Appendix B: Willamette National Forest Noxious Weed Prevention Guidelines

Introduction

Forest Service Chief Dale Bosworth discussed four threats to the Nation's Forests and Grasslands (Bosworth, 2004); the second of these threats was the spread of invasive species that could have an unparalleled adverse effect on the lands the Forest Service is charged with managing for public good. Closely following this speech, Forest Service unveiled a National Strategy and Implementation Plan for Invasive Species Management (Ries et al., 2004) to combat this threat. This Strategy has four program elements. The first and most important of these elements is prevention.

Prevention has proven to be the most effective and cheapest means of managing invasive species. The Willamette National Forest's Environmental Assessment for Integrated Weed Management (USDA, 1999), the Pacific Northwest Region's draft Environmental Impact Statement for Preventing and Managing Invasive Plants (USDA, 2004) and the USDA Forest Service Guide to Noxious Weed Prevention Practices (USDA, 2001) can be used to help shape a prevention program for the Forest. In an effort to simplify incorporation of these practices into our program of work, enclosed is a list of prevention practices each project manager should evaluate for appropriateness to incorporate.

Guidelines

Education and Public Awareness

Noxious weed awareness by both the public and Forest Service personnel can reduce the number of practices that might otherwise move invasive plants onto the Forest. It will also help to identify infestations before they become well-established. Coordination with State, County, private, and other Federal Agencies is critical to addressing noxious weed issues.

1. Provide annual noxious weed identification training for Forest personnel at District meetings in the early summer, particularly targeting field-going personnel.
2. Develop displays for front desk areas so that visitors might learn about noxious weeds.
3. Present invasive plant programs and educational materials (pamphlets, brochures) to interested groups and organizations.
4. Post noxious weed educational posters at recreation sites such as trailheads and boat launches where there are particular weed concerns.
5. Explain noxious weed issues with contractors and special-use permitees, especially when permits come up for renewal.
6. Coordinate with State, County, private, and other Federal Agencies to identify new and encroaching noxious weeds.
7. Work with appropriate Cooperative Weed Management Area members (Upper Willamette and Central Willamette) sharing educational materials and coordinating information exchange.
8. Develop cleaning stations at all four Ranger District Offices so that FS vehicles operating in infested areas can be cleaned. Use these as a way to engage District personnel in their responsibility to help limit weed spread. Ensure not only vehicles but clothing is inspected. Allow permittees and contractors to use cleaning stations.

Inventory

Inventories for noxious weeds should not only identify where noxious weeds have already become established but should also identify areas that are at risk of weed invasion. Inventory should be part of the standard survey completed by Botanists for all projects and funded by benefiting function (i.e. if the project is a timber sale, inventory of weeds along road corridors should be part of the survey completed by the Botanist and funded by timber dollars), so that appropriate prevention measures can be incorporated into project design. (See regional direction for this in 8/28/02 direction on Invasive Plan Contract Provisions.)

1. Inventory proposed project areas as well as associated project sites such as quarries and travel routes.
2. Maintain regular inventory of high risk weed areas such as actively used rock or soil stockpile sites, trailheads, unpaved parking areas at recreation sites in a GIS layer that project planners and Botanists can access. Make a database available to link to GIS layer so that attributes such as species and population size are available for analysis.
3. To the degree practicable, inventory potential fire camp locations, helipads, pump chances, major staging areas and drop points prior to fire emergency situations and apply appropriate weed management measures or find alternative locations.
4. Develop an inventory of sites where it is appropriate to clean vehicles after they have been working in infested areas.
5. Where weeds are of a high concern for multiple owners, work with Cooperative Weed Management Area partners to get grant funds to survey road systems in a more efficient and cost-effective manner.
6. Inventory all lands considered for acquisition. Consider weed status when making land adjustment decisions.

Implementation of All Ground-Disturbing Projects

Many or most proposed activities will have some potential for introducing or spreading noxious weeds if not suitably addressed. In most cases, the risk of worsening the Forest noxious weed problem can be minimized through proper inventory and project design. Environmental analysis for ground-disturbing activities will assess invasive plant populations in the project area, will analyze the potential risks to introduction,… and include prevention practices and follow-up inspections into project design" (Regional Forester Regional Policy for Prevention letter dated 10/1/04).

