



TRESPASS CANNABIS IN NORTHERN CALIFORNIA

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WHAT DOES A TRESPASS GROW LOOK LIKE?



- Occur in forested regions of California and Southern Oregon
- What threats do illegal grow sites pose?
 - Direct and indirect mortality of fish and wildlife species
 - Habitat destruction
 - Pesticide and rodenticide contamination
 - Water diversion
 - Human safety
 - Soil contamination
- Estimates of the number of illegal grow sites on public lands in California range from thousands, to tens of thousands

ENVIRONMENTAL AND HUMAN IMPACTS



WATER

- Billions of gallons of water are diverted from watersheds across California
- Water diversion affects flow levels, habitat availability and suitability
- Impacts for listed aquatic species including coho salmon (*Oncorhynchus kisutch*) and yellow legged frogs (*Rana boylei*)

HUMAN SAFETY

- Scientists and law enforcement agents dealing with this issue exposed to human and chemical risks
- Tribal lands also impacted, *'they can pose a physical danger to the Karuk being Karuk people on the landscape'*
- Public using public lands – know the signs of a grow

CHEMICAL

- Pesticide and anti-coagulant rodenticides introduced into remote forest ecosystems
- Food web contamination
- Results in mortality and sublethal effects
- Carbofuran, brodifacoum

PACIFIC FISHERS



- Canary in the coal mine

2009 – first fisher mortality attributed to anti-coagulant rodenticides

2012 – 79% of fishers exposed to toxicants used at grow sites, 4 out of 58 (7%) fishers died as a direct result of poisoning from the toxicants (Gabriel et al. 2012)

2015 – exposure rate increased to 85%, 13 (10%) toxicant related deaths (Gabriel et al. 2015)

Present – testing from 2015 onwards has shown 100% exposure to toxicants (Gabriel, unpublished data)

- Potential to be affected both directly, and indirectly via small mammals

NORTHERN SPOTTED OWLS



- NSO distribution has considerable overlap with fisher distribution
- **2018** - 70% of NSO exposed to AR
- What are sublethal AR impacts? Decreased fitness, including:
 - Reduced clutch size
 - Decreased fledgling success
 - Slower clotting time
 - AR residual transfer to eggs
 - Mortality arising from otherwise benign injuries

CALIFORNIA CONDORS

- Approximately 300 illegal grow sites overlap, or are in proximity of the current condor range
- Mapping to determine overlap of trespass grow sites with proposed condor release site in Redwood National Park and expected range
- Likely risk to newly released condors

