

**BIOLOGY: TERRESTRIAL
BASELINE EXISTING
CONDITIONS MEMORANDUM**

**Oregon Department of Transportation
Highway 62 Corridor Solutions DEIS Project**

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October 11, 2004

MB&G Project No. 1245

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1.0 INTRODUCTION

The purpose of this memorandum is to document and describe existing baseline environmental conditions for terrestrial biological resources within the project study area for the Oregon Department of Transportation's (ODOT) Highway 62 Corridor Solutions Draft Environmental Impact Statement (DEIS) Project. The ODOT Highway 62 Corridor Solutions DEIS Project will develop several alternative solutions that address safety and traffic congestion problems along Highway 62 (the Crater Lake Highway) from Medford to White City, Oregon.

The contents of this memorandum are based on a site reconnaissance conducted by Mason, Bruce & Girard, Inc. (MB&G) on June 28-29, 2004 and a subsequent updating of detailed field studies conducted during 1998-2000.

2.0 METHODS

Documentation of current baseline environmental conditions, including the presence of endangered, threatened, and sensitive species or their habitats, required general literature-based research, personal communication with agency biologists, and a site reconnaissance to confirm the detailed field surveys conducted during 1998-2000.

2.1 General Data Collection and Agency Contacts

General data collection and review included analysis of existing reports (MB&G 2000), 7.5 minute USGS topographic maps (USGS 1983), aerial photographs, soil surveys (Johnson 1994), and natural resource publications (Oregon Natural Heritage Program 2001, 2003) to identify potential habitat for threatened or endangered species within the project study area. The 2002 list of waterbodies that failed to meet Clean Water Act standards (Oregon Department of Environmental Quality 2003) was reviewed to determine if any of the streams had water-quality problems that might affect the distribution of fish and wildlife. In addition, MB&G requested information about the presence of federally listed species in the project study area from the U.S. Fish and Wildlife Service (USFWS). The presence of species considered endangered, threatened, or sensitive by the Oregon Department of Fish and Wildlife (ODFW), the Oregon Department of Agriculture (ODA), or the Oregon Natural Heritage Program (ONHP) was assessed through a query of the Oregon Natural Heritage Information Center (ORNHIC) database (ONHP 2004).

Data available from published sources was supplemented by personal communications with local biologists and managers at ODFW, ODOT, USFWS, and The Nature Conservancy (TNC).

2.2 Site Reconnaissance

In 1998, MB&G personnel conducted rare plant surveys, mapped the distribution of vegetation communities, and completed qualitative and quantitative habitat assessments for federally-listed fish and wildlife (MB&G 2000). In addition, vernal pools within the project study area were surveyed for vernal pool fairy shrimp (*Branchinecta lynchi*) during 1999-2000 (May Consulting 1999). Prior to preparing this memorandum, MB&G personnel revisited the project study area on 28-29 June 2004 to confirm and update the information gathered in previous field surveys. MB&G personnel visited all streams and wetland areas, including vernal pools, within the project study area and made general observations on vegetation communities, the condition of streams and riparian areas, apparent water quality, and habitat quality for salmonid fish. All vernal pool complexes mapped out during earlier field work (May Consulting 1999, MB&G 2000) were revisited to confirm continued presence and to note any changes that might affect habitat quality for vernal pool fairy shrimp or vernal-pool associated rare plants such as large-flowered wooly meadowfoam (*Limnanthes flocossa* ssp *grandiflora*) or Cook's lomatium (*Lomatium cooki*). Finally, MB&G biologists also noted any significant changes to land cover or land use within the project study area that had occurred since vegetation communities and other natural features were last mapped in 1999-2000.

3.0 EXISTING CONDITIONS

3.1 Threatened or Endangered Wildlife Species

Analysis of existing records and agency databases indicate that the project study area has the potential to support two species of wildlife listed as threatened or endangered: Bald Eagle (*Haliaeetus leucocephalus*) and vernal pool fairy shrimp (USFWS 2004). For details on the Threatened Coho Salmon (*Oncorhynchus kisutch*), see the Aquatic Baseline Existing Conditions Memorandum. For details on endangered plants, see section 3.3.