Most noxious weeds are shade-intolerant so canopy closure can be particularly effective at minimizing weed establishment. Forest and Regional (USDA, 2004) policy recommends revegetation of disturbed sites with native species from *local genetic stock*. In some highly disturbed areas where recovery to a natural community is not an option, it may be necessary to establish a non-native plant community to discourage weed invasion or meet other resource goals. Such circumstances are expected to be rare exceptions.

1. Employ practices and technology that minimize disturbance to soil and desirable vegetation
2. Retain barriers of undisturbed vegetation between weed infested areas and project areas.
3. Treat existing infestations prior to project implementation to minimize seed spread.
4. Clean equipment prior to coming on to the Forest and potentially between projects or sites, depending on the occupancy of weeds at the affected areas. Use appropriate clauses

to ensure contractors whose vehicles operate off the road surface are cleaning vehicles appropriately. See Appendix 1 for contract clauses (WO-C6.36 & WO-CT6.36).
5. Work in weed-free areas prior to moving to weed-infested areas.
6. Avoid putting landings, yarding stations, staging and equipment storage areas, in weed infested areas. Provide timber and other contractors with a map of infestations in the prework process. Weed infestations will be identified on the sale map.
7. Use weed-free staging areas. Avoid or minimize all types of travel through weed-infested areas, or restrict to those periods when spread of seed or propagules is least likely.
8. Evaluate options, including closure to regulate the flow of traffic, in infested sites or in revegetation sites.
9. Use only Oregon noxious weed-free certified straw, mulch, seed, and transplant stock for revegetation/restoration projects.
10. Do not use soil, rock or gravel from weed-infested stockpiles or quarries. Inspect material sources on site and ensure they are weed-free before use and transport. This includes both gravel and dirt. Use the clause developed by the Engineering group for weed free material in road construction contracts
11. Develop a restoration plan for disturbed sites. Consider both short-term vegetation and soil stabilization needs at a site as well as the desired long-term plant community recovery objectives at the site. Make sure that short-term practices don't preclude or unnecessarily delay the ultimate site restoration objectives. Provide adequate lead time for seed collection and grow-out of appropriate stock.
12. Revegetate site as soon as possible (during the appropriate planting or seeding window) following disturbance. Revegetation may include topsoil replacement, site prep such as ripping, planting, seeding, fertilizing and weed-fee mulching as necessary. Monitor sites and reseed or replant as necessary.

Road Maintenance Activities

Because the vast majority of the Forest's noxious weed infestations occur along road shoulders, road maintenance activities represent a particular risk for inadvertently spreading weeds. Movement of maintenance equipment across the Forest introduces a risk of spread of high priority noxious weeds from one watershed to another. Activities such as grading, brushing and mowing, culvert upgrades, and ditch cleaning can contribute to the spread of noxious weeds along road corridors by transporting seeds from infested sites to uninfested areas. Consequently, coordination between the road manager and the District noxious weed coordinator is essential. By working together, the road manager and noxious weed specialist can identify areas of concern and develop strategies to prevent weed spread.

1. Train road maintenance personnel in weed identification and reporting.
2. Clean road maintenance equipment after working in high priority noxious weed infested areas (Appendix B). If contractors are employed for road maintenance, require vehicle cleaning in contracts where appropriate. These areas will be marked on maps associated with the contract. A list of appropriate cleaning sites for each high priority road system will be developed by the District Botanist. Follow-up monitoring of washing station areas is imperative to determine whether viable weed seed has been deposited and has germinated. If so, District Botanists will ensure sites are treated in a timely fashion.
3. Where possible, begin project operations in non-infested areas before moving to weed infested areas.
4. Avoid road maintenance activities when plants are seeding as this will result in movement of seed up and down the road corridor. Provide data on where maintenance

activities will occur the next summer to District Botanists in winter and they will help develop specifications on appropriate timing.

5. Maintain stockpiled material in a weed-free condition. Monitor stockpiles and eradicate new weeds prior to seed production. Consider covering stockpile sites to prevent weed establishment.
6. Inspect materials at the source to ensure that they are weed-free before transport and use. Do not use soil, rock or gravel from weed-infested stockpiles or quarries. If sources of sand, gravel, and fill are infested, eradicate the weeds, then strip and stockpile the contaminated material for several years, if possible, to further deplete the soil seed bank. Check regularly for weed re-emergence.
7. Limit road clearing and brushing widths as much as is permissible.

