

APPENDIX F PEST MANAGEMENT

TABLE F-1 NOXIOUS WEEDS/PLANT PESTS NAVAJO RESERVOIR AREA AND VICINITY			
Weed	State or County Listed	Present on Reservoir Area	Comments
African Rue (<i>Perganum harmala</i>)	Yes	Maybe	<ul style="list-style-type: none"> ▪ NM Class B noxious weed- control spread statewide ▪ CO Class A noxious weed- statewide eradication ▪ <1 acre present on public lands along Navajo dam highway (FFO Invasive Weed Management Plan)
Black Henbane (<i>Hyoscyamus niger</i>)	Yes	Maybe	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class A noxious weed- halt spread statewide ▪ About 3 acres on public lands on Middle Mesa (FFO Invasive Weed Management Plan)
Bull Thistle (<i>Cirsium vulgare</i>)	Yes	Likely	<ul style="list-style-type: none"> ▪ NM Class B noxious weed- control spread statewide ▪ CO Class A noxious weed- statewide eradication ▪ Present throughout FFO.
Canada Thistle (Cirsium arvense)	Yes	Yes	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ High priority for initiation of monitoring and control efforts. ▪ Present at Hammond Mitigation site; targeted for control. ▪ About 3 acres on public lands within FFO ▪ Major infestations in Pine River management unit (BLM/BIA 2002a)
Curlycup gumweed (<i>Grindelia squarrosa</i>)	Unknown	Yes	<ul style="list-style-type: none"> ▪ Present at Hammond Mitigation site; targeted for control.
Dalmation toadflax (<i>Linaria genisitifolia</i> spp. <i>dalmatica</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ Present in SW Colorado ▪ Scattered at lower elevations on drier range lands within the SUIF Oil/Gas Study area. (BLM/BIA 2002a)
Diffuse knapweed (<i>Centaurea diffusa</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ On public lands in SW Colorado (FFO Invasive Weed Management Plan)
Dyer's Woad (<i>Isatis tinctoria</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class A noxious weed- statewide eradication
Eurasian milfoil (<i>Myriophyllum spicatum</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide
Field bindweed (<i>Convolvulus arvensis</i> L.)	Yes	Yes	<ul style="list-style-type: none"> ▪ NM Class C noxious weed- local level management and control ▪ CO Class C noxious weed- improve management statewide ▪ Present within reservoir area. ▪ Major infestations in Pine River management unit (BLM/BIA 2002a)
Halogeton (<i>Halögeton glomeratus</i>)	Yes	Likely	<ul style="list-style-type: none"> ▪ NM Class B noxious weed- control spread statewide ▪ CO Class C noxious weed- improve management statewide
Hoary Cress; aka Whitetop (<i>Caydaria draba</i>)	Yes	Likely	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ Present throughout FFO and in SW Colorado
Houndstongue (<i>Cynoglossum officinale</i> L.)	Yes	Unknown	<ul style="list-style-type: none"> ▪ CO Class B noxious weed- halt spread statewide
Hydrilla (<i>Hydrilla verticillata</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class A noxious weed- statewide eradication