3.1.1 Bald Eagle

Federal status: Threatened

State status: Threatened

Suitable habitat is absent within the vicinity of the project study area, and the closest known nest of a bald eagle is approximately 3 miles from the northern terminus of the project study area (Isaacs and Anthony 2003). Thus, bald eagles are not addressed further in this report.

3.1.2 Vernal Pool Fairy Shrimp

Federal status: Threatened

State status: Not Listed

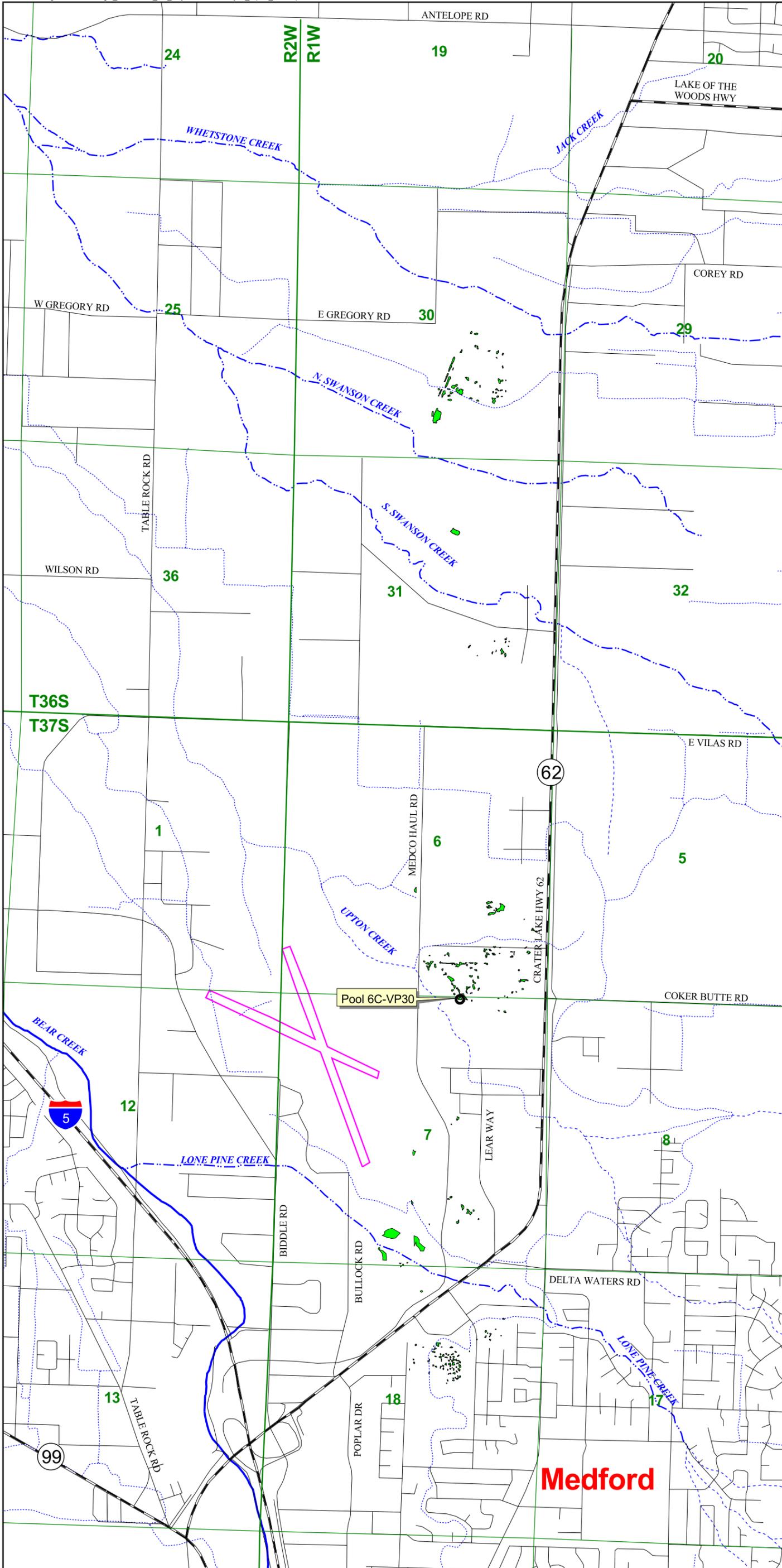
All vernal pools within 60 feet of proposed cut or fill limits for the two Build Alternatives were surveyed for large branchiopods during 1999-2000 (Figure 1) (May Consulting 1999, MB&G 2000). Dry-season surveys revealed the presence of cysts belonging to species in the Order Anostraca in three vernal pools; cysts from two pools (6A-VP2 and 6A-VP3) could not be identified to genus, appearing intermediate to *Branchinecta* and *Streptocephalus*, and cysts from one pool (6C-VP30) were positively identified as belonging to the genus *Branchinecta* (May Consulting 1999). Positive identification to the species level was not possible, but the external morphology of the specimen as well as the characteristics of the pool from which the cyst was collected both suggest the cyst belongs to a vernal pool fairy shrimp.

