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Biological Review of Miscellaneous Debris Items on the North Slope: Hanford Reach National Monument Block 15

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September 2010



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CH2M HILL Plateau Remediation Company
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Pacific Northwest National Laboratory
Richland, Washington 99352

Abstract

CH2M HILL Plateau Remediation Company (CHPRC) is conducting work for the U. S. Department of Energy (DOE) to clean-up and remove miscellaneous debris items on the North Slope Area of the Hanford Reach National Monument. The miscellaneous debris items originally were identified in DOE/RL-2005-81 – Rev 0, *Hanford Reach National Monument Phase 1 Environmental Assessment Report*. Reviews of debris items to assess biological resources that could be potentially impacted by clean-up and removal are being conducted by Pacific Northwest National Laboratory (PNNL) under a request for Ecological Compliance Review (ECR) number 2010-600-041.

The results of biological reviews conducted by PNNL ecologists at 25 individual debris sites are provided in this report for the area designated as HRNM Block 15. The purpose of conducting biological reviews of these sites is as follows.

- Determine the occurrence in the project area of plant and animal species protected under the Endangered Species Act (ESA), candidates for such protection, and species listed as threatened, endangered, candidate, sensitive, or monitor by the state of Washington, and species protected under the Migratory Bird Treaty Act (MBTA).
- Evaluate and quantify the potential impacts of disturbance on priority habitats and protected plant and animal species identified in the survey.

This report lists the locations and coordinates of the debris sites and describes any significant biological resources and/or access constraints. Recommendations for avoiding or minimizing adverse affects to biota are also provided within this document. Assuming compliance with the recommendations in this report, no adverse impacts to protected species, priority habitats, or other biological resources of concern are expected to result from the proposed action.

This Ecological Compliance Review is valid until March 15, 2011.

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1.0 Introduction and Background

The Economic Stimulus activities at Hanford initiated by the American Recovery and Reinvestment Act have allowed DOE to accelerate cleanup work at the Hanford Site, including work on the Hanford Reach National Monument (HRNM) (DOE/RL 2005-81) to remove miscellaneous debris items on the North Slope (includes Saddle Mountain Unit and Wahluke Unit of the HRNM) . The North Slope Unit originally was used as a buffer area for the Hanford Site and contains three Nike missile battery sites and seven anti-aircraft battery sites. The structures associated with these sites have been removed and only the concrete slabs, open areas, foundations, and trees remain (DOE/RL 2005-81). Debris items identified on the North Slope include modern trash, debris associated with the military sites, and debris associated with historic farming and land use across the area. Removal of debris items requires a review of the biological resources found in these areas to assess whether resources may be impacted by clean-up activities and access to sites.

As part of the overall approach to removal of debris items, DOE and CHPRC have divided the areas subject to cleanup (North Slope, McGee /Riverlands, Fitzner-Eberhardt Arid Lands Ecology Reserve, and Vernita) into numbered blocks (Figure 1) with scheduled dates for completion of clean-up activities. This report provides the results of the biological surveys conducted for HRNM Block 15. The purpose of conducting biological reviews of these sites is as follows.

- Determine the occurrence in the project area of plant and animal species protected under the Endangered Species Act (ESA), candidates for such protection, and species listed as threatened, endangered, candidate, sensitive, or monitor by the state of Washington, and species protected under the Migratory Bird Treaty Act (MBTA).
- Evaluate and quantify the potential impacts of disturbance on priority habitats and protected plant and animal species identified in the survey.
- Provide recommendations to avoid or minimize adverse effects to any priority habitats or protected plant or animal species that may be identified during the survey.

This report lists the locations and coordinates of the debris sites and describes any significant biological resources and/or access constraints. Recommendations for avoiding or minimizing adverse effects to biota are also provided.