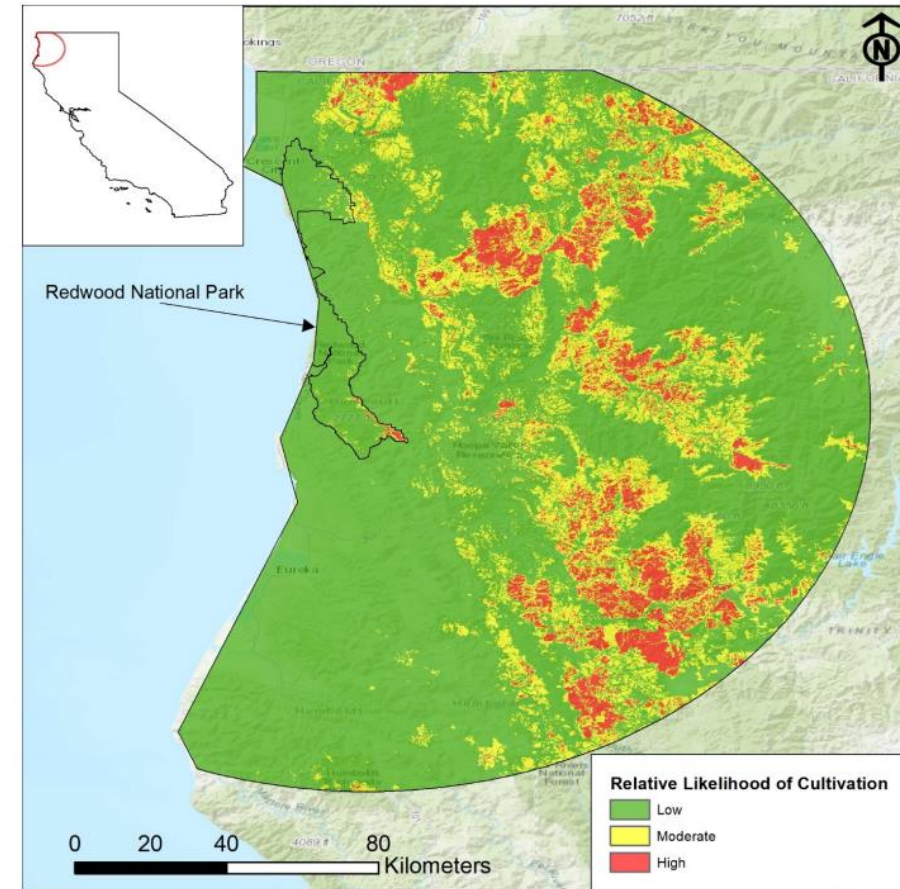


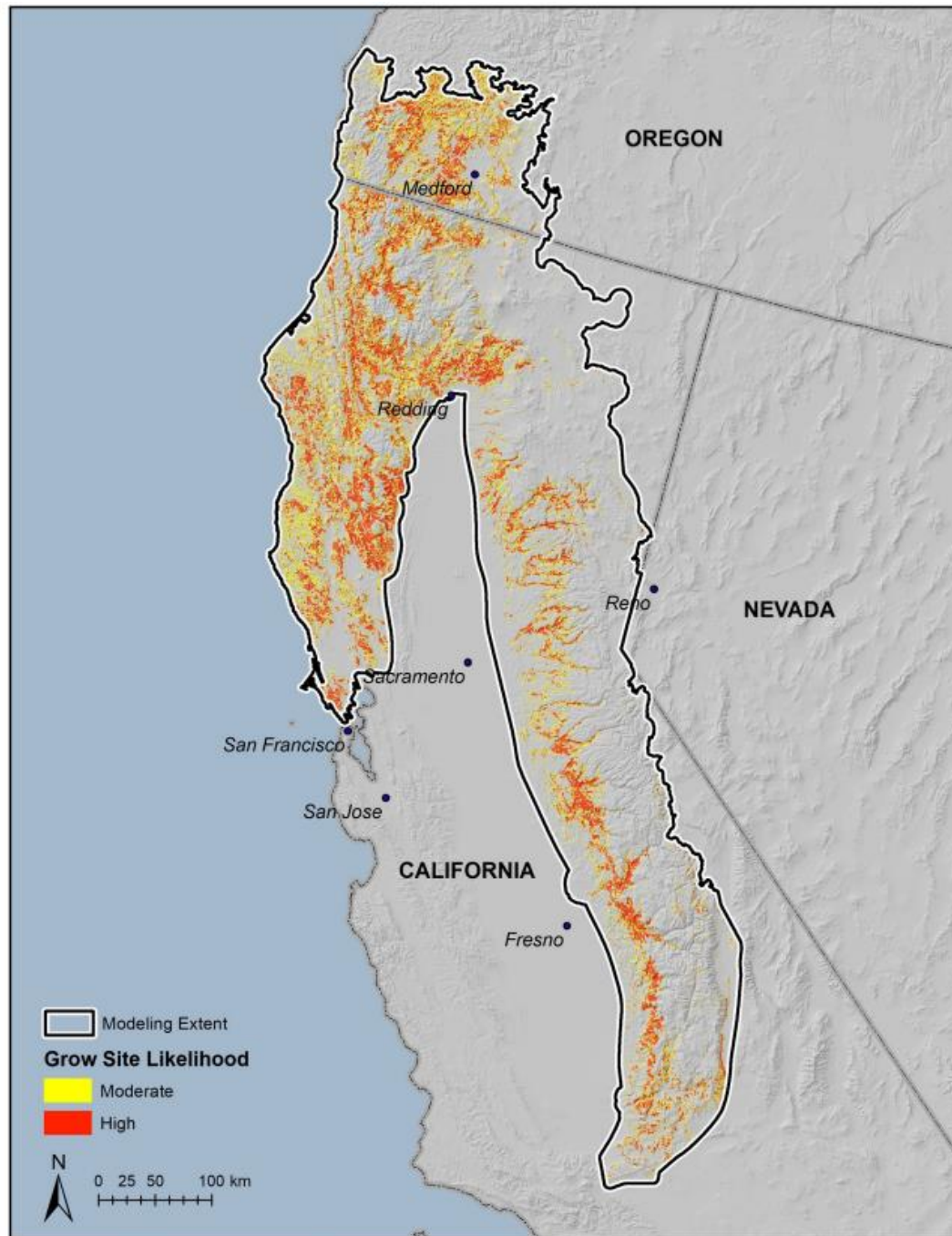
Figure 4. MaxEnt model output of the relative likelihood of trespass cultivation based on six predictor variables within Study Area 2 for a study on trespass cannabis cultivation risk on California condors, between 2016 - 2020.

