

Errata Sheets

DRAFT August 2011

This section itemizes clarifications, corrections, and changes made to the Invasive Plant Management Plan Update EA following publication in December 2010, and public review. These errata should be maintained with all copies of the Invasive Plant Management Plan Update EA for a complete record of the completed environmental impact analysis. The changes and corrections incorporate responses to public, agency, and internal review comments received on the plan and additional National Park Service staff analysis. Revised or new language is underlined. Deleted text is marked by strikethrough.

Where a change is made as part of a response to a public comment, the concern identification number is noted in brackets at the end of the text change, see the *Invasive Plant Management Plan Update EA Public Comment and Response Report* (NPS 2011).

Abstract

Page v: The following sentences have been added to the end of the paragraph on Alternative 2, second paragraph from bottom:

...in Wilderness (special protections for sensitive areas still apply, see Table II-3 Special Protection Zones). Four additional herbicides are proposed for use.

Page v: The following text has been changed:

Park crews would use two approved herbicides to control up to 22 invasive plant species...

Contents

Page vii: The title of Alternative 2 has been corrected:

Alternative 2: ~~Adding Four~~ Herbicides and ~~Addressing~~ Limitations of Existing Plan

Page ix: The following Appendix title has been changed:

Appendix F: Herbicide Use, Safety and Storage Protocol

Overview of the Alternatives

Page xi: The following text has been changed:

Park crews would use ~~one of the~~ two approved herbicides...

Chapter I. Purpose and Need

Page I-2: Under **Need** heading, the following paragraph has been deleted:

~~With this *2010 Update*, as more effective herbicides are developed, tested, and approved for use on public lands in the western states, adaptive management protocols would allow the park to select herbicides that have greater efficacy and/or fewer undesirable effects than those currently used. Park staff would work cooperatively with university researchers and other experts to find the safest, most efficient, and most effective tools to protect Yosemite's biodiversity. The effectiveness of integrated pest management treatment actions would be monitored.~~

Page I-6: Goal 5 – Monitoring, the following bullet is added to the list of goals:

- Monitor and evaluate methods and applications for unintended/undesirable effects to non-target species and take corrective actions if necessary.

Page I-7: The section “**Invasive Plant Policy**” on page I-10 is retitled as: “*National Park Service Policies and Plans*,” and moved to page I-7, directly under the heading *Legislative and Planning Context*. The first paragraph has been removed and the following two paragraphs inserted here:

The *National Park Service Management Policies* (NPS 2006b) is the primary policy document of the NPS. It contains text relevant to the control of non-native plant species, including these statements: “Exotic species will not be allowed to displace native species if displacement can be prevented” and “In general, new exotic species will not be introduced into parks.” The *2010 Update* must conform to federal laws, regulations, and policy guidance, including federal herbicide use regulations. In 1999, President Bill Clinton signed Executive Order 13112 to prevent the introduction and spread of invasive species. This federal directive provides guidance for the management of invasive species on federal land. The National Park Service Organic Act of 1916 is the legal foundation of NPS regulation and policy. The *NPS Management Policies* (NPS 2006b) are the primary policy documents of the NPS. The policies state, “Exotic species will not be allowed to displace native species if displacement can be prevented . . . In general, new exotic species will not be introduced into parks.”

Legislation and policy specific to Yosemite National Park include the enabling legislation for Yosemite National Park, the California Wilderness Act of 1984, the *General Management Plan for Yosemite* (NPS 1980), the “Merced Wild and Scenic River Comprehensive Management Plan” (currently in development), and the “Tuolumne Wild and Scenic River Comprehensive Management Plan.” The *General Management Plan* provides overall management direction for Yosemite National Park. The *2010 Update* tiers off of the *General Management Plan*. The action alternatives in the *2010 Update* are consistent with parkwide and NPS-wide legislation and policy, and reflect the categories identified in the national planning documents.

Page I-7 to I-9: The section on “**Impairment of National Park Resources**” follows, as a subheading within “**National Park Service Policies and Plans**.”

Chapter II. Alternatives

Page II-2: The following header has been added immediately under the header “*Actions Common to All Alternatives*”.

Integrated Pest Management

Page II-8: The third bullet under the header “*Best Management Practices*” has been changed:

- Use only herbicides approved by NPS, and U.S. and California Environmental Protection Agencies. Follow all state and federal regulations pertaining to herbicide handling, application, and storage.

Page II-10, the paragraph titled Minimum Tool has been replaced.