3.2 Vegetation Communities

Several distinct plant communities were identified within the project study area (Figure 2). These include altered grassland communities common to disturbed areas and vacant urban lots, mound-vernal pool complexes, active pastureland, abandoned agriculture land, and riparian or aquatic plant communities. Developed lots also account for a significant portion of land cover along Highway 62 and within the southern portion of the project study area. In almost all cases, extant plant communities have been highly modified by human activity. Detailed descriptions of each major plant community within the project study area are presented below.

3.2.1 Grassland

Grasslands are common within the project study area, occurring on vacant urban lots and agricultural lands adjacent to Highway 62 and the old Medco Haul Road. Vacant lots within the project study area support a highly altered grassland community dominated by exotic species including medusahead (*Taeniatherum caput-medusae*), chickory (*Cichorium intybus*), teasel (*Dipsacus fullonum*), and yellow star-thistle (*Centaurea solstitialis*). Construction debris and bare compacted soil are also common on vacant lots. Agricultural lands within the project area that support grassland communities are generally used for grazing or hay production, and are dominated by a mix of native and exotic species. Dominant species on agricultural land include exotic species such as Kentucky bluegrass (*Poa pratensis*), timothy (*Phleum pratense*), and red clover



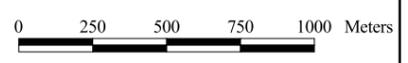
Highway 62 Corridor Project

Highway 62/Crater Lake Hwy Corridor Solutions Project
Medford, Oregon



Map Features

- Vernal Pools
- Roads**
 - Highways
 - Other Roads
- Streams**
 - Large
 - Medium
 - Small
 - Canals/Ditches/Culverts
 - Runways
 - Section Lines