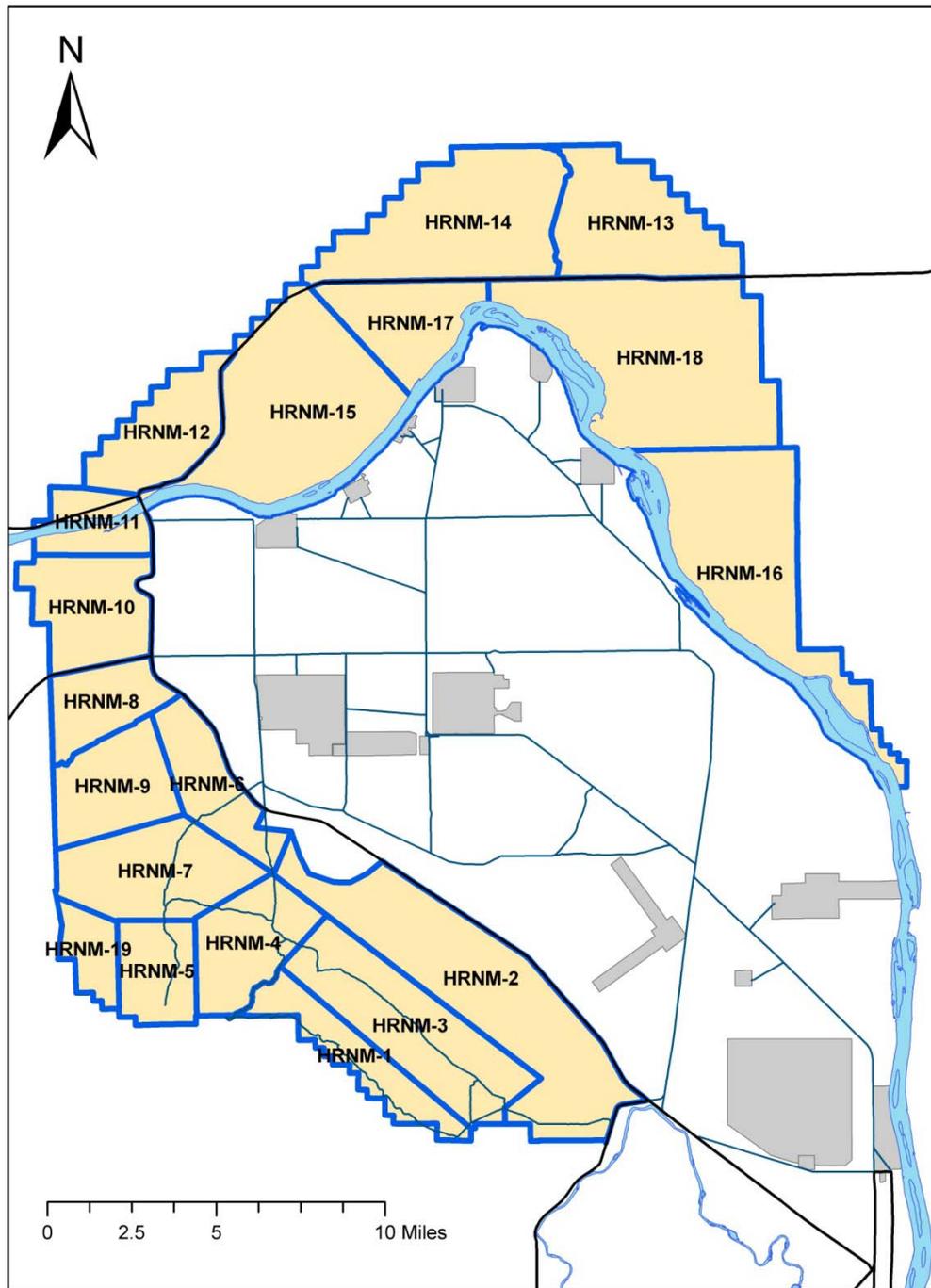


Figure 1. Blocks Identified by DOE-RL for Clean-up of Miscellaneous Debris Items

2.0 Survey Methods

Twenty-five debris items were identified for removal/clean-up in Block 15. Pedestrian and visual reconnaissance of the proposed sites was performed by J.L. Downs and K. D. Hand on September 3, 2010. At each debris location, the percent cover of dominant vegetation was visually estimated and direct and indirect observations of wildlife were recorded. Information regarding access to the debris sites was also noted.

Data collected during the survey are used to assess whether the habitat and species present at a site are protected or listed by Washington State or the U.S. Fish and Wildlife Service. Priority habitats and species of concern are documented in: Washington Department of Fish and Wildlife (2008, 2010), and Washington State Department of Natural Resources (2009). Lists of animal and plant species considered Endangered, Threatened, Proposed, or Candidate by the U.S. Fish and Wildlife Service are maintained at 50 CFR 17.11 and 50 CFR 17.12. The list of birds protected under the MBTA is maintained by the USFWS (2009).

