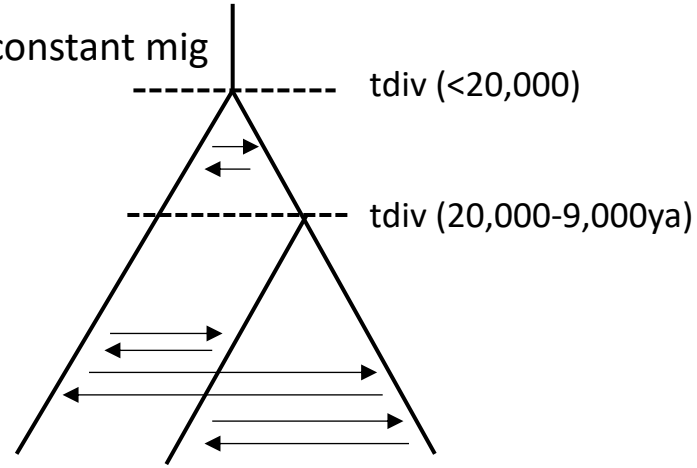
1: null



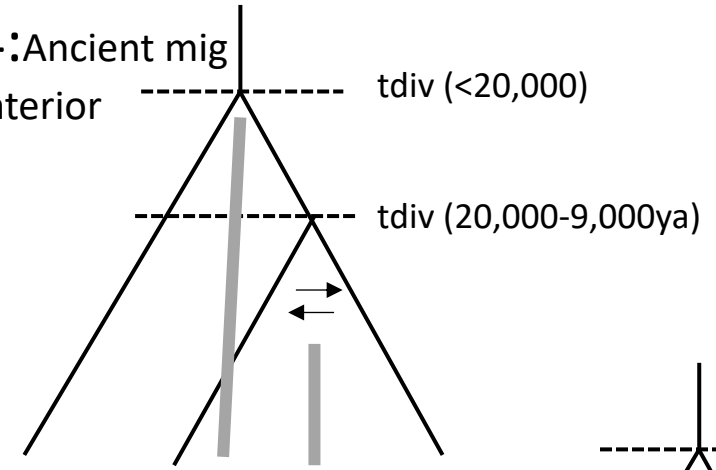
2: Ancient mig



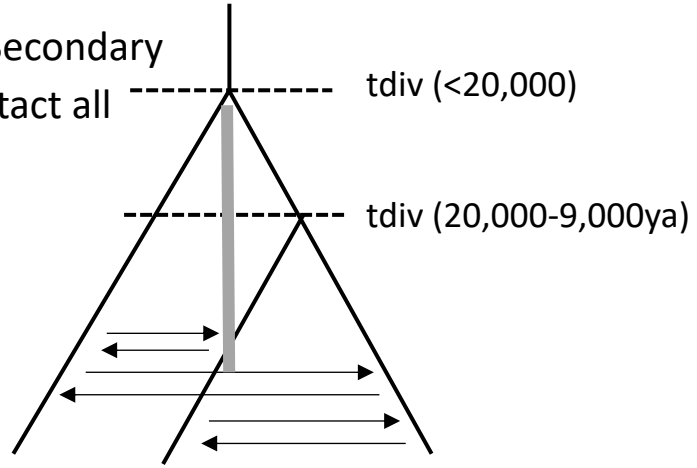
3: constant mig



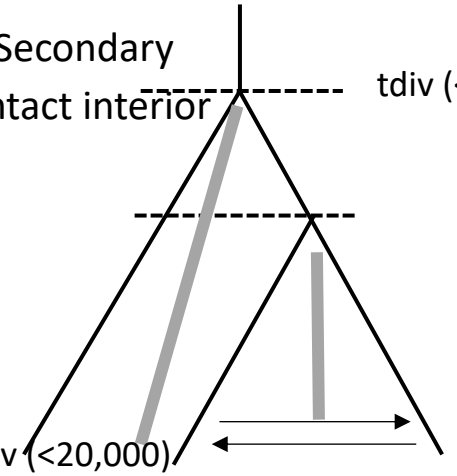
