

Appendix Q:

Civil Rights Impact Analysis

Noxious Weed Treatment Project

Civil Rights Impact Analysis

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CIVIL RIGHTS IMPACT ANALYSIS NOXIOUS WEED TREATMENT PROJECT MODOC NATIONAL FOREST

Agency: U.S. Department of Agriculture
Forest Service
Modoc National Forest

Subject: Civil Rights Impact Analysis
Noxious Weed Treatment Project

Purpose of Civil Rights Impact Analysis

The Civil Rights Impact Analysis (CRIA) describes the civil rights implications of policy actions before the actions are approved and implemented. The CRIA provides information about the most likely beneficiaries of a decision, program, or activity; how and to what degree the benefits will be demonstrated; and whether the originally planned policy, action, decision, program, or activity should be modified or otherwise changed if possible to ensure increased benefits or more effective outcomes. The CRIA helps to advise USDA policy makers, managers, and administrators about whether the action or decision will have the effect of unintentionally or otherwise illegally discriminating against USDA customers. Also, the CRIA serves to advise USDA policy makers, managers, and administrators of the effectiveness of decisions as related to ensuring efficient, appropriate allocation or distribution of goods and services in a manner that ensures compliance with all the laws, rules, and regulations under which the USDA must operate.

USDA Civil Rights Policy

The Civil Rights Policy for the Department of Agriculture, Departmental Regulation 4300-4 dated May 30, 2003, provides the following objectives.

- Establish procedures for the evaluation of proposed policies, actions, or decisions for potential violations of civil rights statutes, Federal regulations, or USDA policy on nondiscrimination;
- Preclude the issuance of policies, actions, or decisions that contain eligibility criteria, methods of administration, or other agency-imposed requirements that may adversely and disproportionately impact employees or program beneficiaries because of their race color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, protected genetic information, political beliefs, reprisal, or because of all or a portion of an individual's income is derived from any public assistance program; and
- Utilize CRIAs as a management tool to ensure fair and equitable service to USDA employees and beneficiaries of federally assisted and federally conducted programs and activities.

Disparate impact, a theory of discrimination, has been applied to the proposed action in order to reveal any negative effects that may unfairly and inequitably impact beneficiaries through implementation and administration. The objective of this review and analysis is to 1) ensure that

all Civil Rights statutes, Federal regulations, and USDA policies and procedures have been complied with; and 2) prevent disparate treatment and minimize adverse Civil Rights impacts that may have caused an effect of discrimination against a protected group's members. This review and analysis sought to determine whether the proposed action for the treatment of noxious weeds on the Modoc National Forest would have the effect of adversely and disproportionately impacting any group or class of persons on one or more prohibited bases.

Proposed Action

The action proposed by the Forest Service to meet the purpose and need is to aggressively and efficiently (within budget constraints):

- Eradicate, or control and contain the occurrences of 14 specific noxious weed species (Table 1-1) from Modoc National Forest lands,
- Utilizing hand pulling, spot applications of selected herbicides or a combination of these on weed occurrences,
- Treating between 300 to 1,500 acres annually for the next five years,
- Minimize risk to wildlife and people,
- Create as little soil disturbance as possible, and
- Minimize risks to desired plant species where noxious weed treatments occur.

Fourteen species of noxious weeds occur on approximately 541 sites comprising approximately 6,908 acres.

The following three treatment methods are proposed for use.

Physical/manual treatment. This includes hand pulling, grubbing, and excavation of plants with a shovel at or just below the soil surface. This treatment is proposed within a 10 foot buffer on all streams where deemed necessary for resource concerns and/or when occurrences are small consisting of < 100 plants or the site is < 0.10 acre. This treatment may not be appropriate for all noxious species.

Herbicide treatment. Noxious weed sites may be treated with any one of the herbicides identified and will be determined by treatment timing, treatment strategy and application method.

Combination treatments. Some sites can or will be treated with a combination of treatments. Since this is a long-term strategy for treatment, increases or reductions of numbers of plants or size of a site may move it from one treatment method to another. For example, after several applications of herbicides a site may have few enough plants to effectively treat it using physical/manual treatment.

The USDA Forest Service proposes to authorize annual treatments of weed infestations ranging from an estimated 300 to 1,500 acres annually scattered throughout the Modoc National Forest's 1.6 million acres. Of the 1.6 million acres, approximately 6,908 acres have been identified as being impacted with noxious weeds. The majority of treatments will occur within the ponderosa

pine ecosystem and juniper sagebrush ecosystems within the Modoc National Forest as well as along travel corridors (e.g., railroads, Forest Service roads, county roads, and state highways).

The annual combination of treatment methods would vary depending on specific conditions. There will be no applications of herbicides on aquatic species. However, riparian invasive weeds could be treated using non-chemical means within ten feet of the stream, and utilizing spot applications of glyphosate to the outside edge of the identified streamside management zone. Hand pulling and/grubbing, when species appropriate, would be the primary treatment within riparian areas.

Infestation sites planned for treatment range in size from: single plants on <.1 acre to, occupancy of the entire acre to, occupancy of multiple acres comprising the site at various levels of infestation.

High treatment priority is placed on known sites and pathways of spread from those sites. Areas adjacent to stream courses and road and trail systems have moderate incidences of weed infestations and great potential for spread. Noxious weed locations within administrative sites (campgrounds, parking lots, trail heads, river accesses) are at risk of infestation and are included in the treatment analysis.

The project will not include aerial spraying of herbicides, treatment of aquatic species, or applications of herbicides within 10 feet of live water.

Alternatives Considered

Alternative 1 - No Action

Under the No Action alternative, current management plans would continue to guide management of the project area. No aggressive treatment activities would be implemented to accomplish the purpose and need. This alternative is required by regulation (CEQ Regulations for Implementing NEPA 1502.14(d)) and would call for no weed management treatments applied to any National Forest System lands, except for those Forest Service parcels under authority of the Federal Highway Administration, the State of California, or areas covered by site specific NEPA analysis. This alternative provides a baseline for comparison and analysis of effects.

The features of Alternative 1 are displayed below.

Table 1. Alternative 1 Features and Treatment Methods.

Alternative Features	Alternative 1
Treatment Timeframe	Ongoing*
Total Inventoried Weeds (2004)	541 sites / 6908 acres
Inventoried Weeds Fully Treated	20-30 acres per year ¹
Inventoried Weeds Not Treated	6,878 acres ¹
Proportion of Inventoried Weeds Treated	0.4%
Total Acres of Weeds Treated	20-30 acres per year ¹
Treatment Methods	
Physical+ – Physical plus, clipping seed head or plant, weed eater, mulch/tarp	20-30 acres per year ¹
Total Acres Potentially Treated with Herbicides	0 sites / 0 acres

¹Under Current Management (Alt. 1), approximately 20 to 30 acres of noxious weeds are treated annually through site specific NEPA decisions as part of other projects in accordance with the Modoc NF Integrated Weed Management Strategy (2005).

Alternative 2 - Proposed Action

The Modoc National Forest proposes to treat 14 species of noxious weeds on 536 sites comprising approximately 6,899 acres to eradicate, control, or contain the occurrences. Listed below are features of Alternative 2:

Table 2. Alternative 2 Features and Treatment Methods.