Fire

1. Train firefighters in weed awareness and prevention.
2. Include weed prevention in Resource Advisor duties. Weed locations and weed prevention measures should be communicated. Maps of infestations will be available on GIS and in an associated database.
3. Placement and size of dozer lines adjacent to weed areas should be minimized to the degree practicable.
4. Burned areas and areas affected by fire suppression activities should be inventoried following wildfires. Burned area emergency rehabilitation (BAER) funds may be collected for weed inventory of burned areas for up to three years.
5. To the degree practicable, inventory potential fire camp locations, helipads, pump chances, major staging areas and drop points prior to fire emergency situations and apply appropriate weed management measures or find alternative locations.
6. Weed cleaning stations should be established at fire camps. Vehicles assigned to the fire should be thoroughly cleaned at initial chack-in for the fire (this does not apply to vehicles involved in initial attack). Require contracted equipment to be cleaned before reporting to fire camp. The principle areas of concern are the tires, tracks, undercarriage, and blade, bucket or other parts involved in earth movement or transport. Inspect and treat infestations following fire.
7. Identify noxious weed infested water sources and treat prior to use as a drafting site.
8. Consider the potential for noxious weed invasion and spread when planning prescribed fire or other fuel treatments.

Special Uses and Administrative Sites

1. Require use of only weed-free feed for stock in wilderness areas and wilderness trailheads. This can include oats or pelletized feed. Recommend that stock be fed weed-free forage 3 days prior to coming onto Forest Service land to ensure the digestive tract is clean of weeds.
2. Include noxious weed prevention measures in special-use permits, easements, and leases as appropriate. Use reauthorization of permits to require weed removal and site restoration.
3. Use native species for restoration, focusing on genetically local, weed free seed and native shrubs appropriate for the landscape.
4. Set a good example and treat weed infestations at Ranger District offices.
5. Use specifications in special use permits as evidenced in Appendix C.

Recreation

1. Provide educational materials at boat launches and where weed sites are documented (e.g. Waldo Lake), consider developing cleaning stations.
2. Educate the public, via trail head signs, that hikers, stock, and ATV's can inadvertently move noxious weed seed from one place to another.
3. Inventory ATV use areas for noxious weed infestations and place a high priority on treatment due to the ease of spread on these vehicles.
4. Train recreation staff to identify weed species so they may inspect campgrounds, trailheads and recreation areas for new infestations and report back to District Botanists.
5. Train Wilderness Rangers to identify weed species so they may look for noxious weed infestations during their routine work. This is especially important because there are limited treatment opportunities in Wilderness and it is critical to detect and treat infestations early.
6. In areas susceptible to infestation, consider limiting vehicle access to designated, maintained travel routes.

Appendix C: Standards and Guidelines from 1999 Integrated Weed Management EA

FW-259a: Every effort should be made to integrate prevention of noxious weed establishment and spread into all ground-disturbing projects. This shall include projects such as road construction and decommissioning, timber harvest, and proposed and active quarry sites. Specific actions should include but not be limited to:

- The Forest should use certified weed-free seed and mulch for all revegetation projects, roadside seeding and fire rehabilitation seeding. The preferred mix shall be comprised of weed-resistant native and non-invasive non-native species.

- The Forest shall initiate an education program for users and employees which state the detrimental effects of noxious weeds on ecosystems and how people are responsible for spreading weeds from place to place. This should include all contractors involved in ground-disturbing activities, wilderness users, hunters, dispersed campers, hikers and other groups identified as aiding movement of weeds.

- The Forest should use machine-cleaning provisions for ground-disturbing projects that use equipment that may be moved from infested areas onto the Forest (where the Regional Office accepts provisions).

- The forest should use designated weed-free rock sources for any additional gravel needed for road construction and reconstruction.

- The Forest shall take every opportunity to close unnecessary roads in project areas to reduce weed travel corridors and revegetate the corridor once closed if needed.

FW 259b: Implementation of the Integrated Weed Management (IWM) program will allow for manual control (pulling and/or digging) of any noxious weed population within disturbed areas such as road prisms, trailheads, or landings on the National Forest at any time.

FW 259c- Implementation of the IWM program shall allow for release of biological control agents wherever established weed populations would support them. Agents released must be tested and sanctioned by the U.S. Department of Agriculture. Other control methods that can serve as alternatives to herbicides such as grazing or mechanical control may be conducted on established weed infestations if site-specific analysis of effects of those control methods is analyzed in an environmental document.

