

**ITEM 6-1**  
**Livestock Forage Production**

ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Livestock Forage Available.	Annual	+ or - 10% of target projected.

**Introduction:** The objective of this monitoring item is to evaluate if the Forest Plan projected outputs of livestock forage were available in grazing allotments across the forest. This monitoring item primarily involves cattle grazing. Grazing by pack and saddle stock for recreational use and by the forest for administrative use is not considered in this monitoring item.

**Methods:** Information concerning this item is summarized in the forest range database. The database report summarizes livestock grazing authorized each year under permit for allotments across the Forest.

**Results:** A total of 2,674 animal unit months (AUMs)<sup>1</sup> of cattle grazing occurred on the forest during the 1999 season. There was an additional 385 AUMs of grazing capacity in non-use status for the season. This was done at the request of the grazing permit holder for personal convenience. In addition, allotments were not grazed in order to facilitate allotment recovery. This non-use represents grazing that could occur under the terms of an existing permit. This is considered “forage available” for the purpose of this monitoring report.

The total available grazing capacity for cattle on the forest totaled 3,059 AUMs. This total is 21% of the Forest Plan projection of 14,300 AUMs. This is a variation from Forest Plan projections that trigger the need for further evaluation.

**Evaluation:** The Forest Plan range forage output projections are based, in part, on areas no longer utilized for cattle grazing, such as closed allotments or vacant allotments where closure is pending. Projections were also based on uniform forage utilization throughout all lands within an allotment. This is not the case on steeper and forested slopes. Most cattle grazing on the forest takes place on roadsides or is concentrated on narrow riparian areas or on occasional flatter basins or ridges in proximity to water. Adjustments to individual allotment grazing capacities are being made through allotment analysis on a scheduled basis to reflect current conditions and actual usable forage availability.

**Recommendations:** During Forest Plan revision, the grazing potential of all allotments should be reevaluated. Projections of forage available on viable allotments should be adjusted. Only forage on viable allotments should be included in forest projections. Non-viable or long-term vacant allotments should be closed and their forage capacities removed from forest projections. Forage projections should be updated to reflect forage capacity in areas of allotments actually used by cattle.

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<sup>1</sup>animal unit month (AUM) - an amount of grazing equal to what one cow and calf pair would consume in a one month period.

**ITEM 6-2**  
**Range Allotment Management Plans**

ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Assure range allotment management plans are compatible with Forest Plan direction.	Annual	Departure from management direction.

**Introduction:** The objective of this monitoring item is to evaluate if individual range allotment management plans across the forest are compatible with Forest Plan direction. The forest currently has an established schedule for updating grazing allotment analysis and planning and permit reissuance that is displayed in the forest range database.

Interdisciplinary teams develop analysis and plans for all projects, including range-related activities. These teams include various resource specialists such as range managers, fish and wildlife biologists, hydrologists, soils scientists, and archaeologists. Specialist input is tied to the issues relevant to the specific project or allotment. Completed analyses, plans and proposed actions such as grazing permit reissuance are reviewed and recommended by the district ranger. They are also reviewed by the forest planning group and resource program officer prior to being reviewed and approved by the forest supervisor. Reviews occur at all levels to insure compliance with Forest Plan direction as well as policy or legal requirements.

**Methods:** The forest range database is reviewed for allotment analysis project information concerning this monitoring item. Resource specialists monitor active allotments annually. Allotments are monitored for compliance with permit terms and conditions and resulting on-the-ground conditions that reflect compliance with Forest Plan direction. Adjustments are made to grazing permit annual operating plans or grazing permits are amended as necessary to assure Forest Plan compliance.

**Results:** Table 6-2A is a 1999 status summary of forest allotments. During fiscal year 1999, the scheduled analysis for the Sawmill-Cyr Allotment was completed as a part of another larger project analysis. This allotment will be closed due to resource conditions. Decisions were made to keep two additional allotments in a vacant state, Fort Missoula and Fishtrap. These allotments are vacant pending closure due to complex resource management issues and competing uses.

