**ACCG Planning Work Group**

**Forest Projects Plan (FPP) Phase 2 Chemical/ Herbicide Use Recommendations**

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# **Chemical/ Herbicide Use Potential Types Summary & Alternatives Table**

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| **Herbicide Use *Potential* Type** | **General Location** | **Type of plant treated** | **Objective** | **Alternative A:****No Chemical/ Herbicide Use** | **Alternative B:****Treatment of non-native plant populations, including noxious weeds** | ***Potential* Proposed Action Alternative C:** **Treatment of invasive plants, and *limited* strategic treatment of fuelbreaks, infrastructure** | **Alternative D:Chemical/ Herbicide Use allowed as determined by each Ranger District** |
| **1. Non-native plant populations, including noxious weeds** | Entire Project area. | Non-native | Reduce non-native plants in the Project area where appropriate and needed at locations with target species/ populations, for ecological benefits and fuel reduction. | No chemical/ herbicide application. Utilize non-chemical methods described in Section II.  | Chemical/ herbicide use would be the third-tier option for weed control treatment. See Section II of this document for further details. | Same to Alternative B. See Section II of this document for further details. | TBD by project team, but may be similar to Alternative B. See Section II of this document for further details. |
| **2. Fuelbreak Maintenance** | Within fuelbreaks within the Project area.Fuelbreaks will be located along strategic ridges and roads adjacent to critical infrastructure, ownership boundaries, administrative sites, and recreation sites, and may connect with the existing fuel break network on NF lands and adjacent areas. | Native and Non-native | Suppress re-growth and re-sprouting shrubs and other vegetation of surface and ladder fuels in fuelbreaks that adversely affects function of fuelbreaks. | No chemical/ herbicide application for fuelbreak maintenance.Utilize prescribed burning, mastication, other mechanical treatments, hand treatments, and targeted grazing. | No chemical/ herbicide application for fuelbreak maintenance.Utilize prescribed burning, mastication, other mechanical treatments, hand treatments, and targeted grazing. | All treatment methods listed in Alternative A and B, in addition to the limited use of chemical/herbicide application as described below.**Number of acres per year**: e.g., *strategically selected fuelbreaks 300 acres per year on each District***How**: e.g., *cut stump treatment, wiping onto foliage, drizzling, directed foliar spraying, and spot spraying* **When (frequency, duration)**: TBD e.g., *maintenance/ post-initial fuels reduction treatment, up to 2 herbicide treatments each site within 10 years. Follow-up herbicide applications would occur if monitoring results show shrub ground is exceeding 40 percent ground cover, at or above 2’ average height.* **What**: *glyphosate and triclopyr.*  | All treatment methods listed in Alternative A and B, in addition to the use of chemical/herbicide application as described below.**TBD by project team**, may include;**Where:** e.g., potential use of herbicides across *all fuelbreaks within the Project area, defined as up to approximately 1,000 feet wide fuel breaks along areas such as ridgelines and key roads***How**: e.g., *cut stump treatment, wiping onto foliage, drizzling, directed foliar spraying, and spot spraying* **When (frequency, duration)**: e.g., *Follow-up herbicide applications would occur if monitoring results show shrub ground is exceeding 30 percent ground cover, at or above 2’ average height.* **What**: *aminopyralid, chlorsulfuron, clopyralid, glyphosate, and triclopyr. Refer (SERAL 2.0 to Pg. 28 and 40 Draft EIS), including the use of pre-emergent herbicides (e.g., hexazinone?).* |

# **Chemical/ Herbicide Use for non-native plant populations, including noxious weeds**

ACCG’s recommendations for chemical/ herbicide use for non-native invasive plant species control and eradication reference the framework described in the Eldorado National Forest’s Eradication and Control of Invasive Plants Environmental Assessment (USFS 2013, <https://www.fs.usda.gov/project/eldorado/?project=25886>).