4: Ancient mig interior



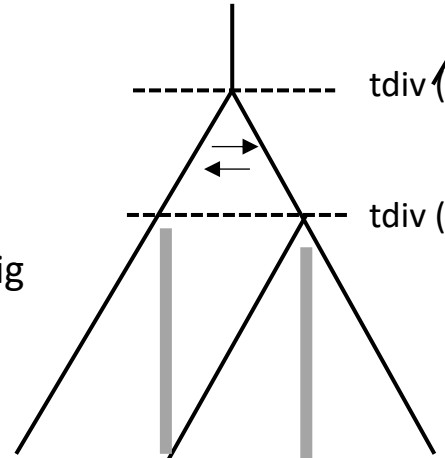
5: Secondary contact all



6: Secondary contact interior

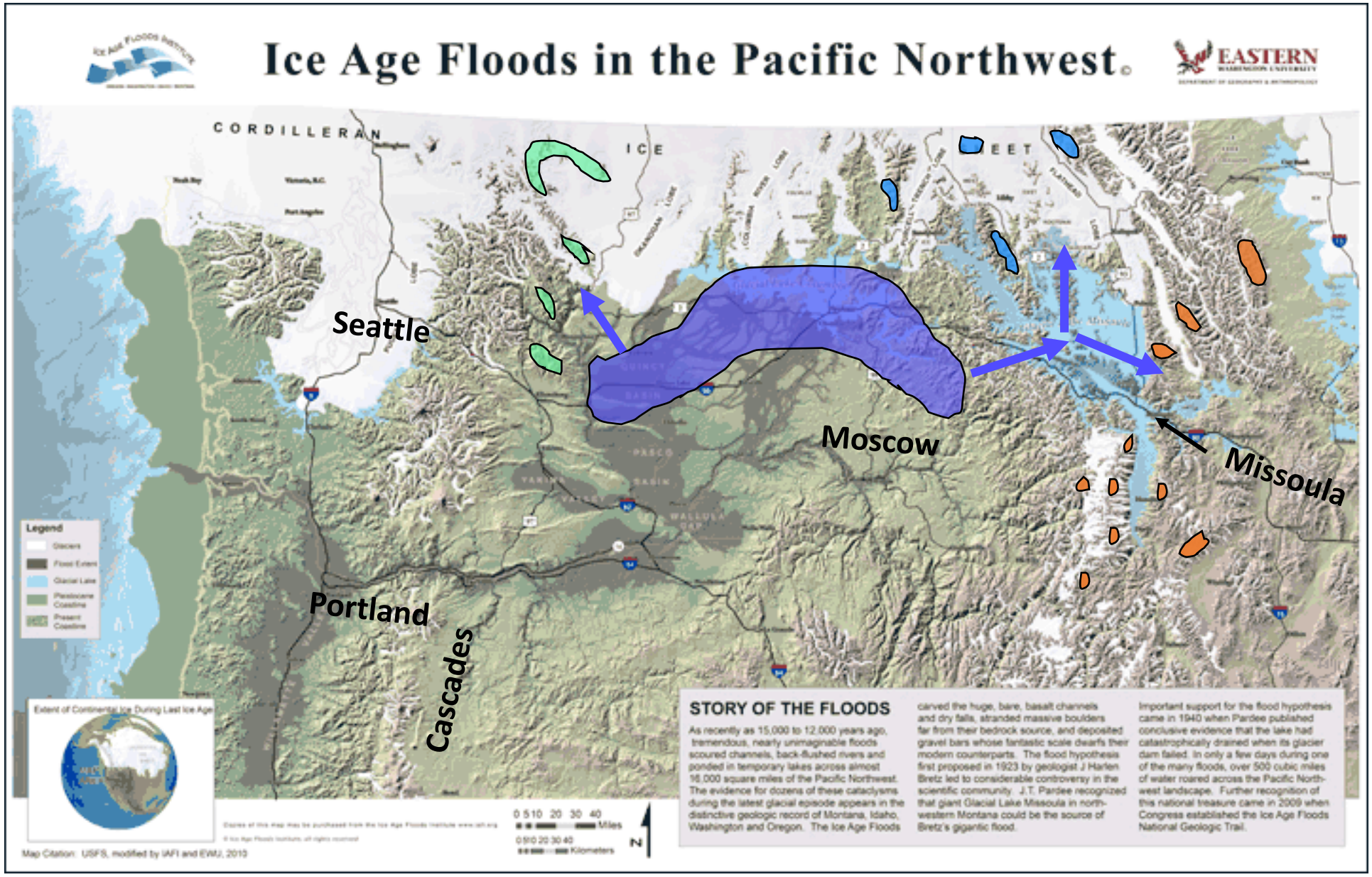


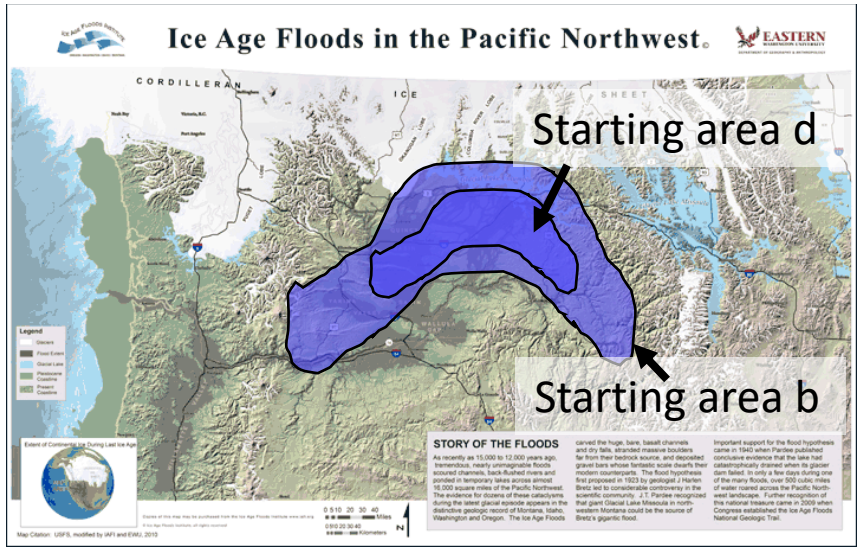