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Weed	State or County Listed	Present on Reservoir Area	Comments
Jointed goatgrass (<i>Aegilops cylindrica</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class C noxious weed- local level management and control ▪ CO Class C noxious weed- improve management statewide
Leafy spurge (<i>Euphorbia esula</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ High priority for initiation of control and monitoring efforts. ▪ SUTT found and controlled a small population near Allison, CO in 2002. ▪ Should monitor Sambrito Creek and Los Pinos River areas for presence. ▪ About 5 acres on public lands on Middle Mesa; within a half mile of the Reese Canyon RNA boundary (FFO Invasive Weed Management Plan)
Musk thistle (<i>Carduus nutans</i>)	Yes	Yes	<ul style="list-style-type: none"> ▪ NM Class B noxious weed- control spread statewide ▪ CO Class B noxious weed- halt spread statewide ▪ Present along San Juan River below dam. ▪ Present at Hammond Mitigation site; targeted for control there. ▪ Present throughout FFO ▪ Major infestations in Pine River management unit (BLM/BIA 2002a)
Oxeye Daisy (<i>Chrysanthemum leucanthemum</i> L.)	Yes	Unknown	<ul style="list-style-type: none"> ▪ CO Class B noxious weed- halt spread statewide ▪ Major infestations in Pine River management unit (BLM/BIA 2002a)
Perennial Pepperweed; aka Tall whitetop (<i>Lepidium latifolium</i>)	Yes	Maybe	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ May be present in Sambrito Wetlands Area (CO).
Plumeless thistle (<i>Carduus acanthoides</i> L.)	Yes	Unknown	<ul style="list-style-type: none"> ▪ CO Class B noxious weed- halt spread statewide
Poison Hemlock; aka Water Hemlock (<i>Conium maculatum</i> L.)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class B noxious weed- control spread statewide ▪ CO Class C noxious weed- improve management statewide
Purple loosestrife (<i>Lythrum salicaria</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class A noxious weed- statewide eradication
Russian knapweed (<i>Acroptilon repens</i>)	Yes	Yes	<ul style="list-style-type: none"> ▪ NM Class B noxious weed- control spread statewide ▪ CO Class B noxious weed- halt spread statewide ▪ High priority for initiation of monitoring and control efforts. ▪ Several large populations on Miller Mesa, NM ▪ Present within Navajo Lake State Park. ▪ About 30 acres present on public lands within FFO (FFO Invasive Weed Management Plan)
Russian olive (<i>Elaeagnus angustifolium</i> L.)	Yes	Yes	<ul style="list-style-type: none"> ▪ CO Class B noxious weed- halt spread statewide ▪ Moderate priority for initiation of control and monitoring efforts. ▪ Classified as a noxious weed in Colorado in 2002. ▪ Present at scattered locations along San Juan River from Navajo Dam downstream. ▪ Present within the riparian zone on the river arms. ▪ Previously used in landscaping at Arboles, Pine, and Sims Mesa Recreation Areas; consider phased removal from developed recreation areas. ▪ Consider phased removal from riparian areas to prevent adverse effect to SWWF. ▪ Do not use for future landscape or wildlife plantings. ▪ Present throughout FFO.
Scotch thistle (<i>Onopordum acanthium</i>)	Yes	Maybe	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide ▪ About 3+ acres present on public lands within north half of FFO
Siberian Elm (<i>Ulmus pumila</i>)	Yes	Likely	<ul style="list-style-type: none"> ▪ NM Class C noxious weed- local level management and control
Spotted knapweed (<i>Centaurea maculosa</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ CO Class B noxious weed- halt spread statewide ▪ High priority for initiation of monitoring and control efforts. ▪ <1 acre on public lands- La Plata and SW Colorado ▪ Major infestations are present in the Pine River management Unit and at the north end of the Navajo Dam (BLM/BIA 2002a)

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Tamarisk; aka Salt Cedar (<i>Tamarix</i> sp.)	Yes	Yes	<ul style="list-style-type: none"> ▪ NM Class C noxious weed- local level management and control ▪ CO Class B noxious weed- halt spread statewide ▪ High priority for initiation of control and monitoring efforts. ▪ The State of Colorado has set a high priority on tamarisk eradication within the state. ▪ Consider phased control efforts with prompt revegetation of native plants to minimize potential impacts to SWWFC. ▪ Present at scattered locations along San Juan River from Navajo Dam downstream. ▪ Heavy infestation within reservoir basin east of Windsurf Beach area(CO); a portion of the infestation likely to be drowned out when high water returns. ▪ Present throughout FFO
Yellow Starthistle (<i>Centaurea solstitialis</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class A noxious weed- statewide eradication
Yellow toadflax (<i>Linaria vulgaris</i>)	Yes	Unknown	<ul style="list-style-type: none"> ▪ NM Class A noxious weed- prevent and eradicate statewide ▪ CO Class B noxious weed- halt spread statewide