FW 259d- The following table shall be used to determine the appropriate action for new invader weed species in each site type:

Site Type	Site Description	Available Control Method Non-Riparian	Available Control Method Riparian
1	Roadside, quarry, roadside waste disposal, cutbank; little to no competing vegetation	No Action, Manual, Biological, Mechanical, Mulch, Chemical-Rodeo	No Action, Manual, Mechanical, Mulch, Chemical-Rodeo in backpack outside 50 foot buffer only
2	Roadside, disturbed, with competing vegetation; disturbed meadows; skid roads and landings	No Action, Manual, Biological, Mechanical, Mulch, Competitive Planting, Prescribed Burning, Chemical-Rodeo, Garlon 3A	No Action, Manual, Mechanical, Mulch, Chemical-Rodeo in backpack outside 50 foot buffer only
3	Wilderness, Threatened, Endangered or Sensitive Plant or Animal Site; Heritage Site	No action, Manual, Biological, Mulch, Competitive Planting, Prescribed Burning, Chemical-Rodeo in Heritage sites only	Same as non-riparian
4	Administrative Sites with high human use: campground, trail, trailhead, District compound	No action, Manual, Biological, Mulch, Competitive Planting, Chemical-Rodeo in backpack on District compounds only	No Action, Manual, Mechanical, Mulch, Chemical-Rodeo in backpack outside 50 foot buffer only
5	Administrative Sites with little human use: powerline corridor, ski areas in summer	No Action, Mulch, Competitive Planting, Chemical- Rodeo, Garlon 3A	No Action, Manual, Mechanical, Mulch, Chemical-Rodeo in backpack outside 50 foot buffer only

Appendix D: List of Weed sites on Willamette National Forest

Site ID	Weed Species	Site Type	Restrictions	Prescription Alt B	Prescription Alt C
BR-001a	CEMA4	2,3	TES fish	c	c
BR-001b	CEMA4	2,3	TES fish	c	c
BR-002a	CEMA4	1,2		c	c
BR-002b	CEMA4	1,2,3	TES fish; TES plant	c	c
BR-002c	CEMA4	1,2,3	TES fish; TES plant	c	c
BR-003	CEMA4	2,3	TES fish	c	c
BR-004	CEMA4	2,3	TES fish	c	c
BR-005a	CEMA4	1,2		c	c
BR-005b	CEMA4	1		m	m
BR-005c	CEMA4	4	Boat Launch	m	c
BR-005d	CEMA4	1,2		m	m
BR-006a	CEMA4	1		m	c
BR-008	CEMA4	1		c	c
BR-010	CEMA4	1,3		c	c
BR-010a	CEMA4	1		c	c
BR-013a	CEMA4	1		c	c
BR-013b	CEMA4	1		m	m
BR-013c	CEMA4	1		m	m
BR-014	CEMA4	1		m	m
BR-014b	MEAL2	1		c	c
BR-015	CEMA4	1		c	c
BR-017	CEMA4	4	Dispersed rec	m	c
BR-020	RUDI2	1,3		c	c
BR-021	RUDI2	1		c	c
BR-021b	RULA	1		c	c
BR-022	RUDI2	1		c	c
BR-023	RUDI2	1		c	c
BR-024	RUDI2	1,3		c	c
BR-025	RUDI2	1		m	c
BR-026	RUDI2	1		c	c
BR-027	RUDI2	1		c	c
BR-028	RUDI2	1		c	c
BR-029	RUDI2	4	Lookout	m	c
BR-031	RUDI2	1		c	c
BR-032	RUDI2	1		c	c
BR-033	CYSC4	5	Powerline corridor; TES bird	e	e,c
BR-033b	CEMA4	5	Powerline corridor; TES bird	e,c	e,c
BR-033c	RUDI2	5	Powerline corridor; TES bird	e	e,c
BR-033d	RULA	5	Powerline corridor; TES bird	e	e,c
BR-034	CEMA4	1		m	m
BR-035	CEMA4	1		c	c
BR-036	CEMA4	1		m	m