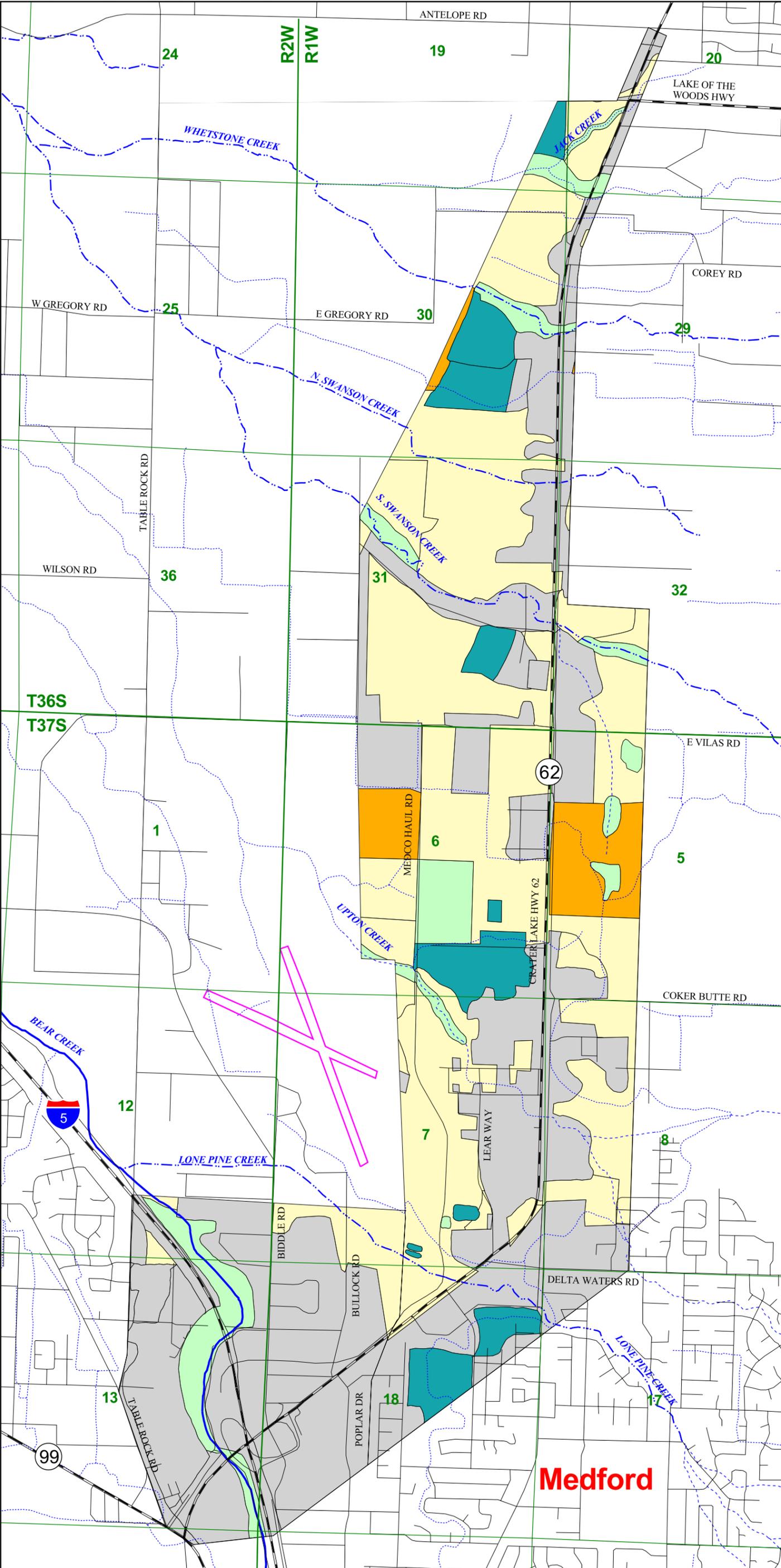


Note: Dry season sampling conducted in 1999 identified cysts of the genus Branchinecta in vernal pool 6C-VP30.

Vernal Pools located by MB&G in 1999 and 2000 using Trimble GPS System.

