



# Weeds in Wild Blueberry Fields

2019 - 2020 WEED SURVEY

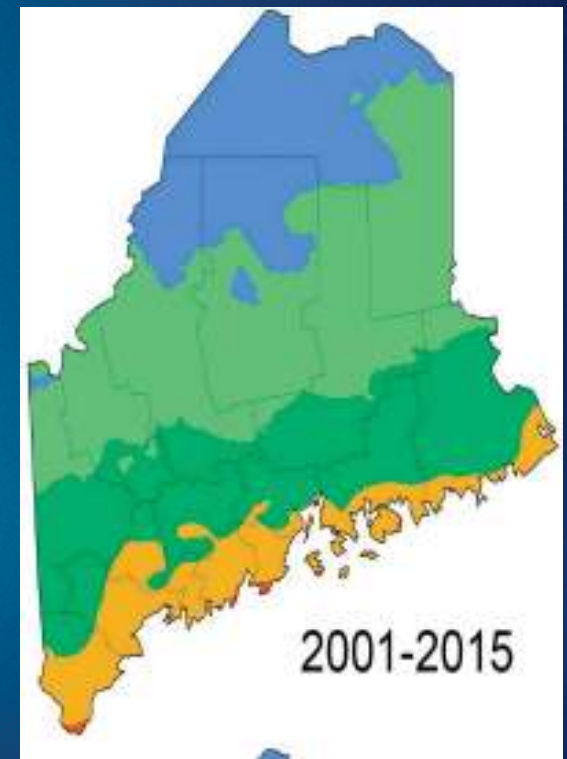


# Weeds

- In 2018, we held a survey
  - 45% farmers surveyed said that the weed control was one of their greatest challenges.
- No published weed survey since 1980.

# Factors that Impact Weed Communities

- Plant hardiness zones
- Organic management



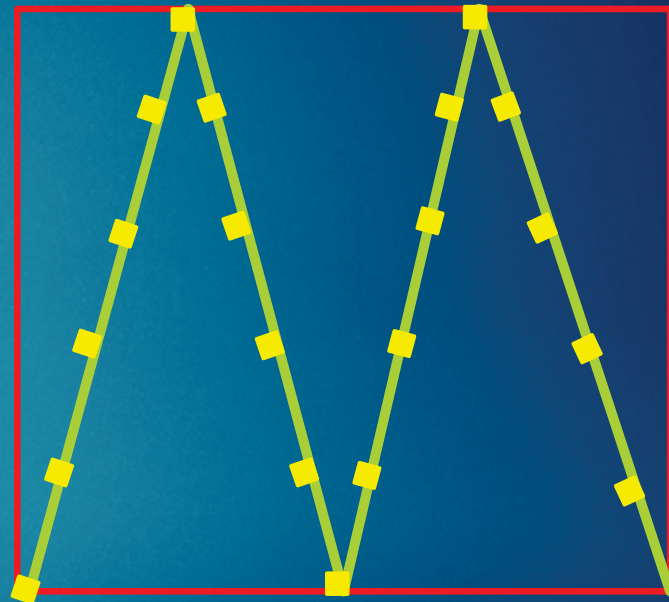
# Methods

- 10 Prune Fields 2019, 10 more in 2020
- Four regions
  - Midcoast, Ellsworth, Downeast and Far Downeast
  - At least one conventional and organic field from each region, each year



