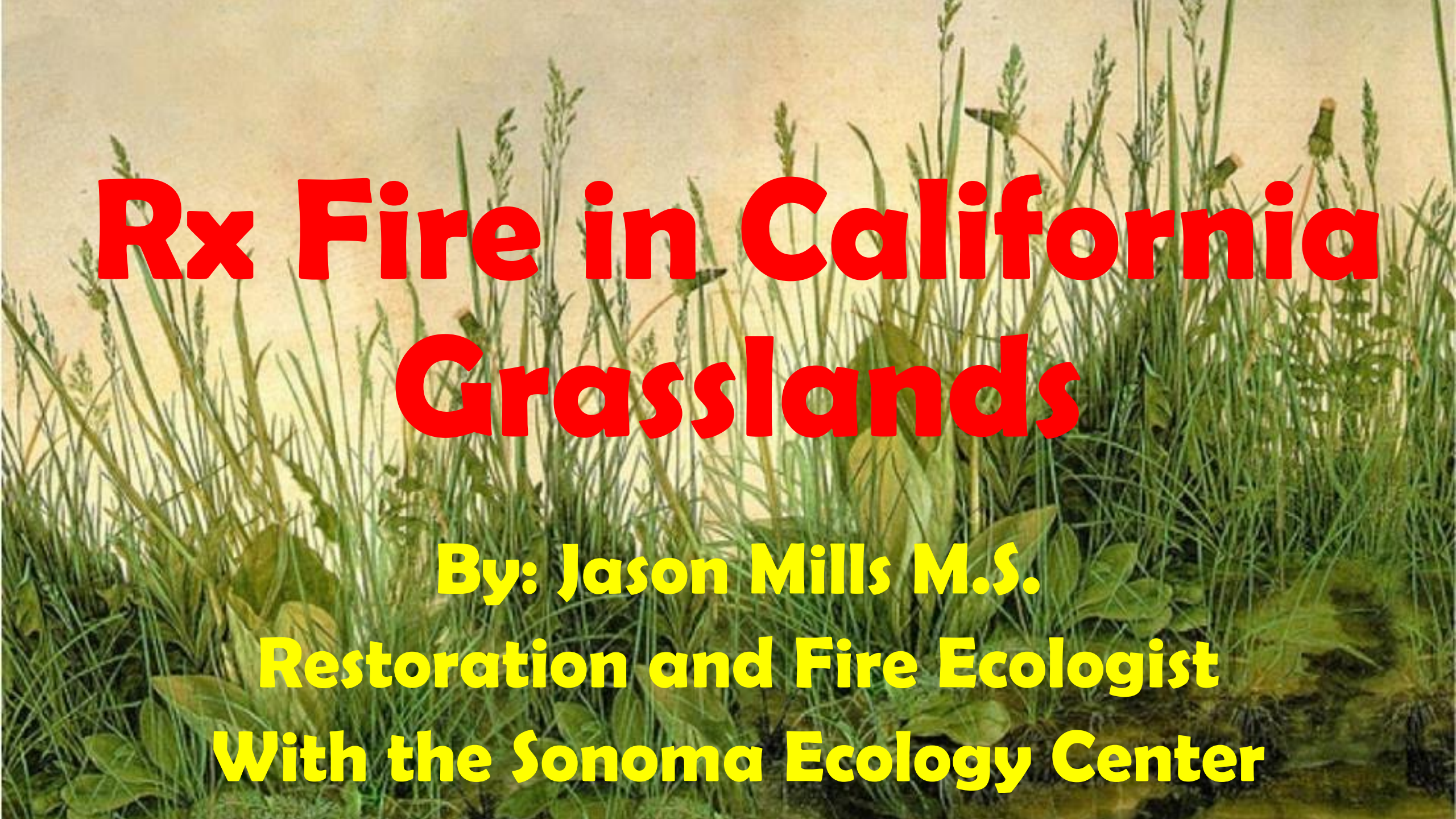

Rx Fire in California Grasslands

By: Jason Mills M.S.
Restoration and Fire Ecologist
With the Sonoma Ecology Center

Current State of Grasslands in California

- Thought to be largely overlooked for preservation
- May be the most degraded ecosystem in California
- As little as 1% left of native species in most grasslands today
- Controversy over historic state- Grasslands vs. Prairie
- Soil profiles said to dictate variation
- Heavy grazing thought to have lead to our current state
- Conversion to non-native annuals largely from Europe

Indigenous Use and Fire Regimes

- Grasslands were actively managed with fire as a tool
- Before the time of the equipment and cattle
- Used to cause new growth and attract game

Grassland Management

- Why Preserve Them- Ranching, Recreation, and Conservation-Water & Biodiversity
- Fire fuel reduction, Carbon Sequestration
- Invasive species can be managed via manual, mechanical, chemical or cultural means
- Prescribed fire is the only technique that has been shown to effectively reduce invasive species while increasing native diversity

Top Threats

- Yellow Star Thistle
- Barbed Goat Grass
- Medusa Head
- And many more…

Centaurea solstitialis

Aegilops triuncialis

Elymus *caput-medusae*

Species Composition

- Land Use History
- Revealed in the flush
- Fire Adapted Species- Invasive and Native
- Geophytes (Bulbs) Hang On and Persist
- Annuals rely on seed storage

Resource Allocation

- Not equal ground- at a disposition
- Natives can compete when given the chance
- Often requires ‘active’ restoration
- Can’t just focus in on the ‘bad guys’ if you want to preserve the ‘good guys’

Grassland Rx Fire Dynamics

- Timing is everything
- Standing Seed?
- RDM Thatch build up
- Residence Time
- Wind Conditions
- Back Burning
- Consecutive Burns

Fall vs. Spring Burns

- Permitting
- Risk vs. Reward
- Advantages of each
- Target Invasive Seed
- Non-Native Annual Flush
- Reseeding Treatments

TAKE AWAYS

- Goals- Desired outcomes
- Long term planning- Assess resources
- Map populations- track changes
- Gather resources
- Strategic timing
- Propagate/Direct Seed
- And repeat…..

MUCH THANKS!