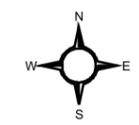
Figure 1

Fairy Shrimp Habitat



Highway 62 Corridor Project

Highway 62/Crater Lake Hwy
Corridor Solutions
Project
Medford, Oregon



Map Features

Vegetation Communities

- Agricultural/Old Field
- Developed
- Grassland
- Riparian/Aquatic/
Wetland
- Mound-Vernal
Pool Complex
- Woodland

Roads

- Highways
- Other Roads

Streams

- Large
- Medium
- Small
- Canals/Ditches/
Culverts
- Runways
- Section Lines

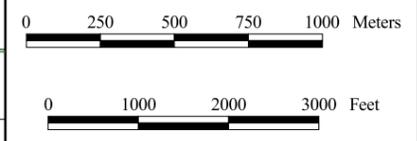


Figure 2
Vegetation Communities

Medford

(*Trifolium pratense*), and native species such as California danthonia (*Danthonia californica*) and slender wheatgrass (*Elymus trachycaulus*).

3.2.2 Developed

Commercial, residential, and industrial developments occupy a significant portion of the project study area. Commercial and industrial development is concentrated along Highway 62, and some scattered residential development exists between Highway 62 and the Medco Haul Road, especially in the northern portion of the project study area. These areas support little or no vegetation, except for small areas landscaped with primarily exotic plants, and include extensive areas of impervious surfaces such as parking lots and sidewalks. Some residential areas contain fields and lawns dominated by exotic grasses such as Kentucky bluegrass and timothy.

3.2.3 Mound-vernal Pool Complex

Vernal pool complexes within the project study area are characterized by raised mounds interspersed with seasonally inundated pools. In 1998, these complexes covered approximately 9% of the project area (MB&G 2000); however, due to continuing commercial development in the area, this is almost certainly an overestimate of the current extent of vernal pools. Major complexes with the project study area are west of Highway 62 and north of Commerce Drive, and most lie east of the Medco Haul Road. Although vernal pool complexes provide critical habitat for two endangered plant species, Cook's lomatium and large-flowered wooly meadowfoam, and two rare species, Southern Oregon buttercup (*Ranunculus austro-oreganus*) and coral-seeded allocarya (*Plagiobothrys figuratus* ssp. *corallicarpus*), they are dominated by exotic species, especially medusahead and yellow-star thistle. Vernal pools also provide critical habitat for the federally-listed vernal pool fairy shrimp. The best quality pools occur within a complex located on a parcel of land south of Coker Butte Road, east of Upton Slough, and north of Commerce Drive. This complex contains a vernal pool (6C-VP30) that contains cysts identified as belonging to the genus *Branchinecta* (May Consulting 1999). Several of the pools in this complex are deep and wide, although the quality of all pools in the project study area has been degraded by the invasion of exotic plants, road construction, and illegal trash dumping.

3.2.4 Riparian/Aquatic Areas

Riparian plant communities are found in narrow strips along most of the perennial streams within the project study area, although they have been highly altered by human activity. Riparian plant communities include thick monocultures of Himalayan blackberry (*Rubus discolor*); herbaceous communities dominated by reed canarygrass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), sedge (*Carex* spp.), rush (*Juncus* spp.), cattails (*Typha* spp.), and poison hemlock (*Conium maculatum*); and, at several locations, mixed stands of small Pacific willow (*Salix lasiandra*), black cottonwood (*Populus trichocarpa*), and Oregon ash (*Fraxinus latifolia*). In many cases,

channelization, extensive rip-rapping of stream banks, and ongoing human disturbance (e.g., mowing of lawns and fields) has completely eliminated streamside vegetation. A series of water-filled borrow pits near the southern terminus of the project study area support small stands of black cottonwood and willow. Some of the individual trees surrounding the borrow pits reach heights of 20-30 feet. Understory plant communities are dominated by Himalayan blackberry, teasel, and reed canarygrass.

East of the Medco Haul Road and north of Coker Butte Road lies a large depression approximately 52 acres in size that was once used as a log pond and known locally as the “Medco Log Pond”. This artificial depression contains a mix of wetland and upland plant communities. Upland communities within the Medco Log Pond are dominated by teasel, Himalayan blackberry, and Queen Anne’s lace (*Daucus carota*). Moist areas within the Medco Log Pond support thickets of Pacific willow as well as cattail, rush, sedge, and reed canary grass.