3.0 Survey Results and Site-specific Recommendations

The following text describes the biological resources found at the debris sites, describes access concerns or constraints, provides site-specific recommendations for minimizing or avoiding impacts to biological resources at these areas, and describes potential access routes (Table 1). Of the 25 debris sites identified for removal, three sites were reviewed based on photographs of the area because high fire danger prevented access. Sites not visited included NS- 202, NS-203, and NS-207. Eighteen of the debris locations are associated with an Anti-aircraft Artillery (AAA) military facility. Individual survey results are presented in groups according to the general location and habitat condition of the debris sites.

3.1 Debris Sites NS-2 and NS-466

The habitat adjacent to these two debris locations is characterized as a big sagebrush (*Artemisia tridentata*)/ needle-and-thread grass (*Hesperostipa comata*) plant association. The tires are at the edge of this habitat type and should be removed by hand. Native bunchgrasses in this transition area are less than 10% of the plant cover and cheatgrass (*Bromus tectorum*), and Russian thistle (*Salsola tragus*) comprise about 30% plant cover. Plant species common to the area include Indian ricegrass (*Oryzopsis hymenoides*), tumble mustard (*Sisymbrium altissimum*), bursage (*Ambrosia acanthicarpa*), and hoary aster (*Machaeranthera canescens*). No bird species were observed in the area, but small mammal activity and pocket gopher (*Thomomys talpoides*) mounds were evident. The table pictured in photo NS-466 was not located, but a door and some lumber are located adjacent to the gravel roadway in more degraded weedy habitat alongside the borrow ditch.

3.2 Debris Sites NS-20 and NS-21

The surrounding habitat for these sites consists of big sagebrush-spiny hopsage (*Grayia spinosa*)/Sandberg's bluegrass (*Poa secunda*)-sand dropseed (*Sporobolus cryptandrus*). Other species common to the location include tumble mustard, cheatgrass, Russian thistle, hoary aster, and kochia (*Bassia scoparia*). The debris (car and metal posts and concrete to the south of the car) are approximately 50 to 100 feet off the roadway. No birds were observed in the immediate area and limited activity of small mammals was noted near NS-21. During access, care should be taken to minimize driving and turning that may disturb soils, and to avoid driving over any shrubs in the area. If feasible, trucks/vehicles should back into the area to load or remove debris.

3.3 Debris Sites NS-24 NS-25, NS-26, and NS-28

These sites are located near the road in the southern half of the AAA site, and are characterized by numerous scattered trees [primarily silver poplar (*Populus alba*) and black locust (*Robinia pseudoacacia*)] with a mixed understory of scattered shrubs including gray rabbitbrush (*Ericameria nauseosa*), cheatgrass, Russian thistle, and bulbous bluegrass (*Poa bulbosa*). NS-24, NS-25, and NS-28 consist of debris alongside an existing roadway that can readily be removed by hand. NS-26 and NS-27 are concrete slabs that may be broken up in place. Care should be taken to avoid damage to trees and shrubs in accessing and breaking apart the slabs. Wildlife observed in trees surrounding the slabs included a great-horned owl (*Bubo virginianus*), and a variety of songbirds including house finches (*Carpodacus mexicanus*) and flycatchers.