The grazing program on the Lolo Forest is diminishing slowly over time due to a variety of reasons including: the economics of small scale ranching operations in the local area, the loss of private ranch lands adjacent to the forest to subdivision and development, concerns over conflicting resource issues and values including water quality and riparian values, threatened and endangered species and other wildlife habitat and weed management issues as well as the loss of transitory range as timber harvest units revegetate.

**Table 6-2A.** 1999 Allotment Status.

<b>Number of Allotments</b>	<b>Status</b>	<b>Remarks</b>
32		There are 32 allotments in the Lolo Forest range database
8		Allotments pending closure for various reasons
21	Stocked	Allotments stocked with cattle during the grazing season
3	Non-use	No cattle were placed on allotments for various reasons
8		Current range allotment analyses
3		Analyses completed during 1999

**Evaluation:** The forest has been successful in updating permits and several allotment plans for consistency with Forest Plan direction. Annual field monitoring of active, stocked allotments with current analysis has shown grazing across the forest to be compliant with Forest Plan direction.

The completion of an allotment management plan and permit issuance which is compatible with Forest Plan direction and current policy requirements does not, in itself, guarantee that grazing will immediately meet standards on the ground. Active field monitoring and permit administration by resource specialists on the ranger districts occurs to insure that grazing conforms to permit terms and conditions.

**Recommendations:** Allotment analysis should continue in accordance with the schedule in the forest range database, to the extent funds are available. Annual field monitoring of stocked allotments by ranger district resource specialists should continue to help insure that permit terms are being met and resulting conditions on the ground meet Forest Plan direction.

**ITEM 6-3  
Indirect Weed Control**

(Added item from Forest Plan Amendment 11)

<b>ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED</b>	<b>REPORTING PERIOD</b>	<b>VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION</b>
Compare projected to actual funding of indirect control (information, inventory and biological support).	Annual	15% of dollars projected in Weed EIS

**Introduction:** The objective of this monitoring item is to document funds spent on indirect weed control methods in FY 99.

**Methods:** This item is monitored by the forest weed specialist. Yearly funding and targets accomplished are compared to the projected funding and levels of activity stated in the 1991 Forest Weed Management EIS. The 1991 Weed EIS sets levels for indirect weed control activities such as information and education, prevention, inventory, and biological management.

**Results:** The forest received 24% (\$86,546) of the budget necessary to implement the direction stated for the selected alternative in the Forest Weed EIS (\$360,700/year). Table 6-3A is a summary of FY 99 accomplishments for each indirect weed control action, compared to the level of activity projected in the EIS. Funding information is also provided in this table.

**Table 6-3A. FY 99 Accomplishments (Actual vs. Projected in Weed EIS).**

<b>Indirect Weed Control Action</b>	<b>Level of Activity Projected in Noxious Weed EIS</b>	<b>FY 99 Actual Accomplishments</b>
<b>(Funding for Action)</b>	<b>(Funding projected)</b>	<b>(Dollars spent)</b>
Information	Public awareness of weed problem and weed identification	Posted weed free feed areas. Weed awareness brochures at recreation sites. Weed education booths at county fairs. Continued Leave No Weeds education program. Involved in Mount Sentinel Vegetation Plan. Developing health risk assessment concerning herbicide use.
Funding	\$2,000	Not itemized, at least \$2,000
Prevention	Management requirements in Amendment #11	Most management requirements in Amendment #11 were implemented on forest projects. Weed seed free feed required forest-wide. Special Use Permit clause was developed for weed prevention and management. Lead Regional Task group to update weed prevention BMP's.
Inventory	Systematic mapping of high-risk areas and comprehensive mapping of Co-op areas	Inventoried weeds along forest trails. Mapped weeds on roughly 10,000 acres of bunchgrass big game winter range with a private contract.
Funding	\$10,000	\$2,500+
Biological	\$10,000 (595 acres/year)	Spent \$3,000 on acquisition of 7 insect species for 3 weed species. Spent \$3,000+ on 36 biological releases and monitoring of these 36 release sites as well as other existing release sites.
Funding	\$10,000	\$6,000+
<b>TOTAL FUNDS</b>	<b>\$22,000</b>	<b>\$10,500+</b>

The information and education program consisted of a wide variety of activities. Forest personnel staffed weed awareness booths at county fairs. Personnel were available to provide information and answer questions concerning weed management. Several weed management agencies (state, federal, and private) worked together on weed management coordination in the across the forest. This program provides weed awareness education for 6th grade school children. It is a very popular program and provides on-the-ground experience for kids concerning weed identification and problems associated with controlling their spread. The Washington Office invited the Forest to present the Leave No Weeds program at the Capitol Mall in Washington D.C. for Earth Day.

