

EXTREME SITKA SPRUCE DEFOLIATION

IN THE NORTH COAST IN 2023

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Counties

DEFOLIATION

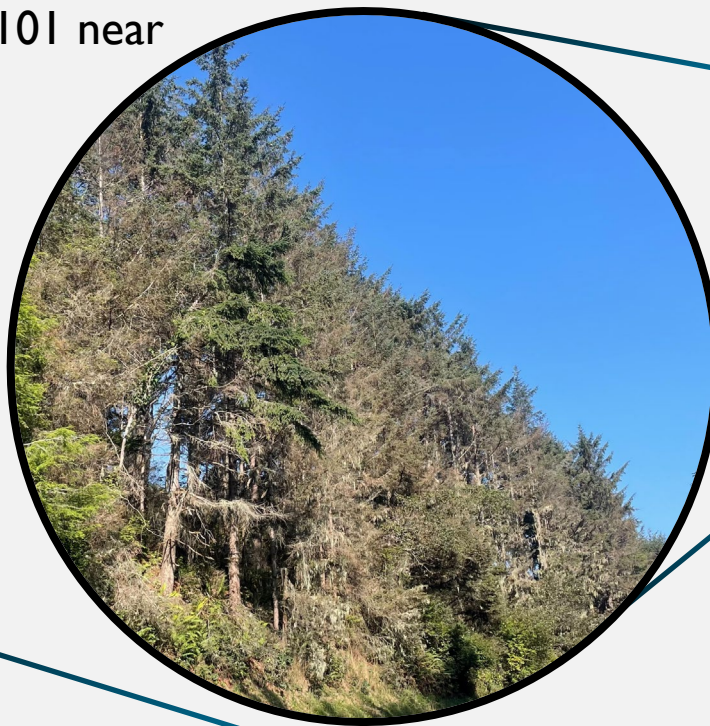
- Inner (older) needles on many trees
- Tip dieback also some trees
- Local patches of severe defoliation
- Little definite mortality—most trees still have green at the top
- Problem fades out in north (Del Norte County) and south (Mendocino County)



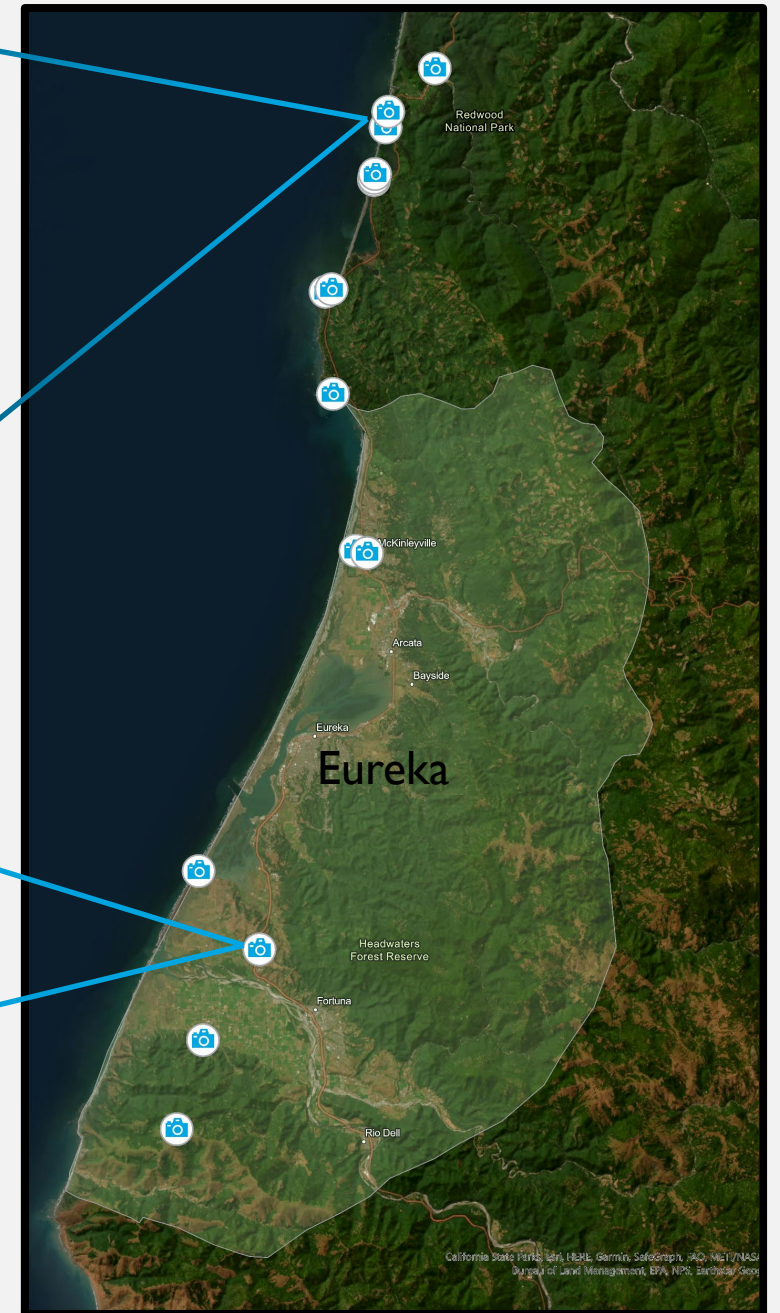
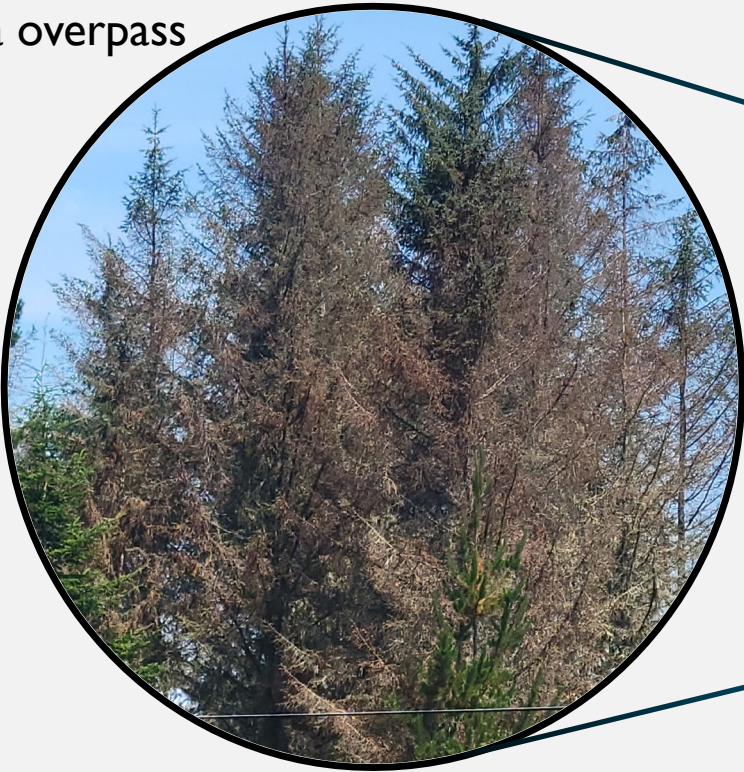
Where is this Happening?

