

Noxious Weed Risk Assessment

Smith River National Recreation Area
Restoration and Motorized Travel Management Project FEIS
Six Rivers National Forest Service

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Assessing Risk of Introduction or Spread of Noxious Weeds

The following risk assessment was developed to standardize the process for determining the risk of introducing or spreading noxious weeds associated with a proposed action. Note that inventory and mapping are essential prior to performing the risk assessment. This risk assessment is in keeping with Forest Service Manual 2080 for Noxious Weed Management: 2081.03 – Policy which states that when any ground disturbing action or activity is proposed, determine the risk of introducing or spreading noxious weeds associated with the proposed action. The following factors are used to assess risk.

Factors	Components	Variations	Risk
1. Known Noxious Weeds	Regionally determined or Ca. Depart. Food and Agriculture listed	None present, none adjacent →	Low risk
		Weeds present, none adjacent →	Moderate risk
		Weeds present and adjacent along access routes →	High risk
2. Habitat Vulnerability	previous disturbance, plant cover, soil cover, shade, soil type, aspect/moisture	High cover, low disturbance →	Low risk
		Moderate cover, disturbance →	Moderate risk
		Open uninfested habitat and/or high previous disturbance →	High risk
3. Non-project dependent Vectors	existing roads and trails, traffic use, livestock/wildlife migrations, wind patterns, drainage flow direction	No current vectors →	Low risk
		Moderate current vectors →	Moderate risk
		Abundant current vectors →	High risk
4. Habitat Alteration Expected as a result of Project	logging prescriptions, road construction, fuels prescriptions, road decommissioning, outcropping, barricade installation, change in grazing management or recreation use, intensity and extent of disturbance	Low disturbance; minimal shade and duff removal →	Low risk
		Moderate disturbance, shade and duff removal →	Moderate risk
		High ground disturbance, shade and duff removal →	High risk
5. Increased Vectors as a result of Project Implementation	road construction, facility construction, amount of project-related traffic	No access improvement; minimal project-related traffic →	Low risk
		Temporary roads; short-term traffic increase →	Moderate risk
		Road or facility construction →	High risk

Analysis

Factor 1. Presence of known noxious weed species identified as a Forest concern. High Risk

Table 2 displays the number of high priority weed sites, by species that are affected by the proposed actions. Sites listed are distinct units. For those roads listed the risk of introduction and spread is high because of the presence of the known high priority weeds sites. The two broom species Scotch broom and French broom are listed as one species due to similar attributes and management. Weed species listed persist via a long-lived seed bank and vehicle tires are a recognized mechanism of dispersal (DiTomaso, et. al. 2007). These species require repeated treatment in order to deplete the seed bank. Weed sites listed in Table 2 have been treated repeatedly over the last 5 to 10 years and the low numbers shown are a product of the investment the Forest has made in working toward eradicating these sites.

Table 1. Weed sites affected by the proposed actions

Weed site Identifier	Number of Plants	Species	Location	Treat in Alternative
05105101PFB107A	9	broom	DN305	4, 5, 6
05105101PFB30	65	broom	15N01A	4
05105103CCS004A	1002	broom	18N16E	4, 5, 6
05105103CCS014A	69	broom	15N38	4, 5, 6
05105103CCS014C	20	broom	15N63	4, 5, 6
05105103PEB022	71	broom	427.103	4, 5, 6
05105103PEB026	178	broom	18N08	4, 5, 6
05105103PEB094	63	broom	16N19	4, 5, 6
05105103PEB096	5	tansy ragwort	17N41G.1	4, 5, 6
05105103PEB099	1	broom	17N41H	4, 5, 6
05105103TEC002	10	broom	18N20	4, 5, 6
05105104CCS004	18	broom	DN305	4, 6
05105104PEB025	5	broom	17N31	4, 5, 6
05105104PEB061	45	broom	DN315	4
05105104PEB084	67	broom	16N03K	4, 5, 6
05105104PEB112	7	broom	16N41	4, 5, 6
05105104PEB115	141	broom	16N38	4, 5, 6
05105104PEB123	11	broom	15N36	4, 5
05105104PEB128	1	broom	13N37	4, 5, 6
05105104PEB151	100	broom	18N19C	4, 5, 6
05105104PEB195	302	broom	18N17	4, 5, 6
05105104PEB259	116	broom	17N22J	4, 5, 6
05105105PEB219	31	broom	17N04S	4, 5, 6
05105199PFB5	74	broom	DN305	4
51CEPR09DJG008	6	meadow knapweed	17N16	4, 5, 6