~~**Minimum Tool.** The minimum tool would be used in Designated Wilderness. Invasive species are a threat to natural and cultural wilderness resources. Herbicides are the most effective and efficient tool for controlling many invasive species, particularly rhizomatous perennials. Herbicides are a minimum tool under each of the alternatives considered here. Work crews will follow all herbicide safety, storage, transportation, and use protocols outlined in this plan. Herbicide use shall meet the conditions of the Wilderness Minimum Tool Requirements Analysis, see Appendix J.~~

Minimum Requirements Analysis. Minimum Requirements Analyses are conducted for all activities in Wilderness, during work- planning. Invasive species are a threat to natural and cultural wilderness resources. Herbicides are often the most effective and efficient tool for controlling many invasive species, particularly rhizomatous perennials. Herbicides may be determined to be the minimum tool, as discussed under each of the alternatives considered here. Work crews will follow all herbicide safety, storage, transportation, and use protocols outlined in this plan. Herbicide use shall only be used in Wilderness when it meets the conditions of the Wilderness MRA. The MRA has been completed for the Selected Alternative, Alternative 2, and is included in this FONSI. If necessary, for any species not addressed in Appendix A in the MRA, the control method would be selected following the protocol in Figure II-2. (Tool Selection Protocol), the decision would be documented, and the method described in the annual work plan. Additional MRAs (for actions that might fall outside the parameters analyzed in the programmatic MRA) would be conducted during future work planning, as appropriate, and will be posted with the annual work plans at: <http://www.nps.gov/yose/naturescience/invasive-plant-management.htm>

Page II-10: Table II-3, **Special Protection Zones**. The “Wetlands, Riparian Areas, and Wild and Scenic River Corridors” row has been modified; the last sentence has been modified

~~... treatment could include herbicide application in water.~~ Should treatment in water be necessary the Superintendent would be notified and a NEPA process would be immediately initiated. [28210]

Page II-10: Table II-3, Special Protection Zones. The row “Designated Wilderness” has been modified:

- A ~~minimum tool analysis~~ minimum requirements analysis would be conducted. . .

Page II-11: The header **Monitoring** has been changed to **Monitoring and Reporting**

Page II-11: The following language has been changed:

~~Trend M~~ Monitoring includes the following:

Page II-11: The title of Alternative 2 has been changed:

Alternative 2: ~~Adding Four~~ Herbicides and ~~Addressing~~ Limitations of Existing Plan

Page II-11: The following paragraphs have been added as regular text below the *Corrective actions monitoring* bullet:

Annual work plans are developed and posted on the park’s Invasive Plant Management Program webpage before each field season at:
<http://www.nps.gov/yose/naturescience/invasive-plant-management.htm>.

These plans are sent to the tribes and groups associated with Yosemite National Park as part of consultation, and are posted online for review by the general public. Managers review the professional and scientific literature, review the results of park studies and the previous season’s treatment actions, and consult with staff and other specialists in order to select the most appropriate treatment methods and mitigations. Tribes and the public are notified of the proposed treatment schedule, locations, methods and tools.

Page II-15: The following sentence has been changed in the 2nd paragraph under the header “Treatment”:

Imazapyr, like glyphosate, is effective on a wide variety of species and can be used ~~in aquatic situations~~ near water. [28210]

Page II-16: Language has been changed and a sentence has been inserted in the second paragraph under the header “**No Spraying of Herbicides in Traditional Gathering Areas**”:

...Ongoing information sharing and consultations with culturally associated tribes and groups will be an integral component of the process for determining the most appropriate control method in these areas. Management in tribal gathering areas will consider all treatment options. The most appropriate method. . .

Page II-16: The following language has been changed:

Ten-foot Setback from Standing or Moving Water. Alternative 2 differs from Alternative 1 in that aquatic herbicide formulations ~~would~~ can be used within 10 feet of the waterline. Herbicides will not be applied in water. [28210]

Page II-17: The following sentence would be removed. This has already been stated on page II-2 in the *Actions Common to All Alternatives* section:

~~As is required by federal law (7USC136r-1) for actions conducted by federal agencies, Alternative 3 would also be based upon the principles of integrated pest management.~~

Page II-17: The paragraphs beginning with “Finally, Alternative 3 includes adaptive management...” and ending with “The Council on Environmental Quality also recognizes the value of incorporating the adaptive management model into the NEPA process (CEQ 1997).” will be moved to the **Actions Common to All Alternatives** section at the bottom of page II-9.

Page II-17 (moved per previous paragraph to page II-9), the following paragraph has been changed.

~~Finally, Alternative 3 includes Management planning for each of the alternatives includes adaptive management, a process that This process promotes flexible decision making to allow for program adjustments in the face of uncertainties and ecosystem variability (Williams, Szaro, and Shapiro 2007; Prato 2006). Adaptive management builds upon traditional NEPA implementation processes because it includes monitoring and adaptive measures as part of the NEPA analysis. Using adaptive management, the invasive plant management program could be constantly improved by using the results of monitoring and new information to respond proactively to changing conditions with improved and innovative techniques as appropriate. Alternatives 1 and 2 are tacitly adaptive in that workers and managers generally strive to increase effectiveness and efficiency. However, the processes for justifying, assessing, and documenting flexible management responses are detailed in Alternative 3. The adaptive management protocol is not open ended. Allowable actions are limited to those described in the three alternatives.~~

Page II-19, the sidebar titled “Steps involved in adaptive management of invasive plants include:” will be moved to page II-10, following the adaptive management section.

Chapter III. Affected Environment/Environmental Consequences

Special Status Vegetation

Page III-37, second paragraph under Affected Environment header:

An additional 146 special status plants found within park boundaries are designated ~~Park~~ Sensitive sensitive by Yosemite National Park botanists.