Highway 101 near lagoons

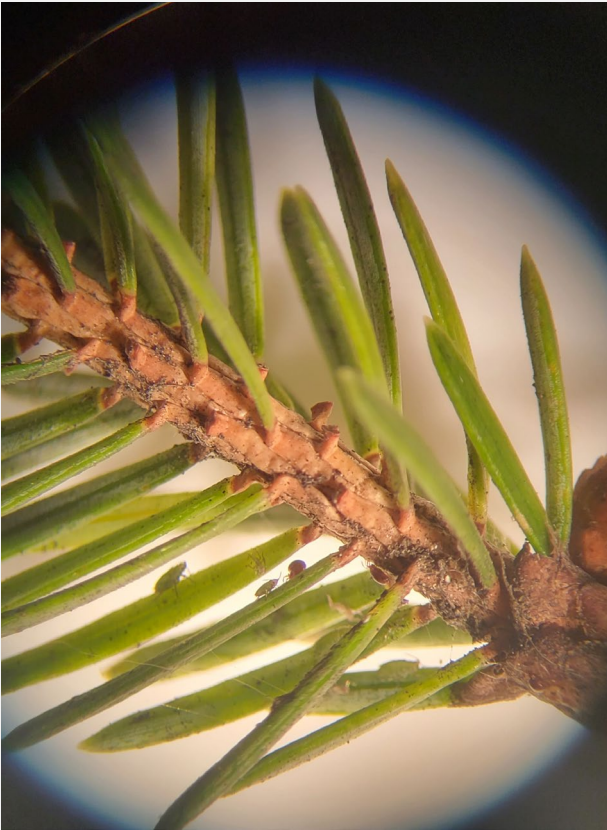
September 2023



Loleta overpass



What's Causing The Problem? Some Suspects



Invasive Spruce Aphid (*Elatobium abietinum*)



Giant Conifer Aphid (*Cinara spp.*)



Spider Mites (*Oligonychus ununguis*)



?????????

TANGENT: *SIROCOCCUS CONIGENUS*



CONIFER TIP DIEBACK

HUMBOLDT AND MENDOCINO COUNTIES

1. Redwood stump sprouts: *Sydowia polyspora*, *Alternaria* sp., *Botrytis* sp.
2. Redwood young tree: *Clonostachys rosea*, *Botrytis* sp., *Alternaria alternata*
3. Redwood mature trees: **Several bot canker fungi**, *Diaporthe* sp., *Fusarium* sp.
4. Douglas-fir young trees: *Sydowia polyspora*, *Botrytis cinerea*, *Fusarium oxysporum*, *Sirococcus conigenus*
5. Ponderosa pine mature trees: *Diplodia sapinea*, *Sydowia polyspora*
6. Grand fir young trees: *Botrytis* sp., *Sydowia polyspora*
7. Shore pine young trees: *Sydowia polyspora*, *Diplodia scrobiculata*, *Fusarium* sp.
8. Sitka spruce mature tree (multiple): *Botrytis* sp., *Neopestalotiopsis* sp.

Future Sitka spruce plans in Humboldt: Follow the currently damaged trees over the long term (in association with Wiyot Tribe)