51COJU07CLS005	2	pampas grass	17N49	4, 5, 6
51CYSC07CLS001	85	broom	18N07	4
51CYSC09DJG009	280	broom	17N13A	4, 5, 6
51CYSC09TEC008	28	broom	427.106	4, 5, 6
51CYSC10TEC04	85	broom	17N48	4, 5, 6
51CYSC11CLS020	986	broom	17N05C	4, 5, 6
51CYSC11LDH003	228	broom	18N08	4, 5, 6
51CYSC12CLS013	5745	broom	18N07.2	4, 5, 6
51CYSC14JDM001	50	broom	DN315	4
51CYSC14LDH007	70	broom	17N36	4, 5, 6
51CYSC2006225	14	broom	18N08.2	4, 5, 6
51GEMO09TEC014	282	broom	17N15A	4, 5, 6
51GEMO10DMD023	25	broom	15N36	4, 5
51SEJA08JDM01	200	tansy ragwort	18N20.100	4, 5, 6
51SEJA13LDH001	13	tansy ragwort	17N26	4, 5, 6

Factor 2. Habitat vulnerability based on previous disturbance, plant cover, soil cover, shade, soil type, aspect/moisture. High Risk

The risk of introduction and spread is high for motorized trails and roads due to the vulnerability of roadside habitat.

Factor 3. Non-project-dependent vectors such as existing roads and trails, traffic use, livestock/wildlife migrations, wind patterns, drainage flow directions. High Risk

The risk of introduction and spread is high due to the network of roads in the project area.

Factor 4. Habitat Alteration Expected as a result of the Project such as logging prescriptions, road construction, fuels prescriptions, change in grazing management or recreation use, intensity and extent of disturbance. Moderate Risk

The risk of introduction and spread from habitat alteration is moderate. The UARs and roads covered by the analysis are existing. The installation of barricades, waterbars and gates will result in short term disturbance contributing to the moderate risk rating. It is assumed that the level of use will remain low.

Factor 5. Increased Vectors as a result of Project Implementation such as road construction, facility construction, amount of project-related traffic. High Risk

Risk of introduction and spread from increase vectors as a result of project implementation are high. The amount of project related traffic is expected to increase. Aggregate and other off site materials will be imported into the project area that could harbor weed propagules.

Determination of Risk

The aforementioned factors vary only somewhat in their risk of introduction and spread. The analysis of the 5 factors indicate a high risk for introduction and spread of noxious weeds.

2081.03 – Policy states that for projects having moderate to high risk of introducing or spreading noxious weeds, the project decision document must identify noxious weed control measures that must be undertaken during project implementation.

Noxious Weed Control Mitigations Common to All Action Alternatives

It is recommended that the following measures be incorporated into the decision document to reduce the risk of weed introduction and spread. Weed sites displayed in Table 2 will be removed by hand and weed propagules (seeds) shall be removed from the Forest or burned. Time removal activities prior to plants producing seed to avoid spread during treatment. The weed species shown in Table 2 will require repeated treatment over time to remove the seed bank. Of particular concern, due to their persistence are the meadow knapweed on 17N16 and the tansy ragwort on 17N26, 17N41G.1 and 18N20.100. These species will require repeated treatment annually, over time, to achieve control. The most effective time to hand pull these species is when the ground is moist. Treatment in the spring with follow up removal after the first ground soaking rains is the most effective way to remove the plants in their entirety and to reduce the seed bank. Treatment shall reoccur annually until such time as weed sites are eradicated. All routes should be monitored over time to avoid reinfestation. System roads that are proposed to have heavy equipment work such as restoration of hydrological function, decommissioning, barricading, or culvert replacement that have weed infestations should have weeds removed prior to commencing work. Additionally equipment used in implementation should be cleaned prior to entering the Forest and, if weed infestations are found to be present equipment should be cleaned upon leaving infested roads to avoid dispersing the weed seed to other areas of the Forest. Any imported mulch or other erosion control material should come from a certified weed free source.

It is recommended that routes in Table 2 that are proposed for closure be treated to remove weed infestations. It is recommended that the weed sites be hand pulled prior to commencing any work leading up to closure. All sites noted should have certified weed free mulch (i.e. wood straw or wood chips) installed to impede subsequent germination of the weed seed bank. Vehicles should be cleaned to remove weed propagules prior to leaving site. Introduction and spread of these infestations will continue in the absence of mitigations. Because of their knowledge of the weed sites listed, a botanist should be consulted when developing an implementation plan for closure. The weed sites listed have been treated multiple times and are a high priority for treatment.

Use of mulch such as wood straw or mulch from chipped or masticated native material is preferable to imported materials that may be weed contaminated. Ensure rock, boulders, sand or other material to be used for project implementation originate from a weed-free source. Sources for these materials shall be inspected by staff trained in invasive plant identification or documented by contractor that material is weed-free. Do not use borrow material from weed-infested stockpiles.

Where determined to be appropriate, use clauses requiring contractors or permittees to clean their equipment prior to entering National Forest System lands.

Literature Cited:

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