The forest weed specialist coordinated a newspaper tabloid on weeds that was distributed throughout Western Montana and worked with the *Missoulian* on another six-day weed series that was published in June 1999. The forest coordinator also continued work on a contract with a Washington State University toxicologist to develop a human health risk assessment concerning herbicide spraying for Missoula-area scenarios. The forest also worked with the Citizens for a

Weed Free Future, a local group of citizens working to improve weed management in the Missoula area.

The usual yearly activities of posting weed free feed designated areas and giving weed awareness presentations to schools and universities was also accomplished. Presentations were given by the forest weed staff to 6th graders and university classes.

Prevention measures were applied on most forest projects. The forest weed specialist, district weed coordinators, forest biologist, and forest fire management officers worked on a task force to develop weed prevention Best Management Practices (BMP's) for the Northern Region.

Forest trails were inventoried for the presence of weeds. Inventory work was performed by wilderness rangers, trail crews, and district weed coordinators in association with other duties. The forest weed specialist contracted with private industry to map 10,000 acres of bunchgrass big game winter range.

The Forest spent 60% (\$6,000) of the biological management program level described in the Weed EIS. At the same time, 302% of the biological management acre level as described in the Weed EIS was accomplished. One biological release is projected to treat 50 acres. The forest had 36 releases during FY 99. This equates to 1,800 acres treated.

**Evaluation:** The forest received 24% of the funding needed to implement this portion of the weed program as stated in the 1991 Weed EIS. Therefore, the forest was more than 15% from the funding level projected in the 1991 EIS for Weed Management. However, the forest accomplished 78% of the acres of control from the 1991 Weed EIS with 25% of the budget. We also accomplished a greater proportion of each program component than the percentage we were funded. This was accomplished primarily due to efficient management practices. Weed inventory on the forest is not a high priority because the forest has a *resource* rather than a *species* based management strategy. Refer to five resource priority site types in Amendment 11.

**Recommendations:** If the forest programs additional funding and commits additional staff time, more of the target program stated in the 1991 Forest Weed Management EIS can be accomplished.

**Review of Last Year's Action Items:** There were no action items identified in last year's report.

**ITEM 6-4**  
**Direct Weed Control**

(Added item from Forest Plan Amendment 11)

ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Compare projected to actual acres of direct treatment (mechanical, herbicide, and biological methods).	Annual	25% of acres projected to be treated in Weed EIS

**Introduction:** The objective of this monitoring item is to document acres of direct weed control in FY99.

**Methods:** This item is monitored by the forest weed specialist. Information is compiled by district weed coordinators and collected by the weed specialist. Yearly treated acres of direct weed control are compared to the program level described in the Forest 1991 Weed Management EIS. This 1991 Weed EIS sets levels for direct weed control activities such as physical, biological, and chemical control.

**Results:** The forest received 24% (\$86,546) of the vegetation management budget necessary to implement the selected alternative in the Forest Weed EIS (\$360,700). Table 6-4A is a summary of acres of treatments accomplished using the FY 99 vegetation management budget. Treatment acres are compared to acres projected by the 1991 Weed EIS. Compared to EIS treatment projections, the forest accomplished 5% (five acres) of mechanical treatments, 32% (871 acres) of herbicide treatments, and 302% (1,800 acres) of biological treatments.

**Table 6-4A.** Comparison of projected EIS acres to be treated to acres treated in FY 98.

Direct Control	Projected EIS Level Acres to be Treated	Vegetation Mgmt. Accomplishment Acres for FY 99	% of Projected EIS Level Accomplished in FY 99
Mechanical	105 acres	5 acres	5%
Herbicides	2,740 acres	871 acres	32%
Biological	595 acres	1,800 acres*	302%
<b>TOTALS</b>	<b>3,440 acres</b>	<b>2,676 acres</b>	<b>78%</b>

\* This value represents 36 biological management agent releases at 50 acres per release.