3.3 Rare Plants

Five species of rare plants were identified in pre-field reviews as potentially occurring within the project study area: Cook’s lomatium, large-flowered wooly meadowfoam, Gentner mission-bells, Southern Oregon buttercup, and coral-seeded allocarya (Figure 3).

3.3.1 Cook’s lomatium

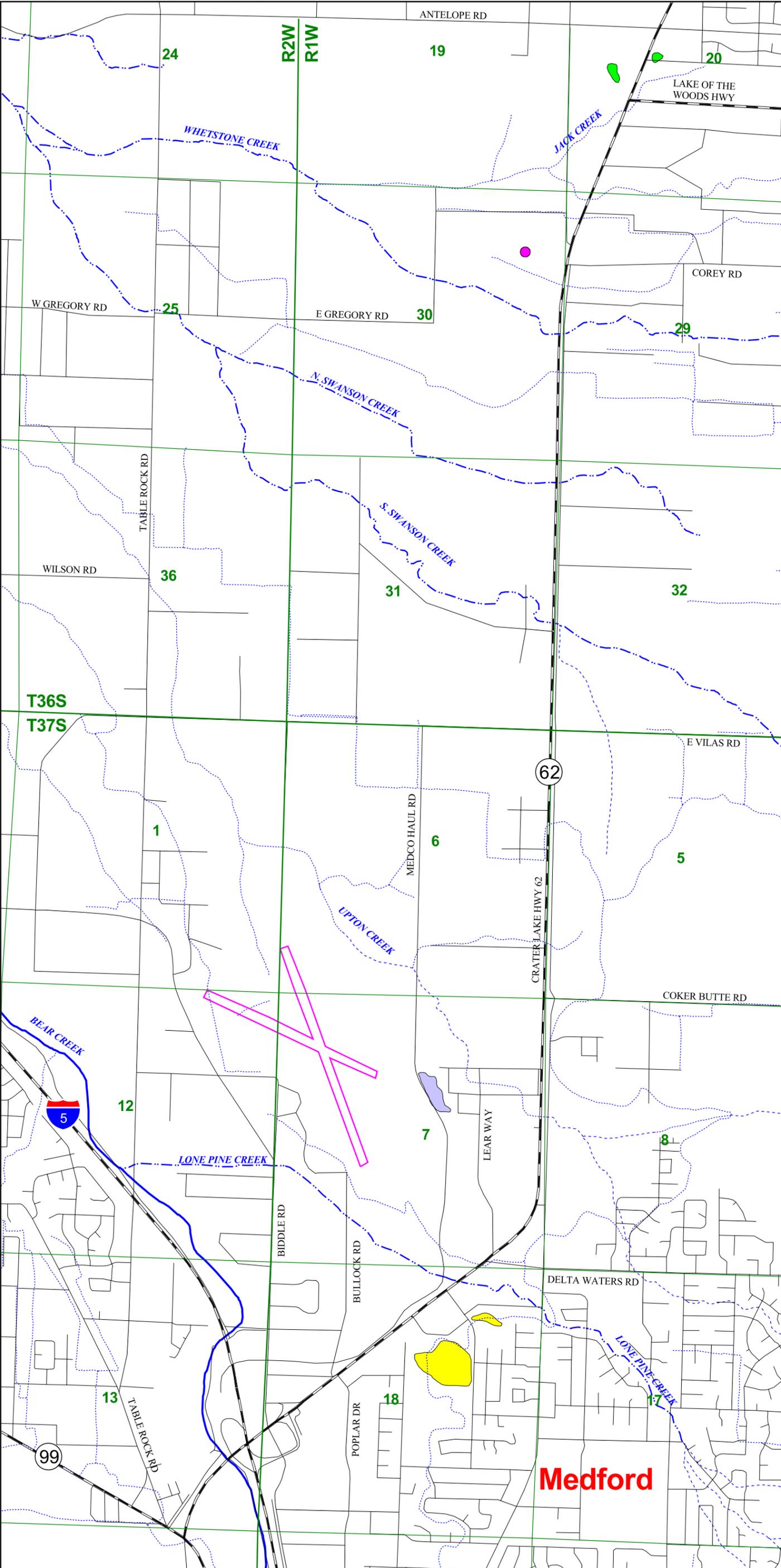
Federal status: Endangered
State status: Endangered