Alternative Features	Alternative 2
Treatment Timeframe	5 years
Total Inventoried Weeds (2004)	541 sites / 6908 acres
Inventoried Weeds Fully Treated	520 sites / 5,995 acres
Inventoried Weeds Receiving Partial Treatment ¹	16 sites / 904 acres ¹
Inventoried Weeds Not Treated ²	5 sites / 9 acres ²
Proportion of Inventoried Weeds Treated	99% / 99%
Total Acres of Weeds Treated	6,899 acres
Treatment Methods	
Physical – hand pulling, hoeing, grubbing	161 sites / 31 acres
Physical and/or Herbicide Treatment	333 sites / 5,961 acres
Herbicide	32 sites / 907 acres
Total Acres Potentially Treated with Herbicides ³	355 sites / 6,868 acres ³

¹These sites are rhizomatous species that occur within 10 feet of H2O. Those sites that are within 10 feet of H2O would not be treated. Sites with acreage outside of this 10 foot no treatment zone would receive partial treatment. The acreage within the 10 foot zone would not be treated; the acreage outside the 10 foot zone would be treated with herbicides.

²Excluded 5 sites of rhizomatous species within 10' of live water and partial acreage of 16 sites of rhizomatous species within 10' of live water. Rhizomatous species will not be treated by physical methods in these alternatives.

³Includes the acres under the physical and/or herbicide method plus the herbicide treated acres.

Between 300 to 1,500 acres would be treated annually for the next five years. Herbicides would be applied by directed spray and wicking treatments. Herbicides would include: Clopyralid, Dicamba, Glyphosate, Triclopyr, and 2-4-D. Treatments would include use of surfactants and dyes. Surfactants increase the absorption of herbicide by the weeds, and dyes assist the applicator in efficiently treating target weeds.

Herbicide treatments would occur only once each year. Some noxious weed sites may require re-treatment during the same year to fully control or eradicate the site. Re-treatment of noxious weed sites after annual herbicide treatment activities would be limited to hand or mechanical treatments.

Noxious weed seed banks can remain viable for many years after treatment activities have been completed on currently inventoried sites. Re-treatment of these sites is needed to control sprouting from the seed bank and prevent a reoccurrence of the infestation. This re-treatment activity is identified as seed bank management. Seed bank management includes visiting previously treated sites on an annual basis to treat newly germinated weeds.

The annual combination of methods used would vary depending on noxious weed species, distance from water or other sensitive areas, effectiveness of treatments, and most economical and efficient treatment methods available. There would be no aerial spraying or herbicide use within ten feet of water.

Table 2 summarizes the size of areas by treatment method relative to the size of all areas proposed for treatment and of the Forest as a whole.

Table 3. Alternative 2 Treatment Methods

Treatment Method	Acres	Percentage of Treatment Acres	Percentage National Forest System Acres
Physical – hand pulling, hoeing, grubbing	31	0.4 %	0.002 %
Physical and/or Herbicide Treatments	5,961	86.4 %	0.358 %
Herbicide	907	13.2 %	0.055 %
Total	6,899	100 %	0.415 %

Alternative 3

Alternative 3 was developed in response to scoping comments to provide an alternative that did not include herbicides. Alternative 3 treats a total of 5,993 acres through physical methods. Listed below are features of Alternative 3:

Table 4. Alternative 3 Features and Treatment Methods.

Treatment Features	Alternative 3
Treatment Timeframe	5 years
Total Inventoried Weeds (2004)	541 sites / 6908 acres
Inventoried Weeds Fully Treated	494 sites / 5,993 acres
Inventoried Weeds Not Treated ¹	47 sites / 916 acres ¹
Proportion of Inventoried Weeds Treated	91% / 87%
Total Acres of Weeds Treated	5,993 acres
Treatment Methods	
Physical – hand pulling, hoeing, grubbing	494/5,993
Physical+ – Physical plus, clipping seed head or plant, weed eater, mulch/tarp	0/0
Physical and/or Herbicide Treatment	0/0
Herbicide	0/0
Limited Treatment ³	0/0
Goat Grazing or Herbicide Treatment	0/0
Total Acres Potentially Treated with Herbicides	0/0

¹ Excluded 47 sites of rhizomatous species. .

Between 300 to 1,500 acres would be treated annually for the next five years.

Noxious weed seed banks can remain viable for many years after treatment activities have been completed on existing plants. Re-treatment of these sites is needed to control sprouting from the seed bank and prevent a reoccurrence of the infestation. This re-treatment activity is identified as Seed Bank Management. Seed Bank Management includes visiting previously treated sites on an annual basis to treat newly germinated weeds.

The size of the area to be treated relative to the Forest as a whole is displayed in Table 5.

Table 5. Alternative 3 Treatment Methods

Treatment Method	Acres	Percentage of Treatment Acres	Percentage of National Forest System Acres
Physical – hand pulling, hoeing, grubbing	5,993	100 %	0.362 %

Alternative 4

Alternative 4 expands on Alternative 2 to reflect scoping comments on the need to provide flexibility in treatment methods to eradicate, control, or contain the current occurrences and expanding or new infestations of the selected noxious weeds over a ten year time period by adding an Early Detection – Rapid Response strategy. Listed below are features of Alternative 4:

Table 6. Alternative 4 Features and Treatment Methods.

Alternative Features	Alternative 4
Treatment Timeframe	10 years
Total Inventoried Weeds (2004)	541 sites / 6908 acres
Inventoried Weeds Fully Treated	520 sites / 5,995 acres
Inventoried Weeds Receiving Partial Treatment ¹	16 sites / 904 acres ¹
Inventoried Weeds Not Treated ²	5 sites / 9 acres ²
Proportion of Inventoried Weeds Treated	99% / 99%
Noxious Weeds Treated Through Early Detection – Rapid Response (ED – RR, acres) ³	Up to 200 acres (100 ac max/yr)
Total Acres of Weeds Treated	7,099 acres
Treatment Methods	
Physical – hand pulling, hoeing, grubbing	161 sites / 31 acres
Physical and/or Herbicide Treatment	333 sites / 5,961 acres
Herbicide	32 sites / 907 acres
Total Acres Potentially Treated with Herbicides (Includes ED-RR acres) ⁴	355 sites / 7,068 acres

¹These sites are rhizomatous species that occur within 10 feet of H2O. Those sites that are within 10 feet of H2O would not be treated. Sites with acreage outside of this 10 foot no treatment zone would receive partial treatment. The acreage within the 10 foot zone would not be treated; the acreage outside the 10 foot zone would be treated with herbicides.

²Excluded 5 sites of rhizomatous species that are within 10' of live water and partial acreage of 16 sites of rhizomatous species that are within 10' of live water. Rhizomatous species will not be treated by physical methods in these alternatives.

³May use any of the methods approved for use in this NEPA decision.

⁴Includes the acres under the physical and/or herbicide method plus the herbicide treated acres, plus adds in the potentially treated 200 acres through Early Detection – Rapid Response.

The annual weed treatment program would treat an estimated of 500-1,500 acres per year for ten years. Herbicides would be applied by directed spray and wicking treatments. The herbicides utilized would include: Clopyralid, Dicamba, Glyphosate, Triclopyr, and 2-4-D. Treatments in Alternative 4 would also include use of surfactants and dyes. Surfactants increase the absorption of herbicide by the target weeds, and dyes assist the applicator in efficiently treating target weeds.

An Early Detection – Rapid Response strategy would be implemented in this alternative. Early Detection – Rapid Response would provide the opportunity to treat new sites of the identified species that have developed, new sites of new noxious weed species, and existing sites that have expanded using the same treatments as outlined provided the effects are within the Design Standards, and effects analyses are reflected in this EIS. Proposed treatment under Early Detection – Rapid Response would be capped at 200 acres over the life of the alternative with no more than 100 acres treated in any single year. The rationale for this cap is to provide limited flexibility to treat new and/or expanding weed sites while remaining within the range of effects as displayed in this analysis.