An additional 469 acres were treated with herbicides using funding from various sources including range betterment, Knutson-Vandenberg (KV), soils, wildlife, cost share, coop, and purchaser funding. A total of 1,340 acres were treated with herbicides on the forest.

**Evaluation:** Concerning treatments using the vegetation management budget, the forest is more than 25% from the level stated in the 1991 Weed EIS for the chemical and physical control programs. This deviation is because funding for FY 99 was at 24% of our EIS program level. We exceeded our biological treatment acre projected level by 302%.

When the forest did the Weed EIS in 1991, weed specialists were hopeful that physical controls would be effective and affordable. In 1997, we initiated a weed demonstration project to review the cost effectiveness of various weed control methods, including hand pulling of weeds. Data gathered in 1998 from this demonstration project indicated that hand pulling cost about

\$13,900/acre/year when pullers are paid \$9/hour. Mechanical treatments increased bare ground and provided relatively poor knapweed control. For these reasons, the forest will focus mechanical treatments on very small and isolated weed infestations.

**Recommendations:** If the forest receives additional funding, more of the target program stated in the 1991 Forest Weed Management EIS can be accomplished.

**Review of Last Year's Action Items:** There were no action items identified in last year's report.

**ITEM 6-5**  
**Noxious Weed Acres and Spread Assumptions**  
(Added item from Forest Plan Amendment 11)

ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Validated Weed EIS assumptions for weed acres and rates of spread.	5 years	Unacceptable results of an ID Team review

**Introduction:** This objective of this monitoring item is to assess the weed infested acres and their rates of spread on the forest over five-year periods.

**Methods:** This is the third year of the five-year reporting period. This item was not monitored this year.

**Results:** No results.

**Recommendations:** Combine this monitoring item with 6-6. Both items focus on weed spread and the effectiveness of control efforts.

**Review of Last Year's Action Items:** The above recommendation to combine this item with 6-6 was made in 1999 for the 1998-monitoring year. This recommendation is made again this year. There has been no action on this recommendation as proposed last year.



**ITEM 6-6**  
**Noxious Weed Control Objectives**  
 (Added item from Forest Plan Amendment 11)

ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Monitor the attainment of control objectives for each of the nine species listed in the Weed EIS	5 years	Unacceptable results of an ID Team review

**Introduction:** The objective of this monitoring item is to monitor the spread of nine species of weeds listed in the Forest Weed EIS. These are spotted and diffuse knapweed, Canada and musk thistle, St. Johnswort, houndstongue, tansy, leafy spurge, and dalmation toadflax.

**Methods:** Weed spread is documented by comparing photos of treated areas before and after herbicide treatments. Biological release sites are monitored using point-step transects. Stem density is measured.

**Results:** Seventy weed control sites were monitored across the forest in 1999. Missoula monitored 16 sites, Ninemile monitored eight sites, Plains monitored four sites, Seeley Lake monitored ten sites, and Superior monitored 32 sites.

Monitoring at biological agent sites: Some of the leafy spurge and Canada thistle bio sites monitored showed reductions in stem density. Insects were generally established on leafy spurge sites even when we didn't detect a change in stem density.

Spurge insects were sometimes found at higher densities at the edge of some infestations. At other sites, spurge insects formed a circular expansion from the point of release. Significant decreases in spurge density was noted at some sites where herbicides were used in conjunction with insects.

Biological management efforts show little effect so far on St. Johnswort and spotted knapweed. However, evidence of insects and significant biological agent populations were found at most spotted knapweed release sites. Monitoring by the Regional Office entomology staff indicated that the forest has the oldest, best established and widest spread *Agapeda zoegana* populations in the region.

Monitoring at herbicide treated sites: Herbicide monitoring showed excellent control for spotted knapweed and St. Johnswort. Treatments stressed dalmatian toadflax, but were not as effective for other weeds.