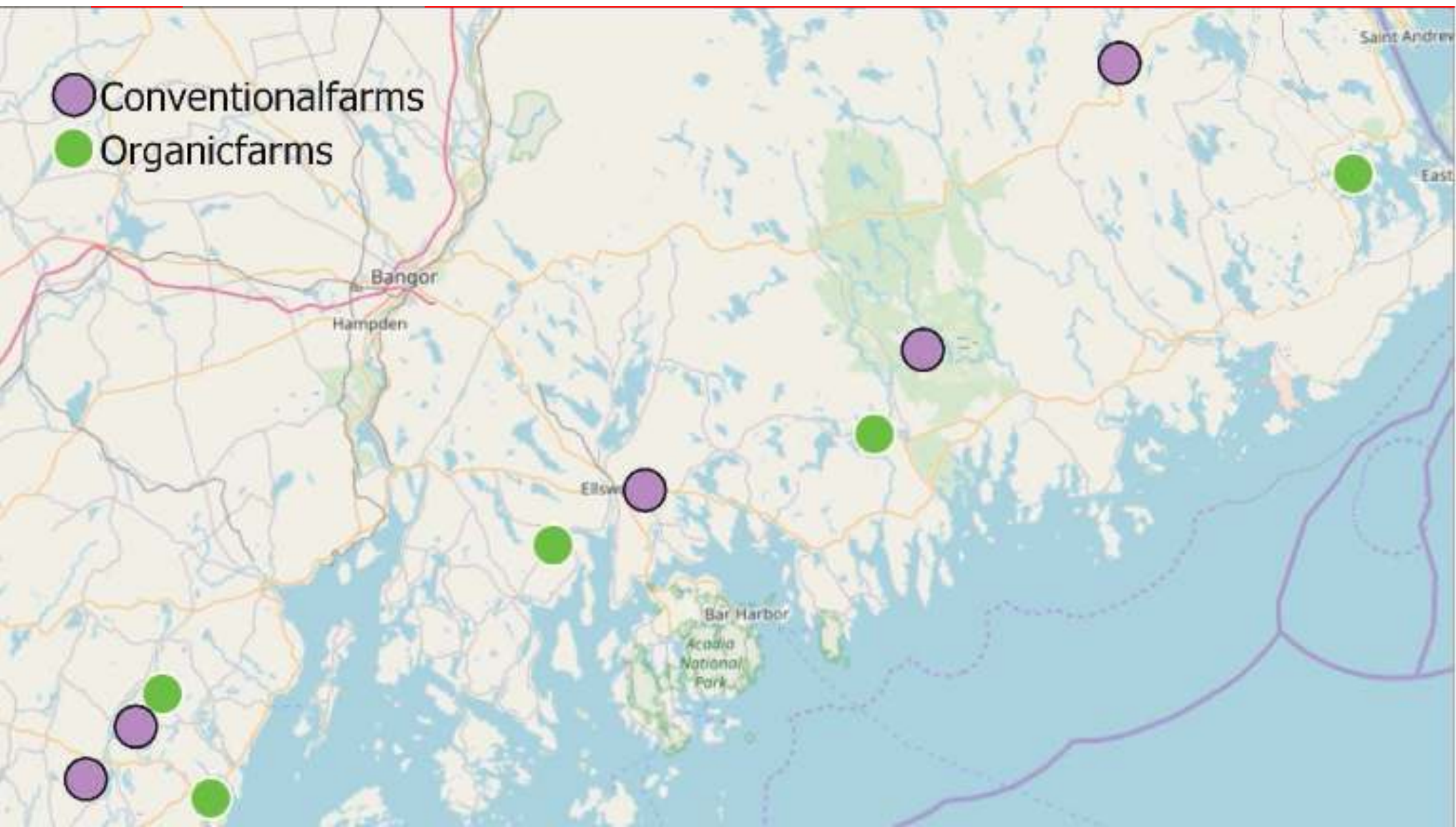
# Daubenmire Survey Method

- Blocks setup in fields
- 4 transects in an upside down “W”
- Twenty 1 m<sup>2</sup> quadrats in the field
- ID weeds
- Rate cover of weeds and wild blueberry