Table 1. Descriptions and Locations of Debris Sites in HRNM Block 15

Site (Photo) Label	State Plane Easting	State Plane Northing	Description of Debris	Comments/Access
NS-2	563204.38	153897.16	Scattered tires	Walk in to remove
NS-466	563533.60	153948.32	Furniture debris	Walk in to remove (debris in photo not located; other debris scattered nearby)
NS-20	565565.81	156255.19	Abandoned Cadillac Eldorado	Do not drive over shrubs to access/pull toward road
NS-21	565570.83	156245.70	Abandoned metal posts and concrete footings	Posts have fallen over; located to the west of NS-20; back vehicle to site and load
NS-24	565813.21	155976.42	Discarded appliances - refrigerators at PSN 90	Road edge
NS-25	565813.21	155976.42	Abandoned tires	Road edge
NS-26	565837.96	155972	Abandoned concrete slab	50 ft off roadway
NS-27	565801	155976.46	Abandoned concrete slab	15 ft from roadway; west side
NS-28	565816.21	156002.69	Discarded appliances - refrigerator at PSN 90	Just off road
NS-29	565786.29	156038.15	Abandoned concrete footings in barrels	West and south of concrete block pump house; avoid driving over shrubs
NS-30	565797.65	156050.20	Abandoned concrete slab	West and south of concrete block pumphouse; avoid driving over shrubs
NS-31	565820.43	156067.14	Well building and slab	Alongside roadway; apparently in use
NS-32	565862.64	156105.77	Abandoned concrete slab	Large slab with islands to the north of concrete block pump house
NS-33	565845.07	156062.64	Abandoned slab with pit and pipe	Same as 34
NS-34	565853.35	156055.58	Abandoned slab with pit and pipe	Same as 33; just east of concrete block pump house
NS-35	565886.23	156048.78	Wood siding pile	Along road on east side of area
NS-36	565857.04	156017.45	Scattered sheet metal (SE)	Access from N on well road; avoid driving over shrubs/trees
NS-37	565858.69	156017.47	Miscellaneous trash pile (SW)	Access from N on well road; avoid driving over shrubs/trees
NS-38	565857.07	156015.07	Miscellaneous trash (S)	Access from N on well road; avoid driving over shrubs/trees
NS-39	565844.14	155998.23	Abandoned concrete slab (NW)	South of well road, surrounded by black locust trees; avoid driving over shrubs/trees
NS-40	565780.78	155942.67	Old rock wall (S)	Leave in place; avoid shrubs and trees
NS-41	565753.45	155881	Abandoned concrete slab (W)	100 ft off road
NS-42	565713.26	155968.18	Concrete tracks (N)	Leave in place; avoid shrubs and trees
NS-202	567009.87	148347.14	Deteriorated weedblock (1)	Alongside road; will likely require revegetation
NS-203	567021.31	148352.03	Deteriorated weedblock (2)	Alongside road; will likely require revegetation
NS-207	562752.71	147001.41	Crushed Veedol oil container	Hand remove
NS-209	563923.69	146701.23	School house steps	Leave in place

3.4 Debris Sites NS-29 through NS-35

These debris sites are located at the northern end of the AAA site and occur in primarily weedy habitat dominated by Russian thistle and cheatgrass with scattered shrubs and trees (primarily black locust). Other common plants include crested wheatgrass (*Agropyron cristatum*), prickly lettuce (*Lactuca seriola*), Sandberg's bluegrass, gray rabbitbrush, bulbous bluegrass, kochia, and sand dropseed. NS-33 and NS-34 represent the same concrete slab and pit. NS-35 is a pile of wood debris that can easily be removed and accessed from an existing road with no impacts to biological resources. NS-31 consists of the concrete block pump house and pad that appear to be still in use. Four of the six sites are concrete slabs or structures that will be broken up in place. Some of the concrete surface is overgrown with scattered grasses, occasional gray rabbitbrush, and moss. Mourning doves (*Zenaida macroura*) were noted in the area, but no birds were observed to be nesting. Small mammal activity appeared to be limited and a few pocket gopher mounds were observed. When accessing sites to break concrete, care should be taken to avoid damage to living trees and shrubs.

3.5 Debris Sites NS-36 through NS-39

These debris sites are located on the eastern edge of the AAA site in habitats that are dominated by scattered trees (black locust and white poplar) and mature shrubs (big sagebrush and gray rabbitbrush) with an understory dominated by cheatgrass and bulbous bluegrass. Sites NS-36, NS-37 and NS-38 are modern trash that can be easily accessed by following the well road from the north toward the debris items. There is additional debris (car parts) to the SSW of NS-37 (565863 E, 155995 N Washington State Plane South).

NS-39 consists of a concrete pad that is mostly enclosed by black locust trees. A great horned owl flushed from this area and may have a daytime roost at this location. Previously used nests for Bullock's orioles (*Icterus bullockii*) were in the trees to the north of the concrete pad and flycatchers were observed in the area. Pocket gopher mounds were also observed. The easiest access route to reach this location and break up the concrete at NS-39 could be from the south and west from NS-26. When accessing sites to break concrete, workers and equipment operators should take care to avoid damaging living trees and shrubs.