MAPPING DISTRIBUTION OF TRESPASS GROWS



- 2021 study from IERC mapped likely distribution of trespass cannabis cultivation sites and identified environmental variables influencing where growers establish plots
- Where does the distribution of illegal grow sites overlap with ranges of Pacific fisher, Humboldt marten, and northern spotted owl?
- Moderate to high trespass cultivation site likelihood overlapped with **40-48%** of habitat for sensitive species overall
- Study modelled human choice, based on a combination of environmental, climatic, and anthropogenic variables

GROW SITE LIKELIHOOD



- **Pacific fisher : 44.4%**
 - Population level impacts magnified by timing
 - Denning period (March-May) coincides with initiation of cultivation when use of rodenticides is highest
- **Northern spotted owl : 48%**
 - Evidence that barred owls suffer less exposure to rodenticides, further heightening their competitive advantage
- **Humboldt marten : 39.9%**
 - Lower due to strong association with old growth stands, which are not selected by growers
 - Risks still remain significant

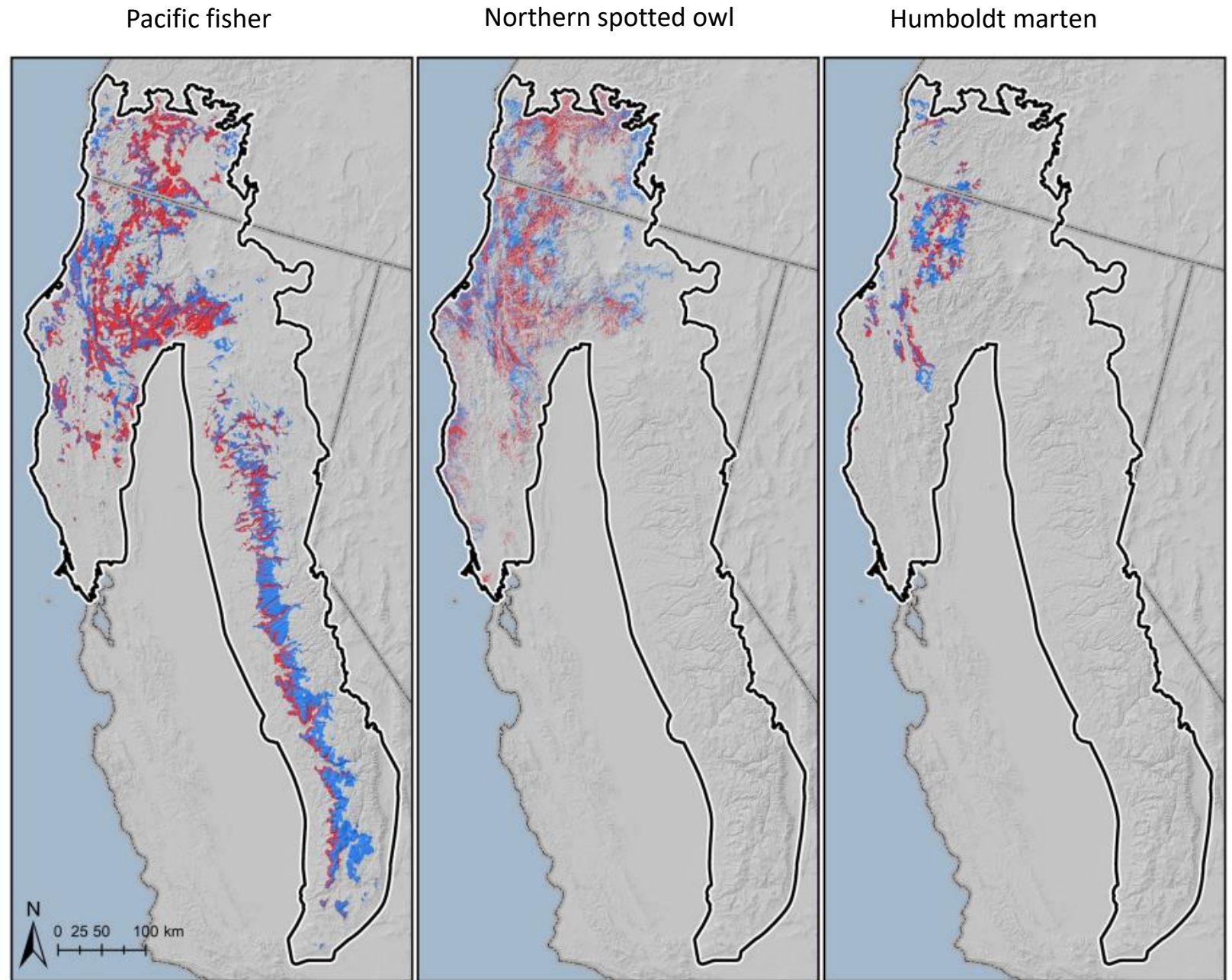


Fig 5. Overlap of moderate to high trespass cannabis cultivation site likelihood (red) with modeled habitat for Pacific fisher (left), northern spotted owl (center) and Humboldt marten (right).