Earlier field surveys revealed the presence of two large populations of Cook’s lomatium within the project study area. One, a newly described population, is located south of Commerce Road and west of Cardinal Avenue and Aviation Way (T 37S, R 1W, Section 7) (MB&G 2000). The second population, located west of the intersection of Highways 62 and 140, had been previously recorded in the Oregon Natural Heritage Program database. No subsequent surveys have been conducted, either by MB&G personnel or agency biologists (Sam Friedman, pers. comm., botanist, USFWS, July 12, 2004).

3.3.2 Large-flowered wooly meadowfoam

Federal status: Endangered
State status: Endangered

A population of large-flowered wooly meadowfoam was identified within the project study area during previous field surveys (MB&G 2000), co-occurring with the aforementioned populations of Cook’s lomatium south of Commerce Road (T 37S, R 1W, Section 7). An individual plant was also identified in a vacant field west of the Chevron station on



Highway 62 Corridor Project

Highway 62/Crater Lake Hwy
Corridor Solutions
Project
Medford, Oregon



Map Features

Plant Species

- Cook's Lomatium (*Lomatium cookii*)
- Large-Flowered Woolly Meadowfoam (*Limnanthes floccosa*)
- Southern Meadowfoam (*Ranunculus austrooregonus*)
- Large-Flowered Woolly Meadowfoam/ Cook's Lomatium

Note: Location of rare plant species based upon 1999-2000 Field Survey data.

Roads

- Highways
- Other Roads

Streams

- Large
- Medium
- Small
- Canals/Ditches/Culverts
- Runways
- Section Lines

0 250 500 750 1000 Meters

0 1000 2000 3000 Feet

Figure 3

Rare Plant Species

Highway 62, but subsequent development in that area may have eliminated habitat for this species. However, no subsequent surveys have been conducted, either by MB&G personnel or agency biologists (Sam Friedman, pers. comm., botanist, USFWS, July 12, 2004).

3.3.3 *Gentner mission-bells*

Federal Status: Endangered

State Status: Endangered

No individuals of this species were located within the project study area during earlier plant surveys, and none were noted during the June 28-29 2004 field reconnaissance. The presence of this species within the project study area is currently undetermined.

3.3.4 *Southern Oregon buttercup*

Federal status: Not listed

State status: Candidate

The 1999 field surveys identified a large population of Southern Oregon buttercup south of Highway 62 along both sides of Whittle Avenue (T 37S, R 1W, Section 18). Suitable habitat is still present in this area, although no plant surveys have been conducted since the original surveys in 1999.

3.3.5 *Coral-seeded allocarya*

Federal status: Species of Concern

State status: Candidate

No individuals of this species were located within the project study area during earlier plant surveys, and none were noted during the June 28-29 2004 field reconnaissance.

4.0 SUMMARY

The principal terrestrial biological resources within the project study area are the mound- vernal pool complexes. These unique habitats support the federally threatened vernal pool fairy shrimp as well as two endangered plant species, Cook's lomatium and large- flowered wooly meadowfoam. Although many of the vernal pools within the project study area have been invaded by exotic plants and degraded by road construction and

industrial development, several high-quality pools remain. The two other major plant communities within the project study area, riparian and grassland, have been heavily impacted by development and invasive plant species, although they still provide habitat for birds such as Western Meadowlark (*Sturnella neglecta*) and Lesser Goldfinch (*Carduelis psaltria*) and travel corridors for species like coyotes (*Canis latrans*).

5.0 REFERENCES

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