7: Ancient mig coast interior



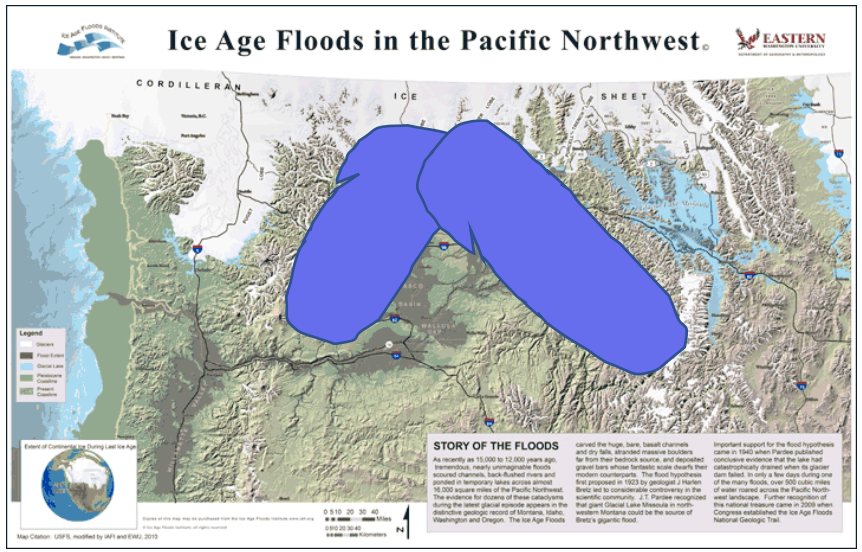
1: apply to all
2: apply to a, c, e, f, g
3: apply to a, e, f
4: apply to a, c, e, f, g
5: apply to a, e, f
6: apply to a, e, f
7: apply to all