- Two survey events per year:
  - Early and late summer
- Soil analysis

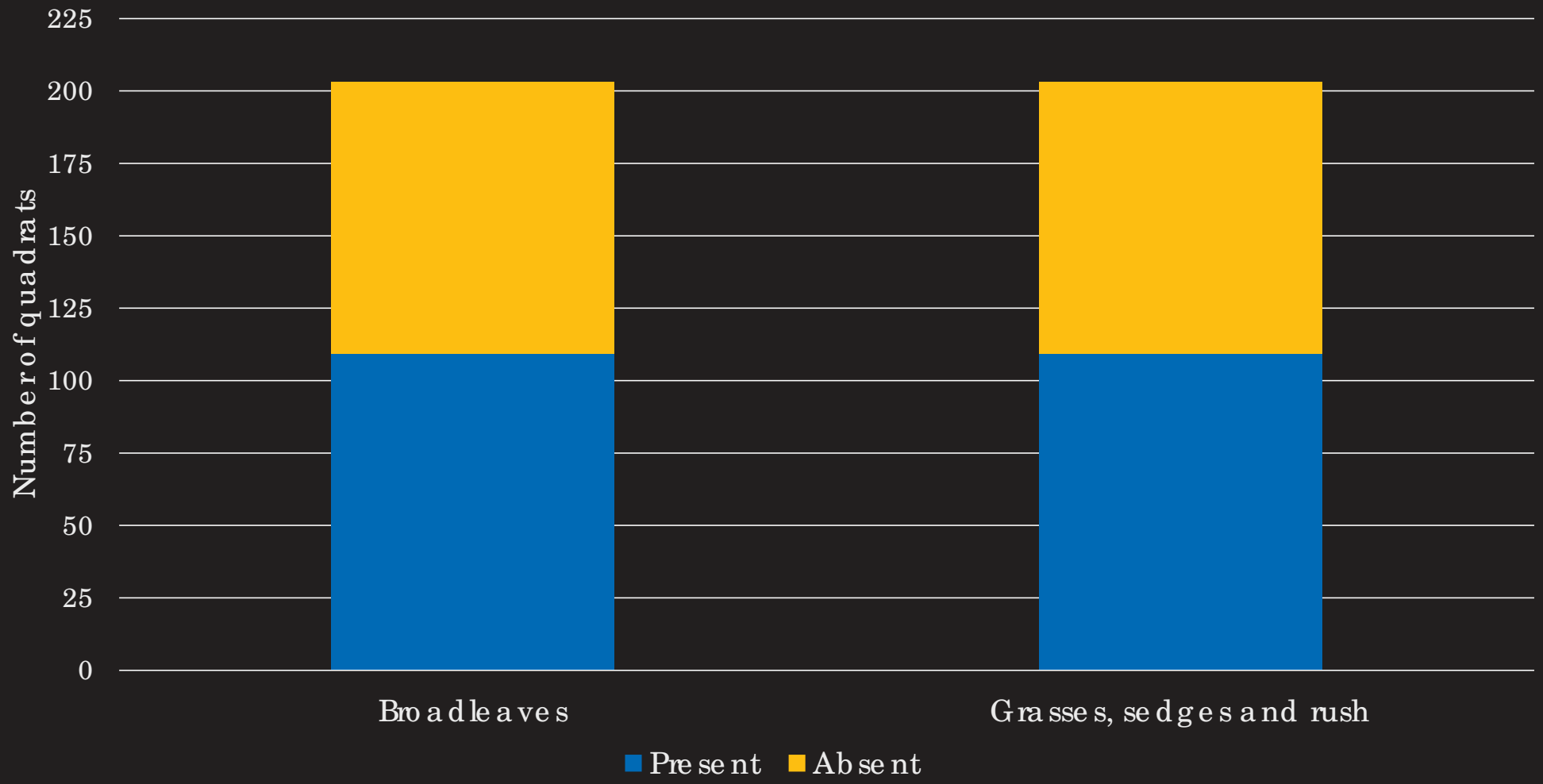


# Preliminary data analysis

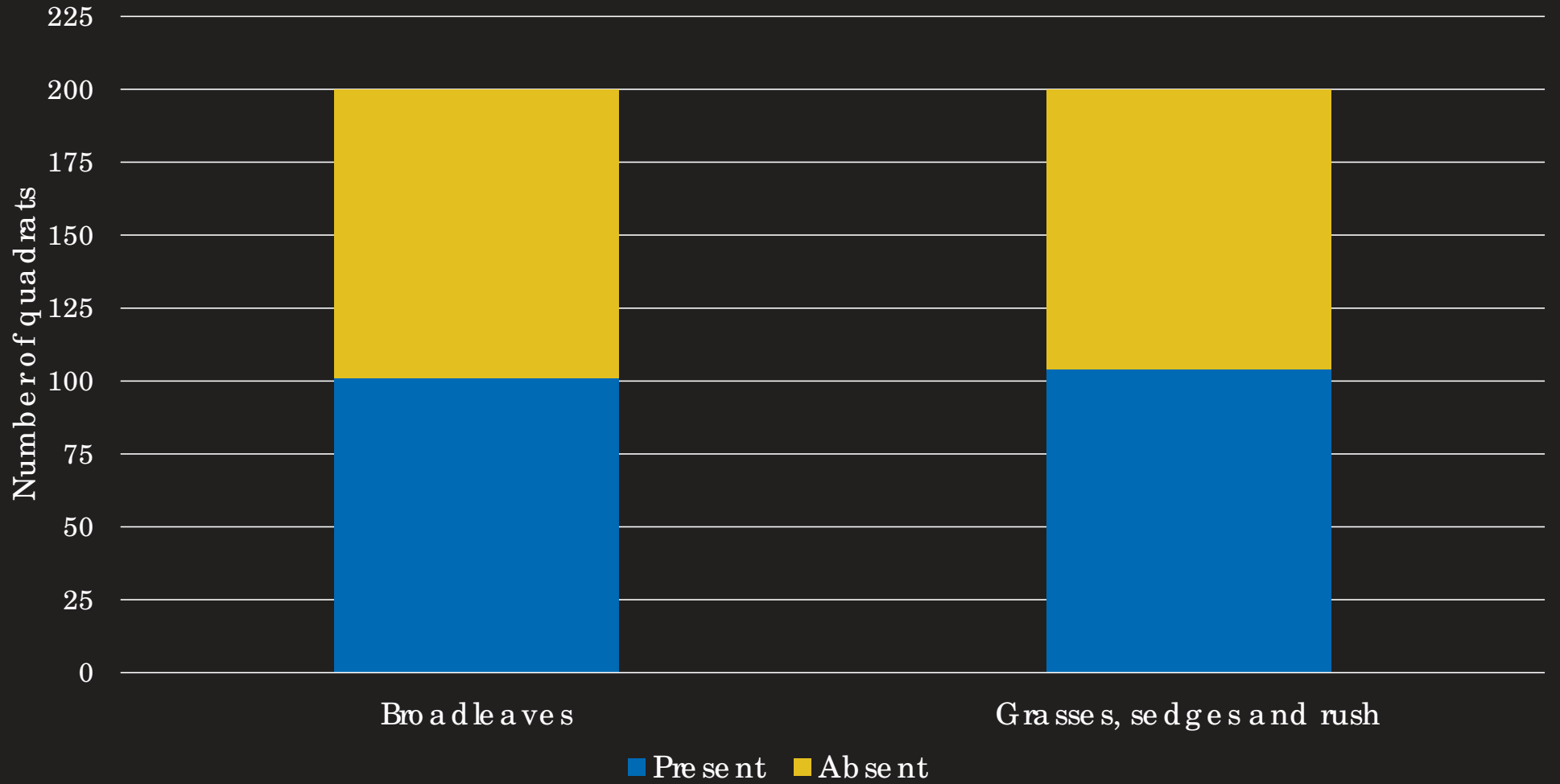
- Presence or absence proportions
