



## United States Department of the Interior

### NATIONAL PARK SERVICE

Point Reyes National Seashore  
Point Reyes, California 94956

IN REPLY REFER TO:

L7617

Dear Interested Party:

Point Reyes National Seashore (Seashore) has issued a Finding of No Significant Impact (FONSI) for the Coastal Dune Restoration Environmental Assessment (EA) to improve and restore coastal dune habitat of critical ecological importance in the park. Under this planning process, the Seashore plans to restore up to 600 acres of coastal dune habitat to benefit four federally listed species under the Endangered Species Act: the Western snowy plover, Myrtle's silverspot butterfly, Tidestrom's lupine, and beach layia. Habitat restoration will be accomplished by removing highly invasive, non-native European beachgrass and iceplant that have altered sand movement, dune structure, and habitat function for native plants and animals uniquely adapted to this coastal environment. The restoration work is designed to minimize potential impacts to adjacent ranch operations. The FONSI and associated documents such as the Non-Impairment Determination are posted on the Planning, Environment, and Public Comment (PEPC) website (<http://parkplanning.nps.gov/pore>), as well as the Seashore's website ([http://www.nps.gov/pore/learn/management/planning\\_dunerestoration.htm](http://www.nps.gov/pore/learn/management/planning_dunerestoration.htm)).

Alternative C is the selected action and is identified in the EA as the preferred alternative. The preferred alternative is the alternative that offers the greatest benefits with the least impact to park ranches and coastal resources. This selected action involves mechanical and limited herbicide treatment of non-native invasive plant species such as European beachgrass and iceplant. Restoration would use targeted herbicide control methods to remove these species, while also incorporating manual and mechanical removal methods, particularly in wetlands and wetland and organic pasture buffers. Herbicide treatment areas may be pre-treated or post-treated using either prescribed burning or mowing to improve efficacy of treatment efforts and minimize herbicide application volume. Restoration efforts would focus on three coastal dune areas: AT&T/North Beach, A and B Ranch/Davis, and Limantour. These sites are a high priority for restoration because of their importance to threatened and endangered species. Restoration at AT&T and North Beach will build upon earlier restoration that restored dune habitat south of Abbotts Lagoon, creating several miles of unfragmented coastline.

The Seashore follows a very strict Integrated Pest Management approach that emphasizes use of non-chemical means first unless non-chemical means prove ineffective and threaten park resources through continued spread of non-native, invasive species. The park has tried both manual and mechanical removal since 2000. The biology of European beachgrass makes it a very difficult species to remove by hand, because it can root more than 12-feet deep and resprout from the smallest of rhizome fragments. Mechanical removal is effective, but extremely costly, reducing the acreage that can be restored and directly affecting federally-listed species. In addition, mechanical removal can have repercussions on adjacent habitats and land uses. The objective is to restore dunes to benefit plant and animal communities without incurring impacts to other habitats and adjacent ranching operations.

The EA relies primarily on USDA/Forest Service (USFS) individual risk assessment reports for glyphosate and imazapyr prepared in 2011 by Syracuse Environmental Research Associates, Inc. (SERA). These reports use the considerable body of scientific research conducted on potential ecological and human health impacts of herbicides to assess potential risk of herbicide use based on the method and volume of application. The Seashore and USFS follow the U.S. Environmental Protection Agency (EPA)'s lead regarding herbicide risk. In a few months, the EPA is expected to release for public comment their preliminary human health risk assessment for glyphosate as part of their program to reevaluate all pesticides periodically. If the EPA changes its conclusions, the Seashore will reconsider its findings under this NEPA process.

A large body of literature exists on potential human health effects of herbicides, particularly on glyphosate. While studies have shown that there is some basis for concern about human health effects of glyphosate, the concentration of glyphosate used in the park are well below that threshold.