Herbicide treatments will occur only once each year. Some noxious weed sites may require re-treatment during the same year to fully control or eradicate the site. Re-treatment of noxious weed sites after annual herbicide treatment activities would be limited to hand or mechanical treatments.

Noxious weed seed banks can remain viable for many years after treatment activities have been completed on existing plants. Re-treatment of these sites is needed to control sprouting from the seed bank and prevent a reoccurrence of the infestation. This re-treatment activity is identified as Seed Bank Management. Seed Bank Management includes visiting previously treated sites on an annual basis to treat newly germinated weeds.

Table 7 summarizes the size of the areas proposed for each treatment method relative to all areas proposed for treatment and to the national forest system lands administered by the Modoc National Forest.

Table 7. Alternative 4 Treatment Methods

Treatment Method	Acres	Percentage of Treatment Acres*	Percentage of National Forest System Lands
Physical – hand pulling, hoeing, grubbing	31	0.45 %	0.002 %
Physical and / or Herbicide Treatments	5,961	86.40%	0.358 %
Herbicide	907	13.15%	0.055 %
Total Treatment Acres – Existing Infestations	6,899	100 %	0.415 %
Early Detection – Rapid Response Strategy – same species at new or expanded sites and new species and new sites (Max. of 100 acres in any one year)	200	---	0.012 %

* Percentages are based on the estimated total of existing infestations and do not include estimated acres to be treated through Early Detection – Rapid Response.

Alternative 5

Alternative 5 was developed in response to comments on the DEIS to provide a non-herbicide alternative that contained additional non-herbicide treatments. This alternative would be implemented over a ten year treatment period. Listed below are features of Alternative 5:

Table 8. Alternative 5 Features and Treatment Methods.

Alternative Features	Alternative 5
Treatment Timeframe	10 years
Total Inventoried Weeds (2004)	541 sites / 6908 acres
Inventoried Weeds Fully Treated	532 sites / 180 acres
Inventoried Weeds Receiving Limited Treatment ¹	9 sites / 100 acres ¹
Inventoried Weeds Not Treated ²	0 sites / 6,728 sites ²
Proportion of Inventoried Weeds Treated	100% / 4%
Noxious Weeds Treated Through Early Detection – Rapid Response (ED – RR, acres) ⁵	Up to 200 acres (100 ac max/yr)
Total Acres of Weeds Treated	480 acres
Treatment Methods	
Physical+ – Physical plus, clipping seed head or plant, weed eater, mulch/tarp	527 sites / 139 acres
Limited Treatment ³	9 sites / 100 acres
Goat Grazing or Herbicide Treatment	5 sites / 41 acres
Total Acres Potentially Treated with Herbicides	0 sites / 0 acres

¹Includes treating along borders of infestations to prevent spread using the methods specific to each alternative. Treatment is estimated at 100 acres to be proportionally distributed based on the size of the individual infestations. These acres are included in the Inventoried Noxious Weeds Treated acreage.

²Excluded 5,658 acre Dyer’s woad, 850 acre Dalmatian toadflax, 159 acre crupina, and 6 sites of rhizomatous species. These sites will receive limited treatment around the perimeter estimated at 100 acres proportionally distributed based on the size of these sites. ⁵May use any of the methods approved for use in this NEPA decision.

An Early Detection – Rapid Response Strategy would be implemented in this alternative. Early Detection – Rapid Response would provide the opportunity to treat new sites of the identified species that have developed, new sites of new noxious weed species, and existing sites that have expanded using the same treatments as outlined, provided the effects are within the Design Standards, and effects analyses are reflected in this EIS. Proposed treatment under Early Detection – Rapid Response would be capped at 200 acres over the life of the alternative with no more than 100 acres treated in any single year. The rationale for this cap is to provide limited flexibility to treat new and/or expanding weed sites while remaining within the range of effects as displayed in this analysis.

Noxious weed seed banks can remain viable for many years after treatment activities have been completed on existing plants. Re-treatment of these sites is needed to control sprouting from the seed bank and prevent a reoccurrence of the infestation. This re-treatment activity is identified as Seed Bank Management. Seed Bank Management includes visiting previously treated sites on an annual basis to treat newly germinated weeds.

Table 9 summarizes the size of areas by treatment method relative to the total area proposed for treatment and to the Forest as a whole.

Table 9. Alternative 5 Treatment Methods

Treatment Method	Acres	Percentage of Treatment Acres¹	Percentage of National Forest System Lands
Physical + – hand pulling hoeing, grubbing, clipping, seed head or plant, weed eater, mulching/tarping	139	50 %	0.008 %
Goat Grazing	41	15 %	0.003 %
Limited Treatment (treatments along border of current infestation to prevent spread using physical+ methods or goat grazing)	100	35 %	0.006 %
Total Treatment Acres – Existing Infestations	280	100 %	0.017 %
Early Detection – Rapid Response Strategy - manual treatment of same species at new or expanded sites and new species and new sites (Avg. of 20 acres per year for ten years, Max. of 100 acres in any one year)	200	---	0.012 %

¹ Percentages are based on the estimated total of existing infestations to be treated and do not include estimated acres to be treated through Early Detection – Rapid Response.

Alternative 6

Alternative 6 was developed to respond to comments that requested a more flexible approach utilizing herbicide treatment methods, a larger range of adaptive management techniques, and additional herbicides. This alternative will be implemented over a ten year treatment period. Listed below are features of Alternative 6:

Table 10. Alternative 6 Features and Treatment Methods.

Alternative Features	Alternative 6
Treatment Timeframe	10 years
Total Inventoried Weeds (2004)	541 sites / 6,908 acres
Inventoried Weeds Fully Treated	538 sites / 241 acres
Inventoried Weeds Receiving Limited Treatment ¹	3 sites / 100 acres ¹
Inventoried Weeds Not Treated ²	6,567 ²
Proportion of Inventoried Weeds Treated	100% / 5%
Noxious Weeds Treated Through Early Detection – Rapid Response (ED – RR, acres) ³	Up to 200 acres (100 ac max/yr)
Total Acres of Weeds Treated	541 acres
Treatment Methods	
Physical+ – Physical plus, clipping seed head or plant, weed eater, mulch/tarp	116 sites / 19 acres
Physical and/or Herbicide Treatment	371 sites / 116 acres
Herbicide	46 sites / 65 acres
Limited Treatment ¹	3 sites / 100 acres
Goat Grazing or Herbicide Treatment	5 sites / 41 acres
Total Acres Potentially Treated with Herbicides (Includes ED-RR acres) ⁴	425 sites / 522 acres

¹Includes treating along borders of infestations to prevent spread using the methods specific to each alternative. Treatment is estimated at 100 acres to be proportionally distributed based on the size of the individual infestations. These acres are included in the Inventoried Noxious Weeds Treated acreage.

²Excluded 5,658 acre Dyer’s woad, 850 acre Dalmatian toadflax, 159 acre crupina. These sites will receive limited treatment around the perimeter estimated at 100 acres proportionally distributed based on the size of these sites.

³May use any of the methods approved for use in this NEPA decision.

⁴Includes the Physical and/or Herbicide acres, the herbicide acres, the acres under goat grazing, the acres under the limited treatment category, and the 200 acres under Early Detection-Rapid Response.

Herbicide treatments would include: Chlorsulfuron, Clopyralid, Dicamba, Glyphosate, Triclopyr, 2-4-D, and two herbicide mixtures (Mix 1: Chlorsulfuron + 2,4-D, and Mix 2: Dicamba + 2,4-D). Herbicide treatments would also include use of surfactants and dyes. Surfactants increase the absorption of herbicide by the target weeds, and dyes assist the applicator in efficiently treating target weeds. Herbicide treatments would be the primary treatment for rhizomatous species.