Page III-37, insert the following text box after second paragraph under Affected Environment header:

Special Status plants in Yosemite meet one or more of the following criteria:

- Federally listed threatened or endangered species
- California listed rare or endangered species
- U.S. Forest Service Sensitive or Watch List species
- Listed in the California Native Plant Society Inventory of Rare and Endangered Plants
- Sierra Nevada endemic species
- Species with a limited distribution in Yosemite and/or California

Page III-41, last paragraph under Cumulative Impacts header:

~~Past impacts on special status plants have been adverse, long-term and major. Present and foreseeable future actions would contribute to reversing the major some of the past adverse impacts of past actions on special status plants, and would produce long-term minor beneficial effects on special status plants. Among other benefits, Yosemite could provide a refuge from which plants could recolonize their former ranges. These past, present, and future effects, along with the local long term minor beneficial impacts of all the no action and action alternatives, would result in long term adverse minor impacts on vegetation.~~

Wildlife

Page III-45, last sentence in paragraph under Cumulative Impacts header:

~~The past, present, and future effects, along with the local long term minor adverse impacts of these alternatives, would result in long term moderate adverse impacts on wildlife.~~

Special Status Wildlife

Page III-52, last sentence in last paragraph under Cumulative Impacts header:

~~The past, present, and future effects, along with impacts of all three alternatives would result in long term adverse moderate impacts on special status wildlife.~~

Traditional Cultural Properties and Ethnographic Resources

Page III-63, top of third paragraph under Environmental Consequences header:

Planning and mitigation discussions would also involve collaboration to determine appropriate times, methods, and locations for various treatments. Management in tribal gathering areas will consider all available treatment options.

Page III-63, Conclusion paragraph:

Non-native invasive species pose a significant threat to cultural use plants in Yosemite National Park. Management in tribal gathering areas will consider all available treatment options.

Chapter V.

Page V- 1, first paragraph, the following sentence has been removed:

~~The park received comment letters during the public scoping process, including 29 from individuals and 17 from organizations.~~

Appendices

Appendix F: Herbicide Use and Storage Protocol

Page F-4, bottom of **Reporting** section:

- Data and results of monitoring are reported annually, and can be viewed online at: <http://www.nps.gov/yose/naturescience/invasive-plant-management.htm>

Page F-4, **Reporting** section, the following language has been changed:

- ~~Herbicide spills greater than 1 ounce undiluted aminopyralid or 1 gallon diluted aminopyralid, or 32 ounces undiluted aquatic glyphosate or 1 gallon diluted aquatic glyphosate, would immediately be reported to the park safety officer and the county agricultural commissioner.~~
- Herbicide spills greater than 1/4 dry ounce undiluted chlorsulfuron, 1 fluid ounce undiluted aminopyralid, rimsulfuron or triclopyr, 32 fluid ounces undiluted glyphosate, or any diluted amount greater than 5 gallons, or the amount of diluted herbicide needed to treat 1 acre, would be reported to the park safety officer.

Page F-4, bottom, new section following **Reporting** section:

Water Quality Protection:

- Although the park is proposing to use aquatic formulations of imazapyr and glyphosate, the park will nonetheless not deliberately apply herbicide in water, despite that fact that the label for such formulations allows the product to be applied in such a manner.

Appendix G: Herbicide and Surfactant Information Sheets

Page G-19, Appendix G, Toxicity, Agrindex:

AGRI-DEX® has an LD50 for (rats) of over 2000 mg/kg, and an LC50 of over 1000 for bluegill sunfish, rainbow trout (96 hour exposure) and *Daphnia magna* (48-hour exposure) suggesting a relatively low toxicity (McLaren and Hart 1995).

Bibliography:

McLaren and Hart. (1995). Use of the Registered Aquatic Herbicide Fluridone (SONAR) and the Use of the Registered Aquatic Herbicide Glyphosate (Rodeo and Accord) in the State of New York, prepared by McLaren/Hart Environmental Engineering Corporation for DowElanco and Monsanto. pp. 12-8 - 12-10.

New York Department of Environmental Conservation. (2009). Registration of a Major Change in Labeling for DuPont Matrix FNV Herbicide (EPA Reg. No. 352-671) Containing the Active Ingredient Rimsulfuron (Active Ingredient Code 129009). Retrieved from: http://pmep.cce.cornell.edu/profiles/herb-growthreg/naa-rimsulfuron/rimsulfuron/matrix_mcl_0509.pdf

NPS (2008). *Invasive Plant Management Plan for Yosemite National Park Environmental Assessment*. Retrieved from: http://www.nps.gov/yose/parkmgmt/invasive_docs.htm

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http://www.nps.gov/yose/parkmgmt/invasive_docs.htm

Prato, T. (2006). Adaptive management of national park ecosystems. *George Wright Society*, 23, 72-86.

Williams, B. K., Szaro, R. C., and Shapiro, C. D. (2007). *Adaptive management: The U.S. Department of the Interior technical guide*. U.S. Department of the Interior. Retrieved from
<http://www.doi.gov/initiatives/AdaptiveManagement/index.html>,