TABLE F-2 NON-PLANT PESTS NAVAJO RESERVOIR AREA			
Pest	Present	Potential Effects	Comments
Zebra Mussel	Unknown but Not Likely	<ul style="list-style-type: none"> ▪ Clogging of water pipes and control structures. ▪ Loss of very small aquatic species in food chain, with potential collapse of fisheries. 	<ul style="list-style-type: none"> ▪ Easy boating access throughout the country increases chance of spread to currently unaffected areas. ▪ Continue public education and information campaign to reduce spread. ▪ Periodically monitor for presence. ▪ Take prompt control actions if discovered.
Quagga Mussel	Unknown but Not Likely	<ul style="list-style-type: none"> ▪ Same as zebra mussel but to a larger extent, due to its larger environmental niche. 	<ul style="list-style-type: none"> ▪ Easy boating access throughout the country increases chance of spread to currently unaffected areas. ▪ Continue public education and information campaign to reduce spread. ▪ Periodically monitor for presence. ▪ Take prompt control actions if discovered.
New Zealand Mud Snail	Unknown but Not Likely	<ul style="list-style-type: none"> ▪ Loss of native macroinvertebrates in streams ▪ Loss of or reduction in stream trout fisheries 	<ul style="list-style-type: none"> ▪ Easy trout fishing access throughout the globe increases chance of spread to currently unaffected areas. ▪ Continue public education and information campaign to reduce spread. ▪ Periodically monitor for presence. ▪ Take prompt control actions if discovered.
Beaver	Yes	<ul style="list-style-type: none"> ▪ Excessive loss of preferred native riparian trees and shrubs. ▪ Plugging of culverts and ditches. ▪ Flooding of areas. 	<ul style="list-style-type: none"> ▪ Good, natural wetlands and riparian engineer. Where appropriate, their presence and activities should be encouraged. ▪ Take steps to prevent excessive loss of high value native riparian trees and shrubs through fencing or other non-lethal means. ▪ Live trap and relocate beaver from areas where their activities are unacceptable. ▪ Use engineered structures to reduce beaver impacts to water control and management structures such as culverts and ditches. ▪ Consider lethal control measures, as appropriate.
Prairie Dog	Yes	<ul style="list-style-type: none"> ▪ Public health- bubonic plague. ▪ Loss of grass and herbaceous vegetative cover ▪ May provide burrowing owl habitat 	<ul style="list-style-type: none"> ▪ Consider control efforts on case-by-case basis in developed recreational areas ▪ Protect burrowing owls during any prairie dog control efforts
Ground Squirrels	Yes	<ul style="list-style-type: none"> ▪ Burrowing in earthen dams with possible subsequent dam failure. ▪ May provide burrowing owl habitat; 	<ul style="list-style-type: none"> ▪ Take necessary case-by-case efforts to control populations that may adversely affect project features. ▪ Protect burrowing owls during any ground squirrel control efforts
Muskrat	Yes	<ul style="list-style-type: none"> ▪ Burrowing in earthen dams with possible subsequent dam failure. 	<ul style="list-style-type: none"> ▪ Take necessary case-by-case efforts to control populations that may adversely affect project features.
Mosquitoes	Yes	<ul style="list-style-type: none"> ▪ Public Health- vectors for various diseases (West Nile virus, encephalitis, etc.) ▪ Subsequent infection and possible death of humans, birds and horses. 	<ul style="list-style-type: none"> ▪ Encourage the presence of native, natural control agents, such as birds, bats, etc., throughout the reservoir area. ▪ Implement integrated control efforts in developed recreational areas ▪ Consider minimizing the use of toxic chemical control methods ▪ Coordinate public information and education with State and local health departments