An Early Detection – Rapid Response strategy would be implemented in this alternative. Early Detection – Rapid Response would provide the opportunity to treat new sites of the identified species that have developed, new sites of new noxious weed species, and existing sites that have expanded using the same treatments as outlined provided the effects are within the Design Standards, and effects analyses are reflected in this EIS. Proposed treatment under Early Detection – Rapid Response would be capped at 200 acres over the life of the alternative with no more than 100 acres treated in any single year. The rationale for this cap is to provide limited flexibility to treat new and/or expanding weed sites while remaining within the range of effects as displayed in this analysis.

Herbicide treatments would occur once each year. Some sites may require re-treatment during the same year to fully control or eradicate the site. Re-treatment of noxious weed sites after annual herbicide treatment activities would be limited to hand or mechanical methods.

Noxious weed seed banks can remain viable for many years after treatment activities have been completed on existing plants. Re-treatment of these sites is needed to control sprouting from the seed bank and prevent a reoccurrence of the infestation. This re-treatment activity is identified as Seed Bank Management. Seed Bank Management includes visiting previously treated sites on an annual basis to treat newly germinated weeds.

A summary of the size of areas by treatment methods compared to all areas proposed for treatment and to the Forest as a whole are displayed in Table 11.

Table 11. Alternative 6 Treatment Methods

Treatment Method	Acres	Percentage of Treatment Acres¹	Percentage of National Forest System Lands
Physical+ - Hand pulling, hoeing, grubbing, clipping seed head or plant, weed eater, mulching / tarping	19	6 %	0.001 %
Physical and / or Herbicide Treatments	116	34 %	0.007 %
Herbicide Treatment	65	19 %	0.004 %
Cultural – Limited Goat Grazing or Herbicide Treatment (>4 acres and < 25 acres for thistle flowers).	41	12 %	0.003 %
Limited Treatment (treatments along border of current infestation to prevent spread using physical+ methods, herbicide, or goat grazing)	100	29 %	0.006 %
Total Treatment Acres – Existing Infestation	341	100 %	0.021 %
Early Detection – Rapid Response Strategy – same species at new or expanded sites and new species and new sites (Avg. of 20 acres per year for ten years, Max. of 100 in any one year)	200	---	0.012 %

¹ Percentages are based on the estimated total of existing infestations to be treated and do not include estimated acres to be treated through Early Detection – Rapid Response.

Data Gathering

The geographic region of influence considered for social and economic impacts of noxious weed management on the Modoc National Forest includes all of Modoc County as well as surrounding unincorporated areas of Lassen and Siskiyou Counties. The following describes pertinent portions of the social and economic environment relative to the proposed Noxious Weed Treatment Project. For additional information see the Social and Economic Report in the project record (Ott 2007).

The Modoc National Forest encompasses approximately 2 million acres. National Forest System lands total 1.6 million acres while private landowners and other public agencies administer the remaining land. Modoc County includes approximately 2,689,246 acres. Approximately 64 percent of lands within the county are administered by an agency of the federal government. Most of that, (1,374,238 acres) is administered by the Modoc National Forest. Less than 1 percent is tribal trust lands. The remainder is held in private ownership.

Population

The analysis area has a very small, rural population. Modoc County had an estimated 9,640 residents in 2004 with estimated growth of about 2 percent between 2000 and 2004 according to the California Department of Finance. By way of contrast the State of California's population grew by an estimated 7 percent during the same period. Although Modoc County experienced modest population growth, the population of the city of Alturas declined by 1.7 percent. The overall analysis area population grew by 2.8 percent with the majority of growth occurring in the rural areas. The population density within Modoc County in 2000 was estimated at only 2.4 persons per square mile.

Table 12. California and Analysis Area (Cities and Unincorporated Areas by County) Total Population with 2000 Demographic Research Unit Benchmark.

Location	2000	2004	Percent Change 2000-2004
State of California	33,873,086	36,271,091	7.1 %
Lassen County:			
Unincorporated portion of County	16,363	16,750	2.4 %
Modoc County:			
Alturas	2,892	2,840	-1.8 %
Balance (Unincorporated) of County	6,557	6,800	3.7 %
Siskiyou County:			
Dorris	886	890	0.5 %
Tulelake	1,020	1,011	-0.9 %
Balance (Unincorporated) of County	23,686	24,544	3.6 %
Analysis Area Total	51,404	52,835	2.8 %

(California Department of Finance 2005)

The racial diversity of the counties in the analysis area is displayed in Table 13 below.

Table 13. Racial/Ethnic Diversity (2000 Census).

Racial/Ethnic Origin	Percentage of Population		
	Modoc County	Lassen County	Siskiyou County
White	85.9	80.8	87.1
Black or African American	0.7	8.8	1.3
American Indian & Alaska Native	4.2	3.3	3.9
Asian`	0.6	0.7	1.2
Native Hawaiian & Other Pacific Islander	0.1	0.4	0.1
Persons Reporting Some Other Race	5.7	3.2	2.8
Persons Reporting Two or More Races	2.8	2.7	3.6
White, Not of Hispanic/Latino Origin	81.1	70.6	83.3
Hispanic or Latino Origin	11.5	13.8	7.6

(U.S. Census 2000b)

Note: Totals do not sum to 100 percent due to overlap of some categories (e.g., Someone of Hispanic origin may be of any race therefore they would be counted in two categories).

Income and Employment

The median household income in Modoc County in 1999 was \$27,522 compared to \$47,493 for the State of California and \$41,994 for the United States as a whole. Median household incomes in Lassen and Siskiyou Counties were somewhat higher at \$36,310 and \$29,530 respectively (California Department of Finance 2005).

The following table displays the percentage of the analysis area populations that are below the poverty level. Data is provided for each county as a whole and by racial/ethnic group. Twenty-one percent of Modoc County residents are below the poverty level, significantly higher than the State. Higher poverty rates were found in all racial/ethnic groups.

Table 14. Poverty Status.

Poverty Status	State of California	Modoc County	Lassen County	Siskiyou County
All individuals for whom poverty is determined	33,100,044	9,142	24,853	43,699
Individuals below poverty level	4,706,130	1,962	3,484	8,109
Percent Below Poverty Level	14.2 %	21.5 %	14.0 %	18.6 %
Percent Below Poverty Level by Racial/Ethnic Group				
White	10.5 %	18.6 %	12.9 %	16.6 %
Black or African American	22.4 %	41.7 %	10.9 %	25.7 %
Am. Indian and Alaska Native	21.9 %	41.8 %	36.2 %	31.7 %
Asian	12.8 %	21.2 %	10.3 %	58.1 %
Native Hawaiian and Other Pacific Islander	15.7 %	---	15.4 %	32.3 %
Some Other Race	24.0 %	48.8 %	18.6 %	25.1 %
Two or More Races	16.8 %	17.8 %	13.1 %	28.3 %
Hispanic or Latino	22.1 %	46.1 %	22.1 %	27.8 %
White Alone, Not Hispanic or Latino	7.8 %	17.3 %	12.1 %	16.3 %

(U.S. Census Bureau 2000c)

Note: Totals do not sum to 100 percent due to overlap of some categories (e.g., Someone of Hispanic origin may be of any race therefore they would be counted in two categories).

The number of employed persons in the counties of the analysis area in 2004 is displayed in the table below. Unemployment in Modoc County in 2004 was estimated at 8.6 percent compared to 6.2 percent for the State. Unemployment rates were at 9.3 percent in Siskiyou County and 7.7 percent in Lassen County.