- Overall frequency
  - Total number of times a quadrat had a weed
  - Compared management styles by survey events



# Early summer



# Late summer



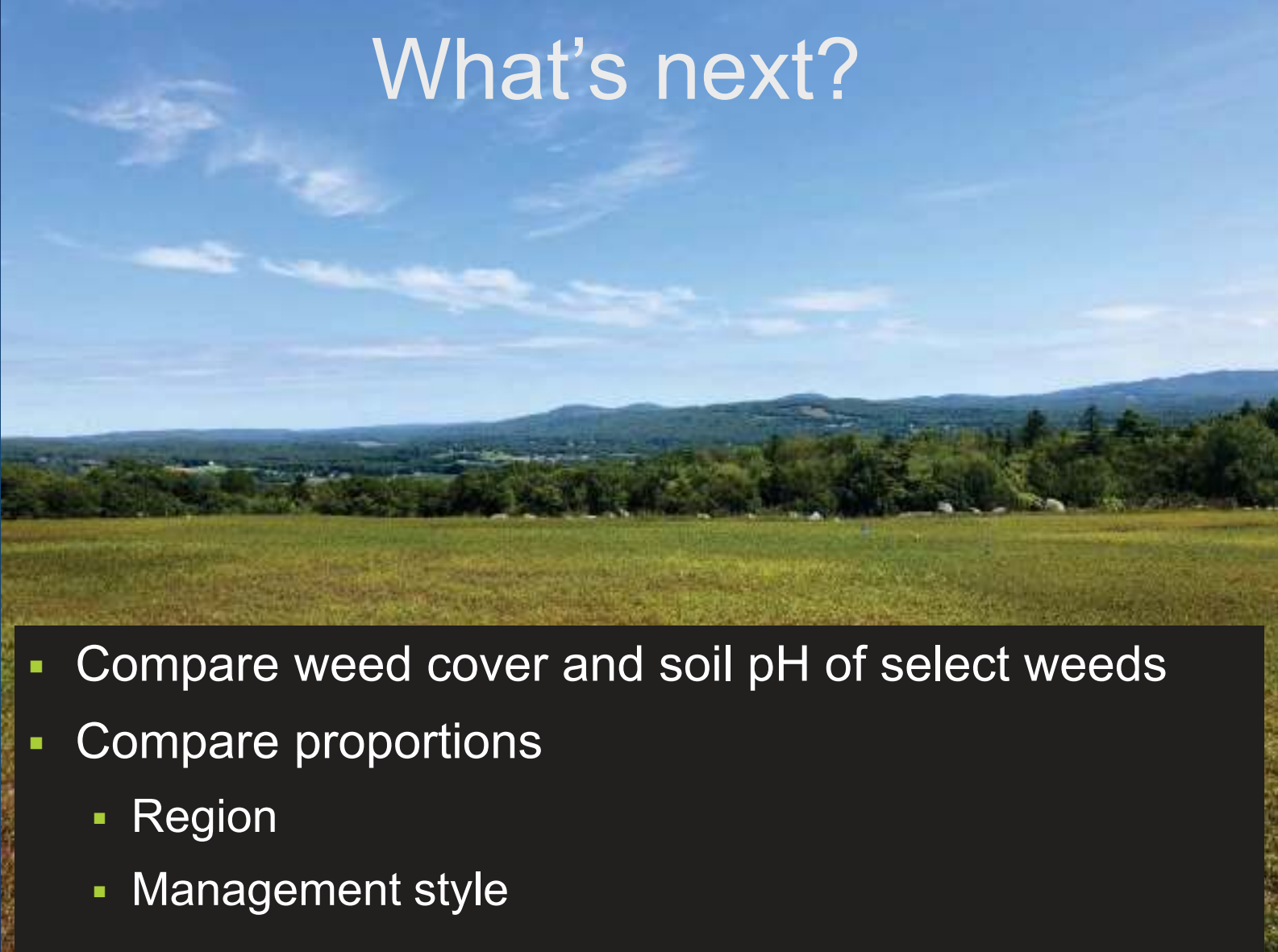
# Top 5 Most Frequent Weeds Encountered 2019