Recent vicariance out of Columbia Basin

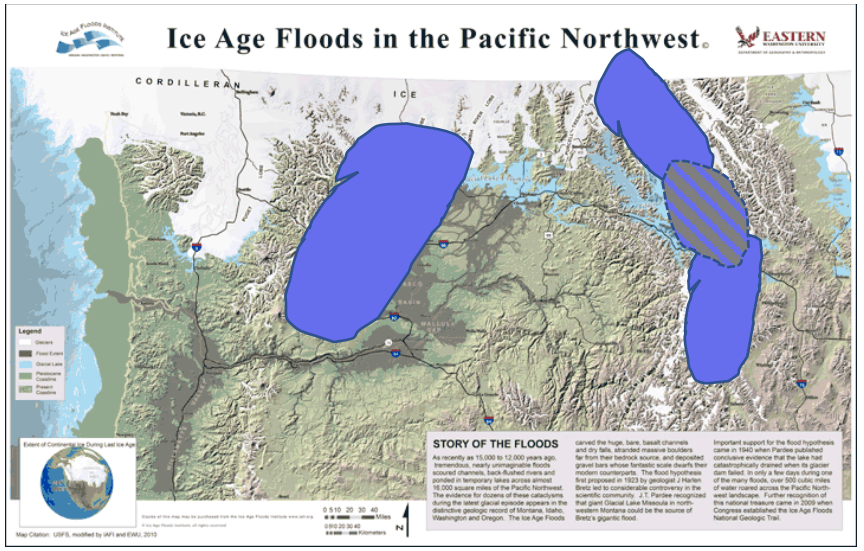




~22,000ya

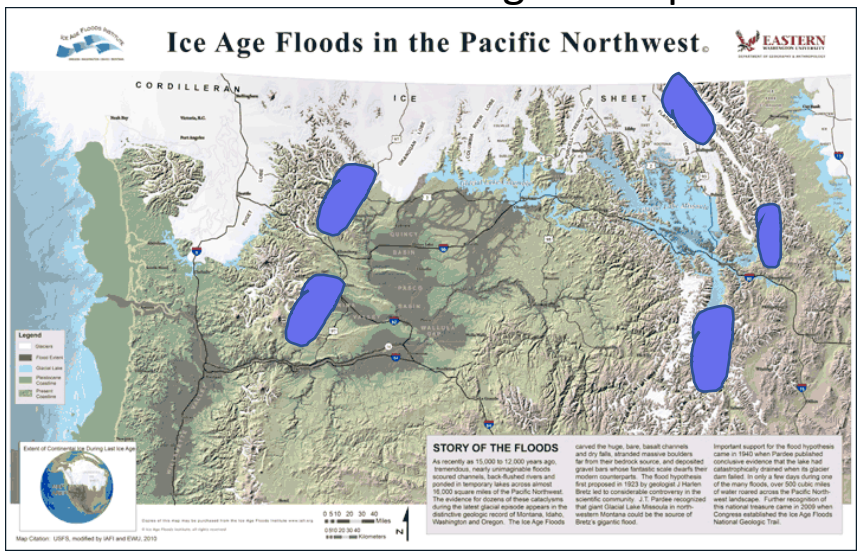


~12,000-10,000 ya
b: constant pop
d: pop expansion



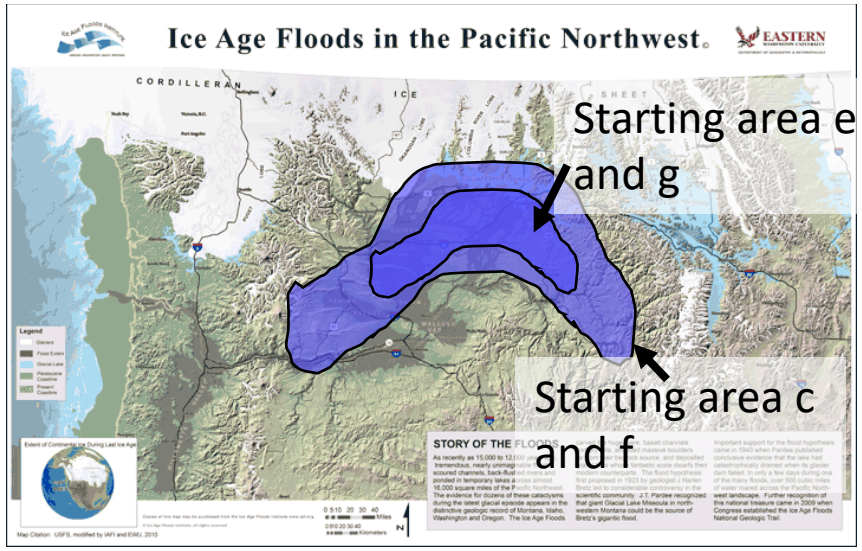
~10,000-9,000 ya and south interior

still constant pop; north begin to separate

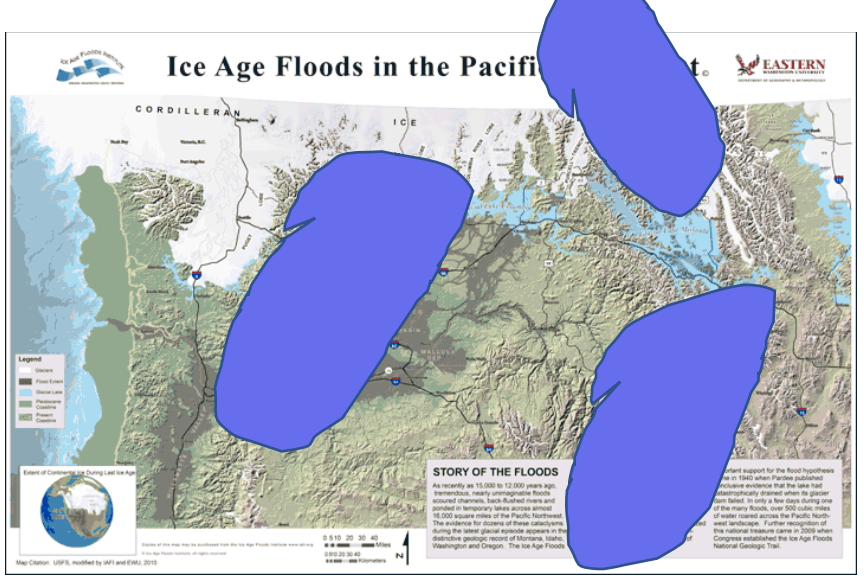


After 9,000ya massive pop contraction begins

Rough outline of b and d