Table 15. Employment (2004).

	Modoc County	Lassen County	Siskiyou County
Civilian Labor Force	4,150	12,220	19,210
Civilian Employment	3,790	11,280	17,420
Civilian Unemployment	360	940	1,790
Civilian Unemployment Rate	8.6 %	7.7 %	9.3 %

(California Employment Development Department 2005)

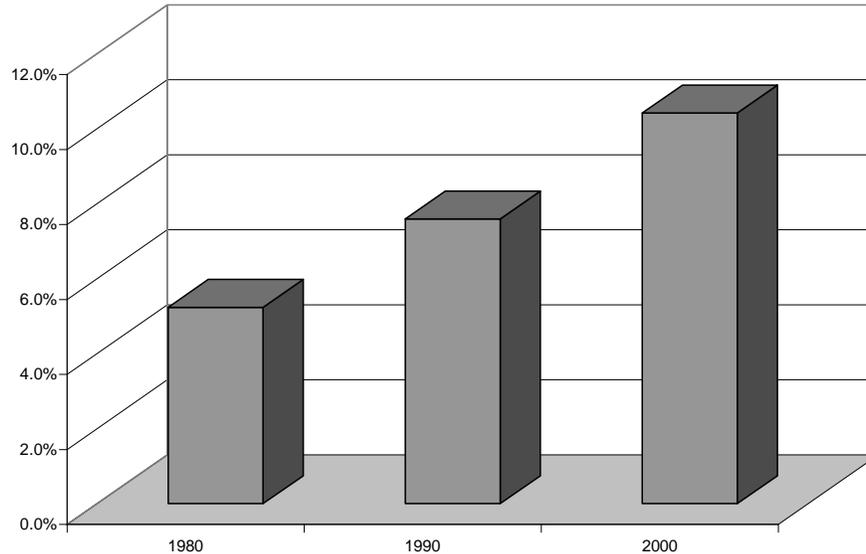
National Visitor Use Monitoring Survey Results

The National Visitor Use Monitoring Survey (NVUM) was implemented as a response to the need to better understand the use of and satisfaction with national forest system recreation opportunities. NVUM is a recreation sampling system designed to provide statistical recreation use information at the forest, regional, and national levels. In any given year, 25 percent of the national forests conduct on-site interviews and sampling of recreation visitors. The Modoc National Forest participated in the NVUM project from January 1 through December 31, 2000. Weather during the sample year was unusual in that there was not much snow. The second winter of sampling was an average year. Another factor that may have affected results is that most visitors to the Modoc are locals who tended not to stop for the interviews.

Estimates of recreation use for calendar year 2000 at the 80 percent confidence level were 146,155 forest visits +/- 32.1 percent. Of visitors interviewed, 98 percent categorized themselves as White; 0.4 percent as American Indian/Alaska Native; 0.3 percent as Spanish, Hispanic, or Latino; 1.1 percent as Native Hawaiian or Other Pacific Islander; and 0.2 percent as Asian. Approximately 2 percent of those surveyed indicated that they participate in gathering mushrooms, berries, firewood, or other natural products (USDA Forest Service 2001).

Minority Community and Farm Laborers

The minority population of the analysis area is growing both in number and as a proportion of the total population. The largest and fastest growing segment of the minority population in the analysis area is Hispanics. The Hispanic population of Modoc County was approximately 12 percent in 2000 compared to only 4 percent in 1980.



Note: The question on race for Census 2000 was different from the one for the 1990 census. Respondents were given the option of selecting one or more race categories to indicate their racial identity. For this reason, Census 2000 data is not directly comparable with data from the 1990 and earlier census. The figure above is intended to illustrate general trends only.

Figure 1. Hispanic or Latino Population as a Percentage of the Total Population Over Time (U.S. Census Bureau 2000b).

As noted above in Table 14, poverty rates in Modoc County are well above the average for the state as a whole at 21.5 percent. Poverty rates among many minorities are more than double that of white residents and range from 41.7 to 48.8 percent for Hispanics, American Indians, Blacks or African Americans, and those who indicated “some other race.” Asian residents had a poverty rate of 21.2 percent, which was also higher than the poverty rate for whites of 18.6 percent.

Ethnic minorities, particularly Hispanics, hold the majority of farm labor jobs in the analysis area working for ranchers, farmers, and other forest and agricultural industries. As such, Hispanics or other minorities would likely be employed by potential contractors for the treatment of noxious weeds. Concern has been expressed regarding potential impacts to these populations as a result of exposure to herbicide chemicals through their employment.

The Native American Tribal Communities

The Modoc National Forest consults with five federally recognized tribes: the Pit River Tribe, the Klamath Tribes, Ft. Bidwell Paiutes, Alturas Rancheria, and the Cedarville Rancheria. Additionally, consultation occurs with the unrecognized Shasta Tribe, Inc. and the Shasta Nation, Inc.. Members of many tribes gather Forest products for consumption, medicinal, and spiritual use.

The population of Native American Indians has remained relatively constant over time at about 4 percent of the population of Modoc County and the analysis area as a whole. Through government to government consultation and discussions with traditional practitioners, Native Americans have expressed concern relative to the effects of noxious weeds and of herbicide use on culturally significant plants and impacts to human health as a result of exposure to, use of, and/or consumption of exposed plant materials.

Tribal communities in Modoc County experience high unemployment and those who are employed often work seasonally in ranching and construction both on and off reservations and rancherias. Native Americans have traditional and non traditional economic ties to the land. That is, religious/heritage sites are located on the Forest; and many individuals work on the land (logging, thinning, planting, etc.).

Through government to government consultation and individual discussions, Native Americans in Modoc County generally believe in retaining a natural landscape and using resources necessary to sustain their lifestyle. Thus, part of their concerns about how the Forest is managed stems from the desire to protect and preserve hunting, gathering, and spiritual places. Many believe that sites, such as seasonal base camps, burial grounds, rock art, and prayer seats should be preserved out of respect for ancestors and to preserve examples of past lifestyles. Consequently, Native Americans prefer land management practices which maintain the Forest in a natural setting. Traditionalists may also include younger individuals interested in reviving and maintaining aspects of past lifestyles, beliefs, and traditions.

Most Native Americans in Modoc County are concerned with the economic necessity of employment. Generally, increased opportunities for local employment, especially available work on the land, is a benefit to these communities. The attitude of Native Americans towards noxious weed treatment methods varies from accepting only physical treatment methods to some use of a variant of treatment methods including chemicals.

Three traditional cultural properties and four plant gathering areas have been identified on the Forest. Table 16 displays these areas and the known weed sites located within each. Only two gathering areas have weed sites identified within them. These weed sites represent approximately 0.01 percent of the tribal areas identified.

Table 16. Traditional cultural properties and gathering areas and associated weed sites.

Area	Area Size (Acres)	Identified Weed Sites	Acreage of Identified Weed Sites
Medicine Lakes Highlands Traditional Cultural Property	42,350	0	0.0
Timber Mountain Traditional Cultural Property	4,074	0	0.0
Sugar Hill Traditional Cultural Property	2,429	0	0.0
Alturas Rancheria Gathering Area 1	184	2	44.4
Alturas Rancheria Gathering Area 2	103	0	0.0
Alturas Rancheria Gathering Area 3	80	0	0.0
Pit River Tribe Gathering Area	292,769	27	2.6
Total	341,989	29	47.0

(USDA Forest Service 2006)

The Forest Service and the Pit River Tribe are currently in negotiations to establish a participating agreement. This agreement would further facilitate the Forest Service and the Tribe working together cooperatively in the treatment of noxious weeds located in ancestral territories within the boundaries of the Modoc National Forest and on adjacent tribal lands.