Glyphosate concentrations in cellular toxicity studies often range from 0.1–1% in the cell culture medium: A concentration of 1% is equivalent to a person drinking at least half a cup of a full-strength 44% glyphosate product, representing an acute poisoning scenario (PRI 2015). By comparison, the Seashore is proposing to use a much lower concentration, a mixture containing 2% of a 53% glyphosate product, under extremely conservative application criteria. The potential for toxic effect is further reduced by a number of risk avoidance and minimization measures routinely employed, including stringent restrictions on approach (backpack sprayer with calibrated nozzle to direct spraying) and climatic conditions for spraying (e.g., dry conditions with average wind speed less than 10 mph). In addition, buffers for herbicide use have been established for sensitive natural (wildlife, wetlands, and rare plants) and agricultural resources (organic operations).

In analyzing the potential effects of glyphosate and imazapyr on human health, the EA determined the possible ways that the general public – in this case, park visitors – could be exposed to applied herbicide and then evaluated the potential risks of that exposure using risk assessment worksheets developed by SERA that factor in the chemical, volume of herbicide applied per acre, and application method. Results of these analyses indicate that the potential risk to human health posed by backpack application of low concentrations of glyphosate, imazapyr, non-ionic vegetable oil-based surfactant, and dye is not at a level that would cause concern. One measure of potential risk is the Hazard Quotient (HQ), with a HQ of 1.0 indicating no adverse effects from exposure. HQ values for the most sensitive subgroup (reproductive-age women) coming into contact with sprayed vegetation shortly after herbicide application wearing shorts and t-shirt ranged from 0.0004 to 0.006, several orders of magnitude below the level of concern. Risks are further minimized by closing sprayed areas for 24 hours, and by maintaining a 25-foot buffer around ponds or open water areas. The only conceivable exposure routes that could increase risk to a level where it is of concern are extremely unlikely, involving children drinking water in ponds where an accidental spill of herbicide has occurred (HQ=0.2-5.0) or reproductive age-women eating European beachgrass or iceplant (HQ≈1.0).

The EA was released for public review on January 9, 2015. The EA comment period through the PEPC site was announced through press release, web announcement, and letters to more than 300 individuals, groups, organization, and libraries. Hardcopy and CD versions of the document were also available at the Seashore's office and copies of the CDs were sent to the State Clearinghouse for distribution to a wide range of state and federal agencies (SCH# 2015012040). Several news

stories and opinion pieces were published during the 30-day comment period. Approximately 118 comment letters were received during this period.

Most of the substantive comments received concerned the range of reasonable alternatives or alternative components, the adequacy of information presented on specific aspects of these alternatives (e.g., monitoring, buffers, wetland mitigation plans), and the accuracy and adequacy of information pertaining to impacts on plants, wildlife, and human health from use of herbicides, primarily glyphosate. None of the public comment letters required any modification to the alternatives or substantive changes to the impact analyses in the Environmental Consequences section.

The National Park Service's response to comments is provided in the *Response to Comments* document, which can be found at the websites referenced above, along with a copy of the original comments and an author index to better direct commenters on where to find answers to their particular question. Responses to comments that appeared to necessitate correction or addition of factual information – but that did not change the evaluation of significant impacts in the EA -- were addressed using errata sheets. The combination of the EA and the *Errata* section comprise the complete and final record on which the FONSI is based.

Restoration efforts are being coordinated closely with adjacent ranchers to ensure that dune restoration efforts have no or minimal impacts on ranch operations. Park staff has consulted with rancher operators bordering dune project areas to discuss pasture protection measures.

Consultation on this project has been initiated with the U.S. Fish and Wildlife Service, the California Coastal Commission, the U.S. Army Corps of Engineers, and the San Francisco Bay Regional Water Quality Control Board.

In addition to being available on PEPC and the park's website, the EA and FONSI are also available during normal business hours at the office of the Superintendent, Point Reyes National Seashore at 1 Bear Valley Road, Point Reyes Station or by calling 415-464-5102. If you have any questions, please contact [pore\\_planning@nps.gov](mailto:pore_planning@nps.gov) or John A. Dell'Osso, Chief of Interpretation, at (415) 464-5135. We appreciate your participation in the process.

Sincerely,



Cicely A. Muldoon  
Superintendent