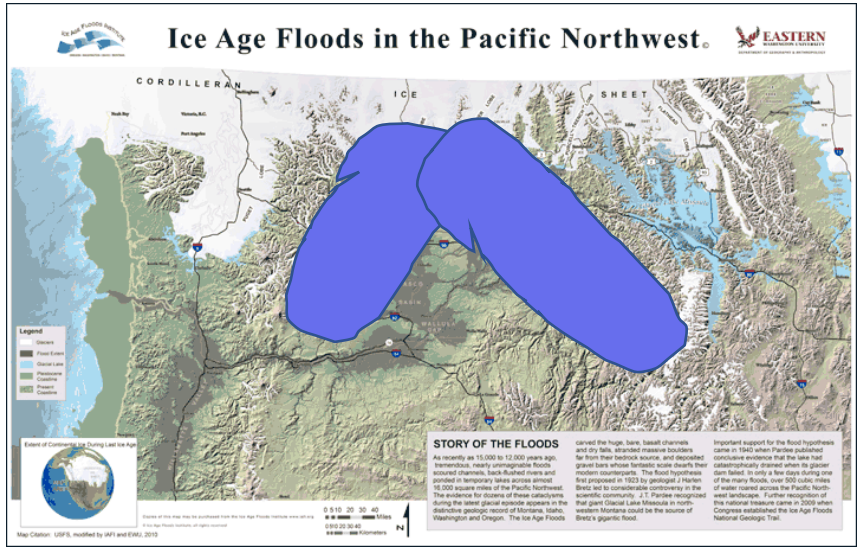
~22,000ya



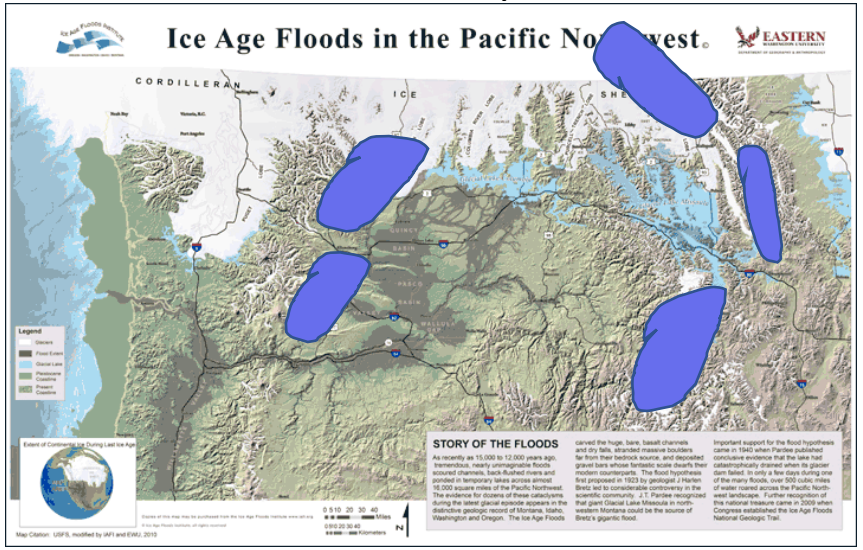
~9,000-5,000 ya
south interior

still constant pop; north and separate

Rough outline of c, e, f, and g

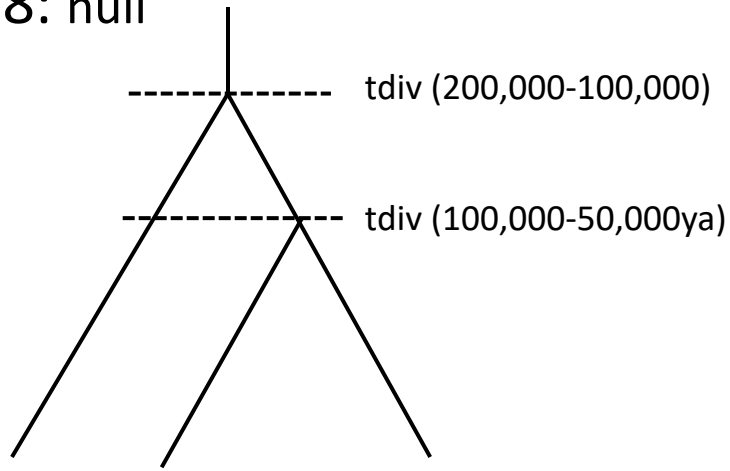


~12,000-10,000 ya
c and f: constant pop
e and g: pop expansion

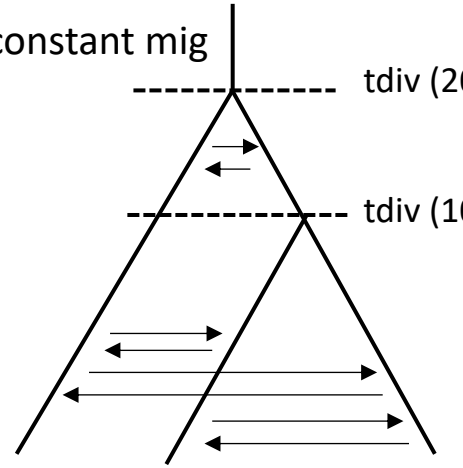


5,000-3000ya: e and f gradual pop contraction begins
5,000: g and c, quick population contraction begins