3.6 Debris Sites NS-40 and NS-42

These debris sites consist of segments of rock wall approximately 12 to 18 in. in height and intermittent gravel and concrete in old roadway tracks. The plant community in which these features are located consists primarily of big sagebrush/crested wheatgrass-bulbous bluegrass with scattered black locust trees. Wildlife noted in the area included great horned owl, house finches, and previously used nests of songbirds. Trees, shrubs, and other vegetation have overgrown the major portions of these features and any actions to remove the features or break them apart would adversely impact the surrounding habitat. Big sagebrush and rabbitbrush are growing through patches of the concrete and gravel tracks and shrubs have grown in between and over the rock wall. We recommend that these features should be left in place to let natural revegetation processes continue.

3.7 Debris Site NS-41

This debris site is a concrete pad located about 100 ft to the west of the central road through the facility near the southern end. It lies within a big sagebrush-gray rabbitbrush/cheatgrass-bulbous bluegrass plant community and black locust trees are scattered around the site. Other common plant species in the area included Russian thistle, kochia, and hoary aster. House finches were perched in adjacent trees and pocket gopher mounds were noted in the area surveyed. When accessing sites to break concrete, workers and equipment operators should take care to avoid damaging living trees and shrubs.

3.8 Debris Sites NS-202, NS-203, and NS-207

These debris sites were not surveyed physically, but photographs showing the relative location and condition of the sites were reviewed. The locations were also compared against wildlife and rare plant location information from U.S. Fish and Wildlife Service (personal communication from Kevin Goldie to J. L. Downs) to ascertain that no significant biological resources were present in the areas surrounding the debris sites. Sites NS-202 and NS-203 involve removing old degraded geotextile fabric from alongside an existing two-track road. These sites lie within a Sandberg's bluegrass-cheatgrass habitat. After removal of the geotextile, these sites should be reseeded with native plant species. Site NS-207 lies close to an existing roadway within a sparse big sagebrush /bunchgrass-cheatgrass community. If the item is removed by hand, adverse impacts to biota would not be incurred.

4.0 Summary of Recommendations and Restrictions

No plant or animal species protected under the ESA, candidates for such protection, or species listed by the Washington state government as threatened or endangered were observed in the vicinity of any of the debris locations. No migratory birds were observed to be nesting at any of the survey locations at the time of the survey. However, several of the debris locations have associated vegetation (trees) that do contain previously used nests for songbirds and daytime roost sites for great-horned owls.

Work on this project should proceed with the following considerations and recommendations:

- Although work on this project is scheduled to be completed outside of the nesting season for migratory birds, care should be taken to avoid any impacts to potential nest and roost areas. If work is not completed as scheduled, then if any nesting birds (if not a nest, a pair of birds of the same species or a single bird that will not leave the area when disturbed) are encountered, or bird defensive behaviors (flying at workers, refusal to leave area, strident vocalizations) are observed during work, please contact M.R. Sackschewsky at 371-7187 for further consultation.
- Where feasible, care should be taken to avoid damaging living shrubs and trees that provide habitat for a variety of wildlife.
- Ground-disturbing activities, such as those associated with the use of heavy equipment to blade and spread gravel or excavate areas, present the potential for transport, spread and increase of noxious weedy species. When feasible, off-road travel should be minimized. Wheels and undercarriages of vehicles that will be used off-road should be washed before and after off-road work to minimize transport of noxious weed seeds into or out of work areas.
- If feasible, NS-40 and NS-42 should be left in place without further work to break apart or dismantle the small amounts of concrete track and segments of rock wall. These areas are currently overgrown with vegetation, and any efforts to dismantle or break apart these features and accelerate natural recovery of vegetation will be offset by the ensuing damage to native shrubs interspersed over and around the features.
- If surface soils and vegetation are disturbed or removed by excavation to clean-up debris items, then these areas should be revegetated according to the guidance in the Hanford Site Biological Resources Management Plan and the Hanford Reach National Monument Comprehensive Conservation Plan Environmental Impact Statement (DOE 2001; USFWS 2008).
- Assuming compliance with the above recommendation, no adverse impacts to protected species, priority habitats, or other biological resources of concern are expected to result from the proposed action.
- This Ecological Compliance Review is valid until March 15, 2011.

5.0 References

- U.S. Department of Energy (DOE). 2001. *Hanford Site Biological Resources Management Plan (BRMaP)*. DOE/RL-96-32, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
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