BR-037	CEMA4	1		m	m
BR-038	PHAR3	3,4	Campground; TES fish	m	m,c
BR-039	PHAR3	2		m	c
BR-040	PHAR3	4	Campground	m	m,c
BR-041	PHAR3	4	Campground	m	m,c
DE-001	CEMA4	4	Park	m	m
DE-001b	MEAL2	2		m	m
DE-002	CEMA4	2		c	c
DE-002b	MEAL2	2		c	c
DE-003	CEMA4	1,3	TES fish	c	c
DE-003a	CEMA4	1,3	TES fish	c	c
DE-005	CEMA4	1,3		c	c
DE-005a	CEMA4	1,3	TES fish; TES/S&M botanicals	c	c
DE-009	CEMA4	1		m	c
DE-011	CEMA4	1		m	c
DE-011b	MEAL2	1		m	c
DE-012	CEsp.	6		c	c
DE-014	LIVU2	2,3	TES fish	c	c
DE-016	RUDI2	1		c	c
DE-018a	RULA	1		c	c
DE-018b	RULA	1		c	c
DE-019	RULA	1		c	c
DE-020	RULA	1		c	c
DE-021	RUDI2	1,3,4	Dispersed rec; TES fish	m	c
DE-022	RULA	1		c	c
DE-023	RUDI2	1		c	c
DE-023b	RUDI2	1		c	c
DE-023c	RULA	1		c	c
DE-023d	RULA	1		c	c
DE-023e	RULA	1		c	c
DE-023f	RUDI2	1		c	c
DE-023g	RULA	1		c	c
DE-024	RUDI2	1		c	c
DE-024b	RULA	1		c	c
DE-025	RULA	1		c	c
DE-026	RULA	1		c	c
DE-026b	RUDI2	1		c	c
DE-027	RULA	1		c	c
DE-028	RULA	1		c	c
DE-029	RUDI2	1		c	c
DE-030	RULA	1		c	c
DE-030b	RUDI2	1		c	c
DE-030c	RULA	1		c	c
DE-030d	RUDI2	1		c	c
DE-031	RULA	4	Ranger District	e,c	e,c
DE-031b	RUDI2	4	Ranger District	e,c	e,c
DE-031c	CYSC	4	Ranger District	m	m
DE-032	CEMA4	1		m	m
DE-033	CEMA4	1		m	m
DE-034	CEMA4	3,4	Trailhead	m	m
DE-034b	CEPR2	3,4	Trailhead	m	m
DE-035	MEAL2	2		m	m

DE-036	POSA4	1		m	c
DE-037	POSA4	2		m	c
DE-039	CEMA4	2		c	c
DE-040	CEMA4	4	Dispersed rec	c	c
DE-043	CEDI3	1		m	m
DE-044	CEDI3	4	Dispersed rec	m	m
DE-045	PHAR3	2		c	c
DE-046	PHAR3	1,4	Trailhead	m	c
DE-047	PHAR3	2, 4	Dispersed Rec	m	c
DE-048a	RULA	2		c	c
DE-048b	RULA	2		c	c
DE-048c	RUDI2	2		c	c
DE-048d	RULA	2		c	c
DE-049	RUDI2	2		c	c
DE-050	CEMA4	2		c	c
DE-051a	RULA	2		c	c
DE-051b	RULA	2		c	c
DE-052	RULA	2		c	c
DE-053	RUDI2	2		c	c
DE-054	BRSY	2		c	c
DE-055	HEHE	4	Hot springs	m	m
DE-056	RUDI2	1		c	c
DE-F1a	CYSC4/CIAR4/CIVU	3,5	TES fish; TES bird	e	e,m,c
DE-F1b	CYSC4/CIAR4/CIVU	5		e	e,m,c
DE-F2a	CYSC4/HYPE/CIAR4/CIVU	2	TES bird	e	e,m,c
DE-F2b	CYSC4/HYPE/CIAR4/CIVU	2	TES bird	e	e,m,c
DE-F2c	CYSC4/HYPE/CIAR4/CIVU	2,3	TES bird	e	e,m,c
DE-F2d	CYSC4/HYPE/CIAR4/CIVU	2	TES bird	e	e,m,c
DE-F2e	CYSC4/HYPE/CIAR4/CIVU	2,3	TES bird	e	e,m,c
DE-F2f	CYSC4/HYPE/CIAR4/CIVU	2,3	TES bird w/in 1/4 mi	e	e,m,c
DE-F2g	CYSC4/HYPE/CIAR4/CIVU	2		e	e,m,c
DE-F2h	CYSC4/HYPE/CIAR4/CIVU	2	TES bird	e	e,m,c
DE-R1	CYSC4/HYPE/SEJA/CIAR4 etc	1,2	TES bird	e	e,m,c
DE-R10	CYSC4/HYPE	1,2	TES bird	e	e,m,c