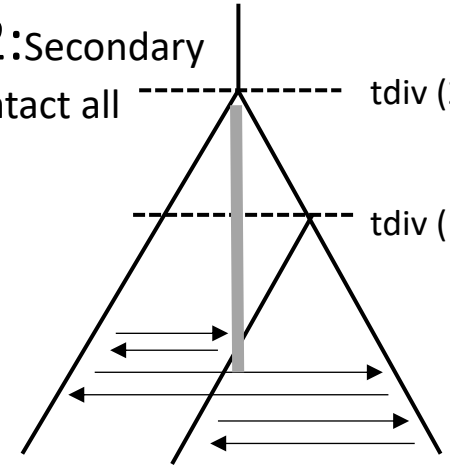
8: null



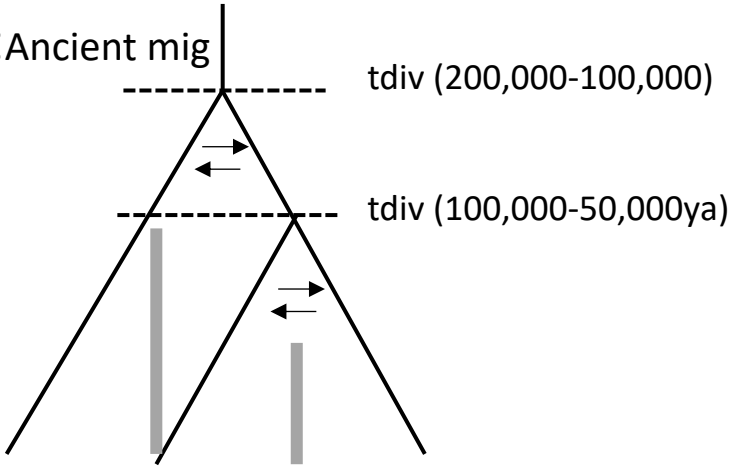
10:constant mig



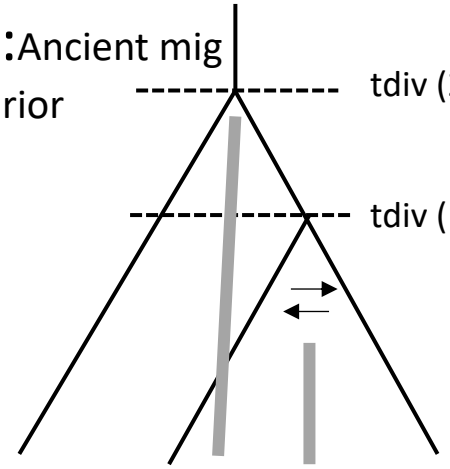
12:Secondary contact all



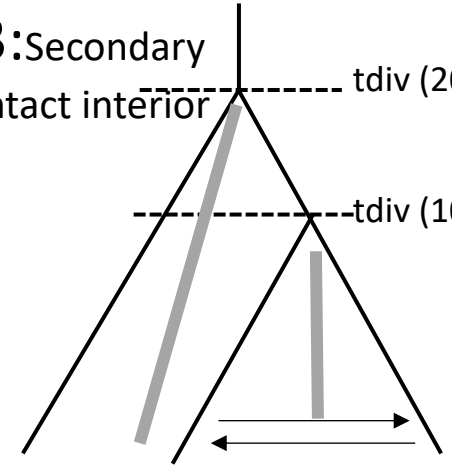
9:Ancient mig

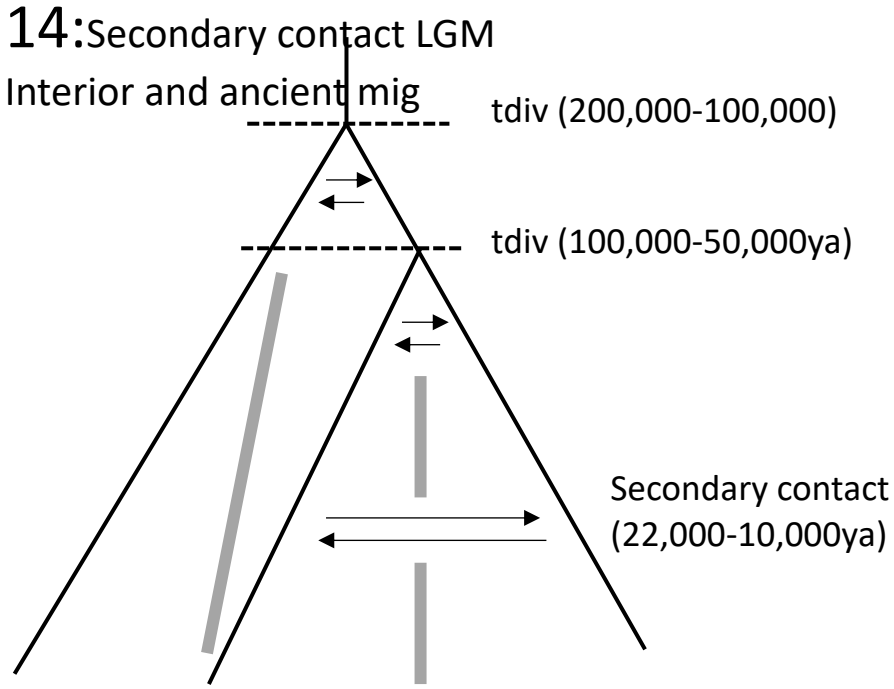


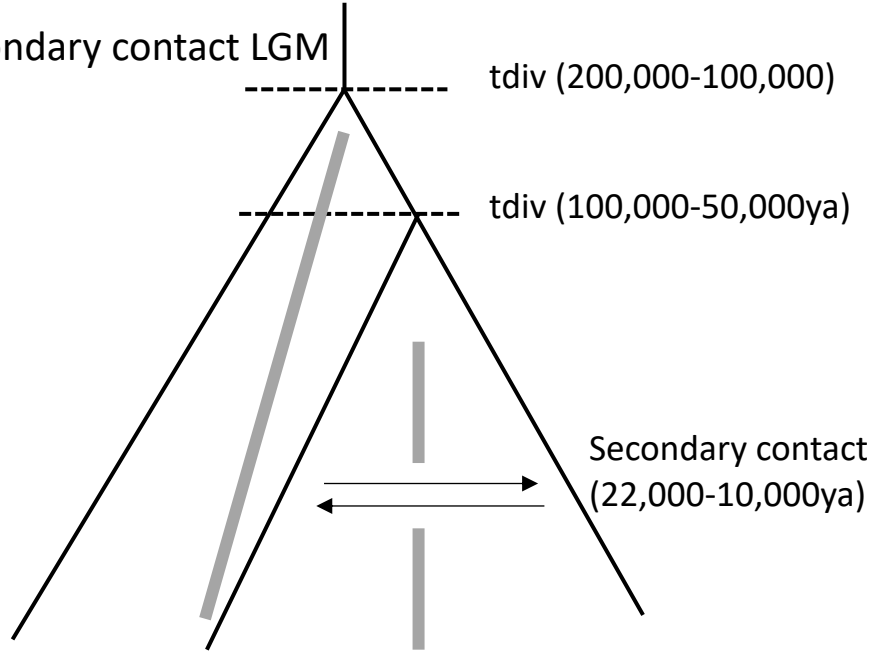