Rank	Early Summer (Early June-Late July)		Late Summer (Mid-Late August)	
	Organic	Conventional	Organic	Conventional
<b>1</b>	Bunchberry ( <i>Cornus canadensis</i> )	Red sorrel ( <i>Rumex acetosella</i> )	Bracken fern ( <i>Pteridium aquilinum</i> )	Red sorrel ( <i>Rumex acetosella</i> )
<b>2</b>	Bracken fern ( <i>Pteridium aquilinum</i> )	Whorled loosestrife ( <i>Lysimachia quadrifolia</i> )	Sheep laurel ( <i>Kalmia angustifolia</i> )	Gray birch ( <i>Betula pendulum</i> )
<b>3</b>	Oatgrass ( <i>Danthonia spicata</i> )	Hawkweed ( <i>Hieracium spp.</i> )	Bunchberry ( <i>Cornus canadensis</i> )	Goldenrod ( <i>Solidago spp.</i> )
<b>4</b>	Chokecherry ( <i>Prunus virginiana</i> )	Canadian mayflower ( <i>Maianthemum canadense</i> )	Gray birch ( <i>Betula pendulum</i> )	Rabbitfoot clover ( <i>Trifolium arvense</i> )
<b>5</b>	Canadian mayflower ( <i>Maianthemum canadense</i> )	Goldenrod ( <i>Solidago spp.</i> )	Brambles ( <i>Rubus spp.</i> )	Black Eyed Susan ( <i>Rudbeckia hirta</i> )

# Top 5 Most Frequent Weeds Encountered 1980

Rank	Early summer 2019	Late summer 2019	1980 survey
1	Red sorrel ( <i>Rumex acetosella</i> )	Red sorrel ( <i>Rumex acetosella</i> )	Goldenrod ( <i>Solidago spp.</i> )
2	Whorled loosestrife ( <i>Lysimachia quadrifolia</i> )	Gray birch ( <i>Betula pendulum</i> )	Poplars ( <i>Populus spp.</i> )
3	Hawkweed ( <i>Hieracium spp.</i> )	Goldenrod ( <i>Solidago spp.</i> )	Meadowsweet ( <i>Spirea alba</i> )
4	Canadian mayflower ( <i>Maianthemum canadense</i> )	Rabbitfoot clover ( <i>Trifolium arvense</i> )	Asters ( <i>Aster spp.</i> )
5	Goldenrod ( <i>Solidago spp.</i> )	Black Eyed Susan ( <i>Rudbeckia hirta</i> )	Cinquefoil/Wintergreen ( <i>Potentilla spp./Gaultheria procumbens</i> )

# What's next?



- Compare weed cover and soil pH of select weeds
- Compare proportions
  - Region
  - Management style

# THANK YOU!

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