Issues and Concerns

Initial scoping began on April 13, 1998, a Notice of Intent to prepare an environmental impact statement was published in the Federal Register and the proposal for the treatment of noxious weeds was mailed to concerned citizens, Federal and State agencies, and environmental organizations identified within the forest's NEPA mailing lists. In March 1998, the California Indian Basketweavers Association (CIBA) and the California Department of Pesticide Regulation were contacted to obtain lists of individuals who were weavers. A public meeting was planned to solicit input from weavers. Letters and follow up phone calls to individual weavers were sent for the public meeting to be held in June 1998. A form was developed for individual weavers to mail in to indicate their interest in participation of the public meeting. The form was mailed to 36 individual weavers with a preaddressed envelope enclosed. One form was returned by a person that was unable to attend the meeting and wanted to continue to receive information about the development of the environmental assessment. The public meeting was held to accommodate individuals that failed to reply but still wanted to attend. The result was no participation.

As a result of analysis of all the public comments, the Forest revised the proposed action and in May 2001 a project update letter was mailed to individuals, groups, and other governmental organizations in which we detailed the process and timeline the agency was going to follow. Comments and recommendations made during previous scoping and tribal consultation were used to revise the 1998 Notice of Intent. A revision to the 1998 Notice of Intent (NOI) was published in the Federal Register on November 4, 2002. The 2001 proposal published in the Federal Register was sent to interested individuals, groups, agencies, tribes.

New mailing lists for individual weavers were requested. The weavers on the CIBA mailing list told the Forest of additional weavers that might be interested. Scoping meetings with weavers were held in Alturas, Susanville and Redding, California and in Klamath Falls, Oregon. Scoping letters were sent to new contacts and the Forest sent invitations to the meetings. Nineteen telephone calls were made to coordinate the meetings. Six home visits were made to determine interest.

Because many of the weavers of the Klamath Tribes do not belong to the CIBA, the Culture and Heritage Department of the Klamath Tribes suggested an article be placed in the tribal newsletter to invite weavers to the meeting in Oregon. A news article was developed to invite weavers to the public meetings. The Forest Botanist and the Forest Tribal Relations Program Manager met with weavers in Chiloquin and Klamath Falls, Oregon.

One weaver known to live in Alturas was contacted at home and a meeting was held in the Alturas Supervisor's Office to identify scoping issues from a weaver's perspective.

The proposed action reflected in the DEIS and the two additional alternatives published in the DEIS were based on the public comments received between March 1998 and June 2001.

The following groups and individuals provided comments in response to the DEIS that reflected concern about potential impacts. In addition to members of the public, Forest Service personnel knowledgeable about the Forest's noxious weed program and community environment, were consulted to determine if they anticipated any potential for impacts to a protected group.

- California Indian Basketweavers Association
- Klamath Forest Alliance
- Californians for Alternatives to Toxics

- Fort Bidwell Indian Community Council
- Alturas Rancheria
- Pit River Tribe Environmental Office
- Environmental Protection Agency
- Dan Meza, Tribal Relations Program Manager, Modoc National Forest
- Sarah Majdiak, Civil Rights Officer, Modoc National Forest

There is concern that traditional Native American gathering areas and cultural properties could be adversely impacted by encroachment of noxious weeds; however concerns were also raised about the potential for damage or loss of traditional gathering areas as a result of herbicide treatments.

Human health impacts are also a concern. The use of herbicides for invasive weed control may cause health problems for people who are exposed to the herbicides and/or treated areas. Herbicides have the potential to harm the physical and biological resources of the Forest adversely affecting the soil and water resources and therefore may harm humans, animals, and native plants. The ability of Native Americans and others to collect plants for traditional uses or medicinal reasons may be adversely impacted in specific areas. Traditional food sources could be contaminated resulting in adverse health impacts. Additionally, other traditional uses of plant material could expose users to health risks. For example, traditional basket weavers often use their teeth to hold fiber plants in preparing them for weaving; therefore fiber plants with herbicide residues are also of concern.

Those with the greatest risk of exposure would be the workers applying the herbicides. As described above, Hispanics and other minorities hold the majority of farm labor jobs in the analysis area. As such, these individuals could be employed by potential contractors for the treatment of noxious weeds. Concern has been expressed regarding potential impacts to these populations as a result of exposure to herbicide chemicals through their employment.

Impacts

Alternative 1 – No Action

Under the No Action Alternative, no herbicide treatments would be implemented, therefore there would be no human health risks to Forest users, contractors, cooperators, or employees as a result of herbicide exposure. Existing weed treatment activities as authorized by the Federal Highway Administration or the State of California would continue to be conducted. The impacts of these activities would be analyzed under site specific NEPA analysis. Additionally, some Forest Service weed treatment activities authorized under site specific NEPA analysis may occur.

Risks to traditional gathering areas as a result of noxious weed encroachment remain unchanged. Weed infestations on the forest may impact gathering areas or contribute to the spread of weeds on adjacent Tribal lands.

Hispanic, Native American, and other minority populations have a larger proportion of individuals with incomes below the poverty level. Crews hired to conduct weed treatment activities in the area are frequently made up of minority workers. Under the No Action Alternative, no jobs or income would be supported however; existing jobs and income would not be lost.

Based on the above analysis, no disproportionate adverse impacts to employees, contractors, cooperators, or members of the public because of their race color, national origin, age, disability, sex, marital status, familial status, parental status, religion, or sexual orientation are expected to occur as a result of implementation of Alternative 1.

Alternative 2

Those potentially at risk as a result of herbicide use under Alternative 2 fall into two groups: workers, and members of the public. Workers include applicators, supervisors, and other personnel directly involved in the application of herbicides. The public includes non-project forest workers, forest visitors, or nearby residents who could be exposed through the drift of herbicide spray droplets, through contact with sprayed vegetation, or by eating, or placing in the mouth, food items or other plant materials, such as berries or shoots growing in or near treated areas, by eating game or fish containing herbicide residues, or by drinking water that contains such residues.

Forestwide, the area potentially subject to herbicide treatment annually represent 0.02 to 0.09 percent of the Forest. In total, areas potentially subject to herbicide treatments represent approximately 0.41 percent of the Forest. The location, methods, and types of herbicides used would conform to standards designed to ensure that state and federal water quality standards are met. To control drift, herbicides would not be applied if the weather forecast for the next 24 hours calls for rain. Applicators would utilize directed spray or application to individual plants by wick to minimize the potential for drift beyond the targeted plants.

To reduce the potential for public exposure, treatment areas would be posted in advance, notifying Forest users of the impending treatment activities. These signs would list the herbicides to be used, the effective dates for treatment, and the name and number of a Forest Service contact. Additionally, dyes used in herbicide treatments would facilitate the identification of recently treated plants.

Those with the greatest risk of injury or herbicide exposure would be the workers conducting weed control activities. Potential contractors for weed control activities are likely to employ minority workers. Additionally, successful completion of the participating agreement with the Pit River Tribe described above would result in the use of Native American crews to implement weed treatment activities.

Although the most common public concern expressed was related to the health risk of herbicide use, physical control methods may also represent human health risks for crews implementing control activities. Weed control crews would be exposed to the potential for injuries as a result of tripping, falls, motor vehicle accidents, tool use, etc. Physical control methods are more time consuming to implement and therefore required increased time in the field and extended exposure to the risk of physical injury. Contra Costa County experienced increased worker compensation claims as a result of implementing physical control methods. There was a significant rise in the incidence of back injuries above that experienced when herbicide treatments were implemented. A contributing factor may have been that all members of the crew were over the age of 40. The experience of Contra Costa County was that physical control methods were less effective and required more repeat treatments and thus increased worker exposure. Crews found physical treatment methods to be physically demanding and tiring. Fatigued crews became less diligent about effective removal techniques which also contributed to the need for repeat treatments (Jefferies 2006). However, Worker Compensation Insurance data cited in the Human Health and Safety specialist's report (Bakke 2005) indicate that in 2002, compensation rates for physical treatment methods was only slightly higher than for herbicide treatment methods.