11:Ancient mig interior

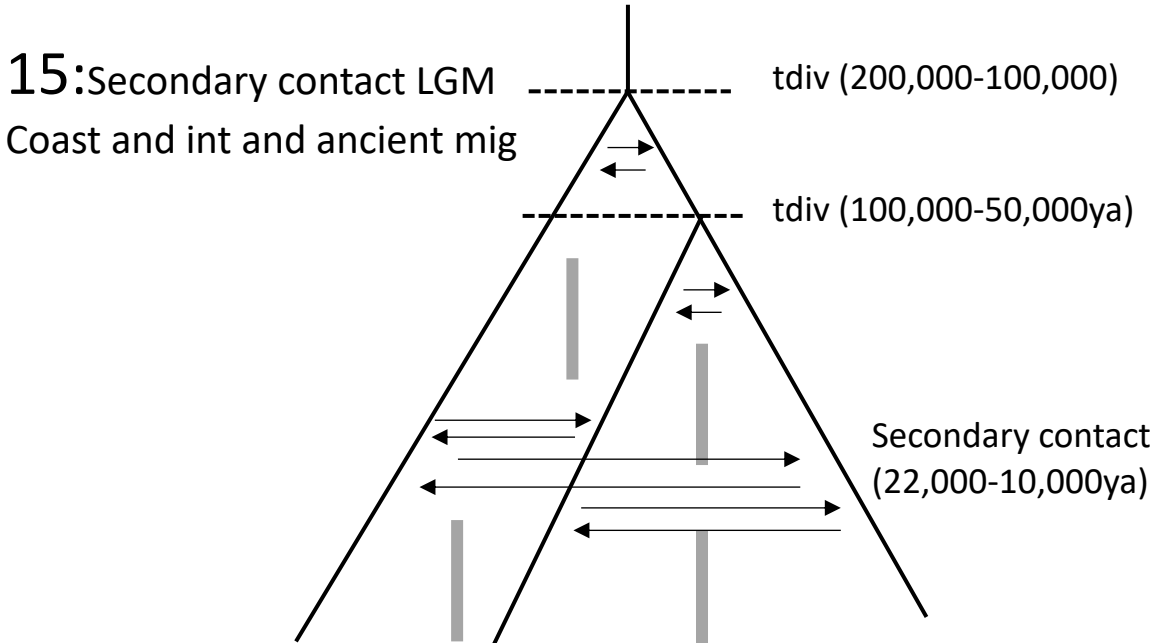


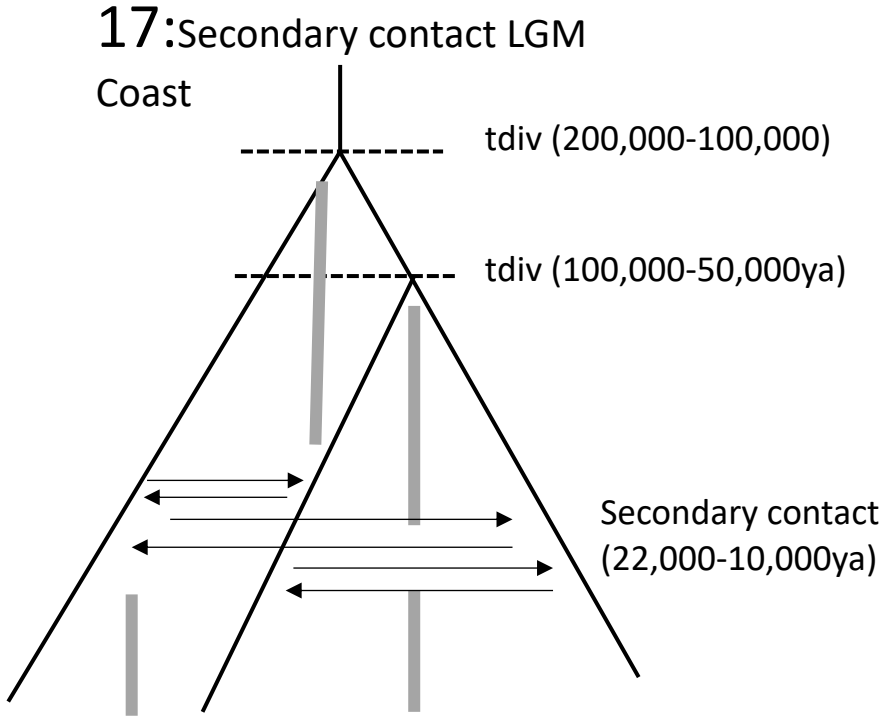
13:Secondary contact interior




14:Secondary contact LGM
Interior and ancient mig
tdiv (200,000-100,000)
tdiv (100,000-50,000ya)
Secondary contact
(22,000-10,000ya)


16:Secondary contact LGM
tdiv (200,000-100,000)
tdiv (100,000-50,000ya)
Secondary contact
(22,000-10,000ya)


15:Secondary contact LGM
Coast and int and ancient mig
tdiv (200,000-100,000)
tdiv (100,000-50,000ya)
Secondary contact
(22,000-10,000ya)


17:Secondary contact LGM
Coast
tdiv (200,000-100,000)
tdiv (100,000-50,000ya)
Secondary contact
(22,000-10,000ya)