DE-R11	RUDI2/CYSC4/HYPE/PHAR3	4		e	e,m,c
DE-R12	RUDI2/RULA/CYSC4	4		e	e,m,c
DE-R1-I	CYSC4	2		e	e,m,c
DE-R2a	CYSC4/RUDI2/RULA	1,3	TES bird	e	e,m,c
DE-R3	PHAR3/HYPE/CYSC/RUDI2etc	2	TES bird	e	e,m,c
DE-R4	CYSC4/HYPE	1,3	TES fish; TES bird	e	e,m,c
DE-R4-I	CYSC4	2	TES bird	e	e,m,c
DE-R5	CYSC4/HYPE/RUDI2/RULA	1,2,3	TES bird	e	e,m,c
DE-R5-I	HYPE	2	TES bird	e	e,m,c
DE-R6	HYPE/CIVU/CYSC4	1,2	TES bird	e	e,m,c
DE-R6-I	HYPE	1,2		e	e,m,c
DE-R7	CYSC4/CIVU/HYPE/RUDI2	2,3	TES bird	e	e,m,c
DE-R8	CYSC4	1,2	TES bird	e	e,m,c
DE-R9	CYSC4	1,2,3	TES bird	e	e,m,c
DE-S1	CYSC4/HYPE	1,2,3	TES bird	e	e,m,c
DE-S2	CYSC4/RULA/HYPE	2,3	TES plant; TES bird	e	e,m,c
DE-S3	CYSC4/HYPE	1,2	TES bird	e	e,m,c
DE-S4	CYSC4/HYPE	1,3	TES bird; TES fish	e	e,m,c
DE-W1	HYPE/CIVU/CIAR4	4	TES bird	e	e,m,c
DE-W2	HYPE/CYSC4/CIVU	3,4	TES bird	e	e,m,c
DE-W3	CYSC4/HYPE/CIAR4/CIVU	4	TES bird	e	e,m,c
DE-W4	HYPE/SEJA/CEMA4	3,4	TES bird	e	e,m,c
DE-W5	HYPE/SEJA/CEMA4/PHAR3	4	TES bird	e	e,m,c
EWEB-01	BRSY/CEMA4/CEPR2/LALA4etc	2,3,5	TES bird;TES fish	e	e,m,c
EWEB-02	CEMA4/CEDI3	3,4	Reservoir/CG; TES fish; TES bird	e	e,m,c
EWEB-03	CEMA4/CYSC4/MEAL2/RUDI2	2,3	TES bird	c	m,c

EWEB-04	CEMA4/MEAL2/PHAR3/CYSC4	2,3,4	Reservoir; TES bird	m	m,c
EWEB-05	CEMA4/HEHE/PHAR3/RUDI2	1,4	Reservoir	e	e,m,c
LO-001	CEMA4	2,3	TES fish	c	c
LO-001b	MEAL2	2,3	TES fish	c	c
LO-002	CEMA4	1		c	c
LO-005	CEPR2	1		c	c
LO-006	CEPR2	2		c	c
LO-007	CEMA4	1		m	m
LO-009a	BRSY	1		c	c
LO-009b	BRSY	1,3		c	c
LO-010	BRSY	1		c	c
MC-001	CEMA4	2,3	TES fish	c	c
MC-002	CEMA4	1,3	TES fish	c	c
MC-003	CEMA4	1,3	S&M botanical	m	c
MC-005	CEMA4	1,2,3	TES fish	c	c
MC-006	CEMA4	2		c	c
MC-007	CEMA4	1,3	TES fish	c	c
MC-008	CEMA4	1		c	c
MC-009	CEMA4	1		m	m
MC-009b	CEPR2	1		m	m
MC-011	CEMA4	1		m	c
MC-014	CEMA4	1		m	m
MC-015	CEMA4	1,3	TES fish	c	c
MC-016	CEMA4	1		m	m
MC-017	CEMA4	1		m	m
MC-019	CEMA4	1		m	m
MC-022	CEPR2	1		m	c
MC-025	RUDI2	1		m	c
MC-026	RUDI2	2		c	c
MC-027	CYSC4	4	Ranger District Office	m	m,c
MC-027b	BRSY	4	RangerDistrict Office	c	c
MC-028	RUDI2	1		c	c
MC-029	RUDI2	1		c	c
MC-033	RUDI2	1		c	c
MC-034	CEMA4	1		c	c
MC-035	CEMA4	1		m	m
MC-037	CEMA4	1		m	m
MC-038	CEMA4	1		c	c
MC-039	RUDI2	1		m	m
MC-040	RUDI2	1		c	c
MC-043	CEMA4	2		m	m
MC-045	RUDI2	1		c	c
MC-046	RUDI2	1		c	c
MC-048	RUDI2	1		c	c
MC-049	PHAR3	4	campground/boat launch	m	m,c
MC-050	PHAR3	4	campground	m	m,c
MC-051	CEMA4	4	campground	m	m,c
MC-052	PHAR3	4	campground	m	m,c