**Evaluation:** Sites on the forest where herbicide treatments are applied show significant reductions in weed density. Herbicide treatments provide effective weed control.

The weed monitoring program's main focus is to monitor biological release sites since there is less known about the site specific effects of biomanagement agents. Project monitoring is focused on biomanagement sites since the forest is hoping that in the long term, biological management will be effective in reducing weed spread and presence.

There are now 24, rather than nine invasive species of concern, recognized on the forest. Several of these species do not occur on the forest but grow nearby and could establish on the forest. Weed control is an ongoing activity that will require constant and long-term efforts. The objective of the Lolo Weed Management program is to prevent establishment of new weed

species, slow the spread of existing weeds, and increase public awareness. Prevention measures are effective in raising public and forest weed awareness and reducing weed establishment where weeds were not yet present. Weed awareness is at an all time high on the forest.

**Recommendations:** Review this monitoring item to determine if it is meaningful. Since the Lolo weed management program is *site* more than *species* or *spread* driven, it may be beneficial to combine this item with Item 6-5 and monitor spread on a site basis. A methodology will need to be developed if we are to spend more money and people resources on monitoring this item.

**Review of Last Year's Action Items:** The same recommendation was made in 1999.

**ITEM 6-7**  
**Noxious Weed Control Implementation & Effectiveness**  
 (Added item from Forest Plan Amendment 11)

ACTIVITY, PRACTICE OR EFFECT TO BE MEASURED	REPORTING PERIOD	VARIABILITY (+/-) WHICH WOULD INITIATE FURTHER EVALUATION
Random review of projects, field reviews, and contracts to assure that 1) weed prevention and control is addressed during planning and implementation and 2) that treatments are effective.	Annual	Departure from management direction or ineffective treatment practices

**Introduction:** The objective of this monitoring item is to assure weed prevention and control methods are identified in appropriate forest projects and treatments are effective.

**Methods:** This item is monitored by district weed coordinators for district projects through spot checks, participation in project planning and project file reviews. The FY 99 Forest Plan project monitoring review by line officers, staff and resource specialists is also a source of data for this item.

**Results:** District weed coordinators are following management direction, applying treatment practices, and implementing prevention practices. Many biological management agents have established and are reproducing successfully even though visible decreases in weed populations may not be evident.

Tansy ragwort is a potential invader on the forest and is found on two neighboring forests to the north. A single tansy ragwort plant, a potential new invader on the Lolo NF, was discovered on the north end of the Plains / Thompson Falls Ranger District. A quick response was implemented in which the plant was removed and several miles around the plant was recon'd to see if other plants were present. No other plants were discovered. The site will be intensively monitored in the following years. On the Superior Ranger District, a roughly 100 acre scattered infestation of tansy ragwort is found on private land immediately adjacent to the Lolo NF. The district is working closely with the county weed supervisor and the landowner to ensure the infestation does not spread onto NF land. Both these early detection and prevention situations have successfully kept this new invader off Lolo NF land.

Small infestations of orange hawkweed, another new invader, are being discovered on the forest. Since this is a new invader and the infestations are small, eradication efforts are implemented on this species.

Dalmatian toadflax is another weed that is uncommon on the forest and is showing up, especially in areas of concentrated recreation use. Immediate control actions are taken when new infestations are discovered.

**Evaluation:** This item is not intensively monitored due to budget. Monitoring is conducted in conjunction with other resource and weed management activities. All of the nine listed species are spreading. New species are being kept from establishing and spreading. The objective of the Lolo Weed Management program is to prevent new invaders from establishing, slow the spread of existing weeds, and increase public awareness. Sites with direct controls applied show significant reductions in weed density. Weed control is an ongoing activity and will require constant and long-term efforts. We have been successful in preventing the establishment of new weeds on the forest.

**Recommendations:** The forest needs to continue the current monitoring efforts. The long-term effects of both herbicide spraying and weed invasion on forbs and grasses should be monitored to improve our understanding of weed ecology and weed management options.

**Review of Last Year's Recommendation Items:** A similar recommendation was included in last years monitoring report. See Item 1-7 for monitoring efforts of herbicide spraying on forbs and grasses.