**Integrated pest management (IPM)** may be used to treat invasive plant and animal species, which are non-native species whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112). Chemical/herbicide use should be the last option as described below, when non-chemical methods are deemed not feasible. Early Detection and Rapid Response may also occur within the FPP Phase 2 project area for eradication or control of new or previously undiscovered invasive plant infestations using the methods listed below.

1. **Manual Control/Cultural Methods**: This approach includes the use of hand pulling and hand tools, including shovels, picks, weed pullers, loppers, and hand saws. This also includes flaming with propane torches, tarping, hydro-mulching, reseeding with competitive native species, and other physical and cultural treatments.
2. **Biological Control:** Biological control methods treat invasive species populations through the use of natural enemies such as parasitoids, predators, pathogens, antagonists, or competitors to suppress pest populations. We may release biocontrol agents registered with Animal and Plant Health Inspection Service (APHIS) and the State of California to control invasive plant species.
	1. **Targeted Grazing:** Targeted grazing uses livestock grazing animals to consume, break off, or trample vegetation to reduce the amount or density of fuels. With targeted grazing, grazing contractors will operate under USFS direction and monitoring to achieve specified fuel-reduction objectives. Grazing can be a relatively inexpensive treatment method, and cattle, goats and sheep can effectively create fuel reduction zones (Lovreglio et al. 2014). Virtual fencing may be used as a component of targeted grazing.
3. **Chemical Control**: This approach includes the use of herbicide through cut stump treatment, wiping onto foliage, drizzling, directed foliar spraying, spot spraying, and as a last resort where appropriate, broadcast application. Herbicides and associated surfactants will be used in conjunction with manual/cultural methods for invasive plant management at locations where their use is more effective, provides for worker safety, results in reduced impacts or disturbance when compared to other treatment options, reduces management costs, and/or is integral for the successful management of invasive species populations. The Project FPP Phase 2 EIS will identify a suite of management requirements for herbicide use that define restrictions and specifications to ensure their use is compatible with the protection of sensitive resources.

**Treatment frequency, location and prioritization:** For each known invasive plant infestation, and for future infestations that may be discovered, one of four treatment strategies is proposed:

1. Annually treat and monitor the infestation with the goal of eradication.
	1. Applies to 11 invasive plant species outlined in the 2013 Eradication and Control of Invasive Plants EA (e.g., tall whitetop, spotted knapweed).
2. Treat and monitor a portion of the identified occurrences each year, focusing on reducing the area coverage and amount over time.
	1. Applies to 14 invasive plant species outlined in the 2013 Eradication and Control of Invasive Plants EA (e.g., scotch broom, yellow starthistle).
3. Treat only leading-edge infestations or where concurrent with higher priority species.
	1. Applies to 14 invasive plant species outlined in the 2013 Eradication and Control of Invasive Plants EA (e.g., puncture vine, oxeye daisy).
4. No treatments are proposed at this time.
	1. Would apply to 18 invasive plant species outlined in the 2013 Eradication and Control of Invasive Plants EA (e.g., mullein).

Criteria for prioritizing treatment sites:

1. Infestations with a high potential for future spread (prolific species found in high traffic areas such as administrative sites, trailheads, major access points for the forest, and systems vulnerable to invasion (recent fires)
2. High value areas (such as Wilderness) and surrounding points of access
3. Early invaders with small isolated infestations on the forest.
4. Leading edge and satellite occurrences of larger more established infestations
5. The perimeter of larger infestations

**Herbicide Types**: Nine herbicides are proposed for use in this project, including aminopyralid, clopyralid, chlorsulfuron, glyphosate, imazapic, triclopyr, imazapyr, and clethodim and fluazifop for annual grasses.

**Design features and Best Management Practices:** Follow Design Features and Best Management Practices outlined in the Eldorado National Forest’s Eradication and Control of Invasive Plants EA (2013), and also Forest Plan Standards and Guidelines or label guidance.