MC-059	CEMA4	4	Boat launch	m	m,c
MC-059b	PHAR3	4	Boat launch	m	m,c
MF-001	BRSY	2		c	c
MF-004	CYOF	1,2,3	TES fish	m	c
MF-005	PHAR3	6		m	c
MF-006	PHAR3	7		m	c
MF-007a	POSA4/HEHE	2	TES bird	m	m,c
MF-007b	CYSC4/HEHE	2	TES bird	m	m,c
MF-007c	RULA	2	TES bird	m	m,c
MF-008	LYSA2	7	pond	m	m
MF-009	HYPE	4,7	Lookout	m	m
MF-010	PHAR3	3,7	lake; Wilderness	m	m, c
MF-010b	PHAR3	3	lake, wilderness	m	m, c
MF-011	CEMA4	2		m	c
MF-011b	CEMA4	2		m	c
MF-012b	CYSC4	1		m	m
MF-013	CEPR2	4	Rigdon Work Center	c	c
MF-014a	DIPU	2		m	m
MF-014b	DIPU	2		m	m
MF-014c	DIPU	2		m	m
MF-015	LIVU2	2		c	c
MF-016	LALA4	1,3		m	c
MF-017	CYSC4	2		m	m
MF-018	POCU6	2		m	c
MF-020	RUDI2	1		c	c
MF-020b	RUDI2	1,3	TES fish	c	c
MF-022	RUDI2	1		c	c
MF-023	PHAR3	2		c	c
MF-024	PHAR3	2		c	c
MF-025	CEMA4	1		c	c
MF-026	BRSY	1, 3,4	TES fish; Trailhead	m	c
MF-028	PHAR3	2, 4	Trailhead	m	c
MF-031a	RUDI2	1		m	c
MF-031b	RUDI2	1		m	c
MF-032	LALA4	2		m	c
MF-033	LALA4	2		m	c
MF-034	LALA4	2		m	c
MF-035	POCU6	3,5,6,7	TES wildlife, TES fish, TES bird	m, e, c	m,e,c
MF-036	RUDI2	7	TES bird	c	c
MF-037	RUDI2	7	TES bird	c	c
MF-038a	CEPR2	2		c	c
MF-038b	CEPR2	2		m	m
MF-039	LALA4	2		c	c
MF-040	CEMA4	2		c	c
MF-041a	BRSY	2,3		c	c
MF-041b	BRSY	2		c	c
MF-041c	BRSY	2		c	c
MF-041d	BRSY	2		c	c
MF-041e	BRSY	2		c	c
MF-041f	BRSY	2		c	c
MF-041g	BRSY	2		c	c
MF-042	BRSY	2		c	c