Human health and safety impacts to workers and the public under a variety of herbicide exposure scenarios including exposure from direct spray, treated vegetation, consumption of sprayed fruit, drinking contaminated water, or consuming fish by recreational and subsistence users were analyzed in the Human Health and Safety specialist's report (Bakke 2005). Both acute (one time) and chronic (long-term) circumstances were considered. Details of the analysis are located in the project record and will not be repeated in detail here. However, results indicate that exposure levels would not be expected to exceed acceptable levels of risk, particularly given the relatively small area to be treated and assuming compliance with recommended safety practices and procedures.

In accordance with the letter of direction dated November 18, 2005 from the Chief of the Forest Service in response to public concern about migrant and guest worker health and safety (Bosworth 2005), all alternatives would require strict adherence to health and safety requirements for all workers. Herbicides would only be applied by personnel who have been certified as applicators in accordance with label instructions and federal and state pesticide regulations. All crews assigned to conduct weed treatment activities would be required to have received training, conducted in the language of the crew, addressing health and safety precautions, Herbicide Fact Sheets, spill plans, and requirements for personal protective equipment. Additionally, supervision and inspections would be provided to ensure compliance with all safety requirements including the use of required personal protective equipment.

To address herbicide impacts to gathers and weavers, the California Environmental Protection Agency, Department of Pesticide Regulation completed a study entitled "Residues of Forestry Herbicides in Plants of Interest to Native Americans in California Forests." This report is discussed in the Tribal/Native American specialist report (Meza 2006). The conclusions are quoted below.

"In general, low residue levels were detected in the roots, shoots, foliage, and berries of plants treated with granular hexazinone and also in roots of bracken fern treated with glyphosate, triclopyr, or liquid hexazinone. Although levels were low, residues persisted in many of the sampled media, with glyphosate remaining detectable in bracken fern roots at 67 weeks post-application, the last sampling period for the plant-herbicide combination.

Also gatherers sampling shoots, foliage, and berries in glyphosate, triclopyr, or liquid hexazinone treatment areas may be exposed to herbicide. The highest residue levels were generally observed on application day or 4 weeks following application (second sampling interval) with residues remaining detectable in plant materials for several weeks thereafter. Consequently, herbicide residue data should be used for exposure assessment to determine if gatherers and basket weavers are exposed to hazardous levels of the four forestry herbicides.

As herbicide residues were found to move off-site to non-treatment areas, plant gatherers and basketweavers may want to select plants beyond the 100 ft. down slope from treated areas for up to 12 weeks following treatment." (Ando 2002)

Positive impacts to Native American tribal interests would be a reduced risk of weed infestations encroaching on gathering areas and adversely impacting populations of traditional plant resources. Additionally, the risk of invasive species encroachment on Tribal lands would be reduced. Negative impacts are an increased chance that traditional plant resources in close proximity to treatment areas may be damaged or lost.

Approximately 341,989 acres of traditional cultural properties and tribal gathering areas have been identified on the forest. Approximately 47 acres of weed infestations have been identified within these areas. Under Alternative 2, approximately 45.2 acres would not be treated, 0.5 acres would be treated through the use of physical treatment methods only, 0.5 acres would be treated through the use of herbicides only, and 0.8 acres would be treated with a combination of physical and herbicide treatments. The acres of gathering areas proposed for herbicide treatment represents 0.0004 percent of the total identified tribal areas. Additionally, herbicides would be applied through the use of directed spray or by application to individual plants by wick, minimizing the potential for drift beyond the targeted plants.

Concern was expressed relative to herbicide impacts in areas utilized for mushroom gathering activities. The Modoc, Klamath, and Shasta-Trinity National Forests jointly administer commercial mushroom gathering permits in the Medicine Lakes Highlands Traditional Cultural Property. Mushrooms are also an important cultural resource to Native American tribes in the area. No weed sites are currently identified in the Medicine Lakes Highlands area, and no weed treatment activities impacting this important resource are anticipated.

Design Standards for this alternative require that Forest personnel work closely with Native American tribal leadership regarding annual operating plans to prevent the spread of weed populations on to tribal lands and also to protect heritage resources such as traditional plant gathering areas. If tribal crews are utilized to implement treatment activities through the proposed participating agreement with the Pit River Tribe, cultural familiarity with traditional plant materials by crew members may afford additional protection to these resources.

The timing of treatment activities may correspond with the timing of traditional gathering activities. Advanced coordination with tribal leadership would allow for adjustments to annual treatment plans based on new information and make it possible for tribal leaders to provide notification to tribal membership regarding planned treatment activities. Such advanced notice would allow those conducting traditional gathering activities to avoid exposure to recently treated areas.

NVUM survey results indicate that Native Americans represented only 0.4 percent of Forest recreation visitors surveyed. Two percent of the visitor's surveyed indicated that they were of a race other than white. Of all visitors surveyed, those who participate in gathering natural products represented only 2 percent. Although NVUM survey results are the only source of information regarding National Forest use levels, many local residents did not stop and participate in the survey. Those who did not participate in the survey likely included American Indian users who may not have considered their activities as "recreational." Therefore, NVUM results are likely to have underestimated the number of these users. None-the-less, even if undercounting is assumed, the very small area to be treated forestwide and in traditional gathering areas indicates a minimal risk of exposure to Native American forest visitors. Adverse impacts to gathering activities for subsistence or income producing purposes are not expected.

For some forest users, any exposure to herbicides, direct or indirect, reduces the quality of their experience in the forest. Some individuals may regard the presence of herbicide residues and odors as a threat to good health and an adverse impact to their quality of life. These individuals may chose to relocate to other areas of the forest or other public lands to avoid recently treated areas.

A small percentage of the population may have a hypersensitivity to a wide variety of pesticides, perfumes, household cleaners, construction products or industrial herbicides, including the

herbicides proposed for use by the Forest. Risk of exposure for these individuals would be minimal.

Based on the analysis above, no disproportionate adverse impacts to employees, contractors, cooperators, or members of the public because of their race color, national origin, age, disability, sex, marital status, familial status, parental status, religion, or sexual orientation are expected to occur under Alternative 2.

Alternative 3

Under Alternative 3, the direct and indirect impacts resulting from the implementation of proposed treatment activities would be similar to those described under Alternative 2 with the following exception. No herbicides would be used; therefore impacts related to the application of herbicides would not occur. Neither workers nor the public would be at risk as a result of exposure to herbicides; however worker exposure and risks relative to physical injury may be greater than described under Alternative 2 due to the increased number of acres to be treated with physical methods. Strict adherence to health and safety regulations would be mandatory for all workers. All crews assigned to conduct weed treatment activities would be required to have received training, conducted in the language of the crew, addressing health and safety precautions and requirements for personal protective equipment. Supervision and inspections would be provided to ensure compliance with all safety requirements including the use of required personal protective equipment.

No adverse impacts to traditional Native American gathering areas would occur as a result of herbicides. Of the 47 acres of weed infestation identified within identified gathering areas, 45.7 acres would not be treated. Approximately 1.3 acres would be treated with physical treatment methods. The spread of noxious weed populations may be slowed, but ground disturbance as a result of manual treatment methods could provide habitat for the spread of some weed species. Risk of spread to tribal lands is less than under Alternative 1, but greater than under Alternatives 2, 4, and 6.