RECLAMATION



- How do we deal with illegal cannabis cultivation sites?
- There is an estimated 2,000 historical sites remaining unreclaimed, and a potential annual input of 300 cultivation sites in California
- To date, IERC has reclaimed **196** individual grow sites, and assessed 500 sites



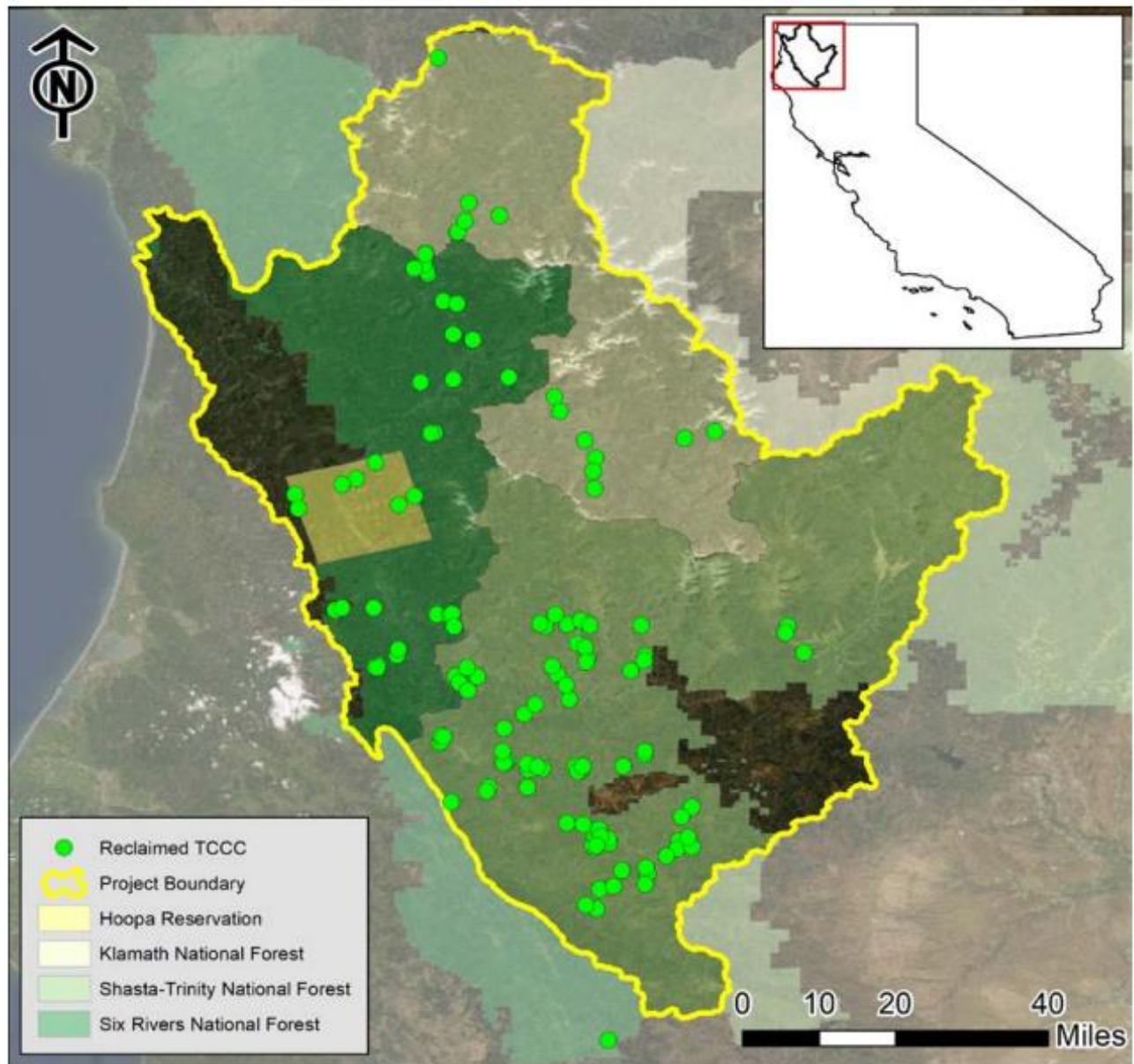


Figure 1. Map showing the distribution of 129 reclaimed trespass cannabis cultivation complexes representing 196 independent trespass cannabis cultivation sites between January 01, 2018 and September 30, 2020 within the Klamath National Forest, Shasta-Trinity National Forest, Six Rivers National Forest, and Hoopa Valley Indian Reservation within the Klamath River Basin.

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