MF-043	BRSY	2		c	c
MF-044a	BRSY	2		c	c
MF-044b	BRSY	2		c	c
MF-044c	BRSY	2		c	c
MF-044d	BRSY	2		c	c
MF-044e	BRSY	2		c	c
MF-045	BRSY	2,3		m	c
MF-046a	LALA4	2		m	c
MF-046b	LALA4	2		c	c
MF-059	RULA	2		c	c
MF-060	RULA	2		c	c
MF-061	RULA	2		c	c
MF-062	RULA	2,3		c	c
MF-063	RULA	2		c	c
MF-064	RULA	2		c	c
MF-065	RULA	2		c	c
MF-066	RULA	2		c	c
MF-068	RULA	2		c	c
MF-069	RULA	2		c	c
MF-070	RULA	2		c	c
MF-071	RULA	2		c	c
MF-072	RULA	2		c	c
MF-073	RULA	2		c	c
MF-074	RULA	2		c	c
MF-075	RUDI2	2		c	c
MF-076	RULA	2		m	c
MF-077	RULA	2		c	c
MF-078	RUDI2	2		c	c
MF-079	RULA	2		c	c
MF-080	RULA	2		c	c
MF-081a	BRSY	1		c	c
MF-081b	BRSY	2	close to stream	m,c	c
MF-082	RUDI2	1		c	c
MF-083	BRSY	2		c	c
MF-084	CEMA4	1, 2,3		c	c
MF-085	HEHE	1		c	m
MF-086	RUDI2	2		c	c
MF-087	RUDI2	1		c	c
MF-088	RUDI2	2		c	c
MF-100	RUDI2	2,3		c	c
MF-101	BRSY	1,3	TES fish; TES plant	m	c
MF-102	BUDA2	2,3		m	c
MF-103	CEMA4	2		c	c
MF-104	CEMA4	3,6	TES fish	c	c
MF-105	POCU6	4		m	c
MF-106	BUDA2	2		c	c
MF-107	CEMA4	2		c	c
MF-108	CEMA4	2		m	c
MF-109	RUDI2	2		c	c
MF-110	RUDI2	2		c	c
MF-111	RUDI2	2		c	c
MF-112	RUDI2/RULA	2		c	c
MF-113	BRSY	2		c	c
MR-002	RUDI2	1		c	c
MR-003	CEMA4	1		m	m
MR-005a	RUDI2	2,4	campground	m	m
MR-005b	RUDI2	2,4	campground	m	m

MR-005c	RUDI2	4	campground	m	m
MR-005d	RUDI2	4	campground	m	m
MR-006a	RUDI2	1		m	m
MR-006b	RUDI2	1		m	m
MR-006c	RUDI2	1		m	m
MR-006d	RUDI2	1		m	m
MR-006e	RUDI2	1		m	m
MR-006f	RUDI2	1		m	m
MR-008	RUDI2	1		c	c
MR-009	RUDI2	1		c	c
MR-009b	RUDI2	1		c	c
MR-010	RUDI2	1		c	c
MR-011	RUDI2	1		c	c
MR-012	RUDI2	1		c	c
MR-013	RUDI2	1		c	c
MR-013b	RUDI2	1		c	c
MR-014	RUDI2	1		c	c
MR-015	RUDI2	1,3		c	c
MR-015b	RUDI2	1,3		c	c
MR-016	RUDI2	1		c	c
MR-016b	RUDI2	1		c	c
MR-017	RUDI2	1		c	c
MR-018	RUDI2	1		c	c
MR-019	RUDI2	1		c	c
MR-020	RUDI2	1		c	c
MR-021	RUDI2	1		c	c
MR-022	RUDI2	1		c	c
MR-023	RUDI2	1		c	c
MR-024	RUDI2	1		c	c
MR-025	CEMA4	1		m	m
MR-026a	CEMA4	1		m	m
MR-026b	CEMA4	1		m	m
MR-026c	CEMA4	1		m	m
MR-027	CEMA4	1		m	m
MR-028	CEDI3	2		c	c
MR-029	CEDI3	5		m	m
MR-030	BRSY	1		c	c
MR-031	PHAR3	4	SnoPark	m	c
MR-032	RUDI2	1		c	c
MR-033	RUDI2	4	trailhead	m	c
MR-034	CEMA4	4	trailhead	m	c
MR-035	CEMA4	2,6		c	c
MR-036	CEMA4	1		m	m
MR-037	PHAR3	3,4,6	reservoir; TES fish	m	m,c
MR-037b	PHAR3	1,4	reservoir	m	m,c
MR-038	BRSY	4	campground	m	c
MR-039	BRSY	7		c	c
MR-040	RULA	3,7	TES plant	m	m,c
MR-041	BRSY	2,3,6		c	c
MR-042A	RUDI2	2		c	c
MR-042B	RUDI2	2		c	c
MR-043A	RUDI2/RULA	2		c	c
MR-043B	RUDI2/RULA	2		c	c
MR-044A	RULA	1		m	c
MR-044B	RULA	1		c	c
MR-045A	RUDI2	1,2		e	e,m,c
MR-045B	RUDI2	1,2		e	e,m,c