Design Standards for this alternative require that Forest personnel work closely with Native American tribal leadership regarding annual operating plans to prevent the spread of weed populations on to tribal lands and also to protect heritage resources such as traditional gathering areas. This advanced coordination will allow for adjustments to planned treatment activities designed to improve effectiveness and address tribal concerns.

Based on the analysis above, no disproportionate adverse impacts to employees, contractors, cooperators, or members of the public because of their race color, national origin, age, disability, sex, marital status, familial status, parental status, religion, or sexual orientation are expected to occur under Alternative 3.

Alternative 4

Up to 7,068 acres could potentially be treated with herbicides under this alternative. This figure includes up to 200 acres that could also be treated with herbicides (not to exceed 100 acres in one year) under an Early Detection – Rapid Response strategy. 3

The effects of Alternative 4 would be similar to those described under Alternative 2 above, but would occur over a longer period of time (ten years verses five). This alternative has a higher predicted effectiveness at controlling the spread of weeds due to the ability to treat new or expanded occurrences of the 14 identified noxious weed species as well as newly occurring species. The result would be more effective maintenance of native plant communities and plant diversity. The ability to treat new infestations increases the potential for the maintenance or

improvement of native plant communities above that provided by Alternative 2. Risk of encroachment by noxious weed species into traditional Native American gathering areas would be reduced, but not eliminated. The additional acres that could potentially be treated under Early Detection – Rapid Response would equate to an additional 0.06 percent of the Forest above what would occur under Alternative 2.

Herbicides would be used to treat 0.5 acres and physical or herbicide treatments would be applied to 0.8 acres within identified gathering areas. The acres proposed for herbicide treatment represents 0.0004 percent of the total identified tribal gathering areas. A small amount of additional acreage could be treated to address new infestations of the 14 identified noxious weed species or expansion of existing sites. Herbicides would be applied through the use of directed spray or by application to individual plants by wick, minimizing the potential for drift beyond the targeted plants.

This alternative would employ the same design features as Alternative 2 in terms of advanced coordination with tribal leadership, protection of heritage resources, and advanced signing of areas to be treated, as well as the use of dyes in herbicide applications. Such measures would allow those conducting traditional gathering activities to avoid exposure to recently treated areas.

As with Alternative 2, due to the very small portion of the Forest to be treated annually, risk to members of the public, including Native Americans and others seeking to collect forest products, would be minimal. Worker safety would be protected through training, certification, use of personal protective equipment, supervision, and inspection.

Based on the analysis above, no disproportionate adverse impacts to employees, contractors, cooperators, or members of the public because of their race color, national origin, age, disability, sex, marital status, familial status, parental status, religion, or sexual orientation are expected to occur under Alternative 4.

Alternative 5

The effects of Alternative 5 would be similar to those described under Alternative 3, but would occur on a smaller number of acres over a longer period of time. Total acres treated under this alternative would be 0.029 percent of National Forest System acres.

Effects of Alternative 5 would be the same as described under Alternative 3 except that in total, fewer of the currently infested acres would be treated, but treatment activities could continue for a longer period of time. Large sites and rhizomatous species would be difficult to control using the treatment methods specified. Additionally, soil disturbance as a result of treatment activities may increase the susceptibility of a site to re-invasion by noxious weed species. This may represent a higher risk of spread to adjoining land ownerships, including tribal trust lands compared to Alternatives 2, 4, and 6, however, Early Detection – Rapid Response would allow the treatment of new or expanded infestations of the 14 identified weed species and infestations by new species.

The potential for physical injuries to workers implementing treatment activities would be less than described under Alternative 3 because this alternative would utilize physical treatment methods on up to 480 acres or about 8 percent of the acres that would be treated under Alternative 3. As described under the alternatives above, Alternative 5 would require strict adherence to health and safety requirements for all workers implementing treatment activities.

American Indian traditional gathering areas would be the same as described under Alternative 3, except that all 47 acres of noxious weed infestations within identified gathering areas would be treated through physical treatment methods. There may be an increased chance of control and

elimination of smaller infestations within gathering areas, but large sites may be more difficult to control. Soil disturbance as a result of treatment activities may increase the susceptibility of a site to re-invasion by noxious weed species and renewed risks to desirable native plants within these gathering areas.

Design Standards for this alternative require that Forest personnel work closely with Native American tribal leadership regarding annual operating plans to prevent the spread of weed populations on to tribal lands and also to protect heritage resources such as traditional plant gathering areas. This advanced coordination will allow for adjustments to planned treatment activities designed to improve effectiveness and address Tribal concerns.

Should Native American crews be utilized to implement treatment activities across the forest under the proposed participating agreement, they would be at risk of physical injuries as described under Alternative 3. However the potential risk would be reduced due to the smaller number of acres to be treated. Alternative 5 would require strict adherence to health and safety requirements for all workers implementing treatment activities.

Based on the analysis above, no disproportionate adverse impacts to employees, contractors, cooperators, or members of the public because of their race color, national origin, age, disability, sex, marital status, familial status, parental status, religion, or sexual orientation are expected to occur under Alternative 5.

Alternative 6

The effects of Alternative 6 would be similar to those described under Alternatives 2 and 4, but would occur on fewer acres over a longer period of time. A large site of Dyer's woad, a large site of Dalmation toadflax, and a large site of common crupina would not be treated, except around the borders to prevent spread or the establishment of satellite infestations. Treatments applied to this site would utilize herbicides.

Efforts under this alternative would be focused more on eradication of small infestations and containment and control of large infestations rather than their elimination. This alternative allows for the use of an Early Detection – Rapid Response strategy to treat not only new occurrences of the 14 identified weed species, but also occurrences of new weed species when they are first discovered, small, and manageable. The use of Early Detection – Rapid Response would reduce the potential for spread on the forest and to other land ownerships.

A total of approximately 522 acres could potentially be treated annually with herbicides under Alternative 6. This represents 0.03 percent of all National Forest System lands. Approximately 200 acres of these would be treated through Early Detection – Rapid Response. This represents a risk of exposure to members of the public that would be less than under Alternatives 2 and 4.

Within traditional gathering areas, a total of approximately 45.5 acres of noxious weeds would be treated with herbicides and another acre would be managed with either physical or herbicide treatments. While this would be a greater use of herbicides within traditional tribal gathering areas than under Alternatives 2 and 4, it represents only 0.01 percent of the total gathering area acreage. Use of herbicides increases the likelihood that the existing infestations can be eliminated. The risk of the spread of noxious weed species to tribal lands would be lower due to the use of Early Detection – Rapid Response to treat new and spreading infestations of not only the 14 identified species, but also new species. This alternative would employ the same design features as Alternatives 2 and 4 in terms of advanced coordination with tribal leadership, protection of heritage resources, and advanced signing of areas to be treated. Such advanced

notice along with the signing would allow those conducting traditional gathering activities to avoid exposure to recently treated areas.

As with Alternatives 2 and 4 above, herbicide exposure levels for members of the public and for workers executing treatment activities would not exceed acceptable levels of risk to human health for all herbicides proposed for use (Bakke 2005). The use of proper personal safety equipment, training, and supervision for all weed treatment crews would be required to reduce the potential for injuries to workers.

Based on the analysis above, no disproportionate adverse impacts to employees, contractors, cooperators, or members of the public because of their race color, national origin, age, disability, sex, marital status, familial status, parental status, religion, or sexual orientation are expected to occur under Alternative 6.

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