

**APPENDIX C**

**REACH INVENTORIES, PROJECTS AND OPPORTUNITIES**

|                            |  |                   |
|----------------------------|--|-------------------|
| <b>Stream:</b>             | <b>Gregory Canyon Creek</b>  |                   |
| <b>Reach:</b>              | 1 (GRC 05, 06, 07, 08, 09, 10)   |                   |
| <b>Location:</b>           | <b>Boulder Creek to College Avenue</b>   |                   |
| <b>Habitat conditions:</b> |  |                   |
|                            | Vegetation structure:  | Excellent to good |
|                            | Native plant habitat:  | Poor              |
|                            | Bird habitat:  | Poor to very poor |
|                            | Aquatic habitat:   | Fair to poor      |
|                            | Primary (streambed):   | Fair to poor      |
|                            | Secondary (channel morphology):  | Poor              |
|                            | Tertiary (bank stabilization):   | Fair              |
|                            | Vegetative bank stability:   | Fair              |
| <b>Other conditions:</b>   | <ul style="list-style-type: none"> <li>▪ Creek runs through residential yards</li> <li>▪ Creek is narrow and channelized</li> <li>▪ Most of reach is deeply entrenched with vertical walls</li> </ul>  |                   |
| <b>Opportunities:</b>      | <p><b>Flood Management:</b></p> <ul style="list-style-type: none"> <li>▪ Significant split flows occur at University Avenue and Marine Street causing several properties to be added to the floodplain.</li> <li>▪ Arapahoe Avenue, Marine Street, 8<sup>th</sup> Street, University Street, Pleasant Street, Pennsylvania Avenue and College Avenue are all overtopped by 100-year discharge.</li> <li>▪ Channel is small, incised and located on private property</li> <li>▪ Acquire properties in the High Hazard Zone according to the city's pre-flood acquisition program.</li> <li>▪ Outreach to adjacent neighborhoods to raise awareness of flood hazards</li> </ul> <p><b>Habitat protection:</b></p> <ul style="list-style-type: none"> <li>▪ Low priority for restoration due to location in residential yards</li> <li>▪ Homeowner education to improve conditions for native species coupled with an incentive program or technical assistance</li> <li>▪ Revegetation / re-channelization downstream of University Avenue</li> </ul> <p><b>Water quality:</b></p> <ul style="list-style-type: none"> <li>▪ Develop and implement stream habitat improvement matching grant program for adjacent properties</li> <li>▪ Educate adjacent neighborhoods to encourage backyard management to protect habitat, wetlands and enhance water quality</li> </ul> |                   |

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|                            |  |                   |
|----------------------------|--|-------------------|
| <b>Stream:</b>             | <b>Gregory Canyon Creek</b>  |                   |
| <b>Reach:</b>              | <b>2 (GRC 01, 02, 03)</b>  |                   |
| <b>Location:</b>           | <b>College Avenue to city limits</b>   |                   |
| <b>Habitat conditions:</b> |  |                   |
|                            | Vegetation structure:  | Very good         |
|                            | Native plant habitat:  | Good              |
|                            | Bird habitat:  | Very good to good |
|                            | Aquatic habitat:   | Fair to poor      |
|                            | Primary (streambed):   | Fair to poor      |
|                            | Secondary (channel morphology):  | Fair to poor      |
|                            | Tertiary (bank stabilization):   | Excellent to poor |
|                            | Vegetative bank stability:   | Excellent to poor |
| <b>Other conditions:</b>   | <ul style="list-style-type: none"> <li>▪ Creek runs through residential yards</li> <li>▪ Creek is narrow and channelized</li> <li>▪ Dyer's Woad occurrence in Smith Park</li> </ul>  |                   |
| <b>Opportunities:</b>      | <p><b>Flood management:</b></p> <ul style="list-style-type: none"> <li>▪ Flagstaff Road, Willowbrook Road, Aurora Avenue and Euclid Avenue are overtopped by 100-year discharge.</li> <li>▪ 100-year floodplain has less split flow and is located in proximity to the channel in this reach.</li> <li>▪ There are a few structures in this reach that are highly impacted by the High Hazard Zone. Acquire properties in the High Hazard Zone according to the city's pre-flood acquisition program.</li> <li>▪ Outreach to adjacent neighborhoods to raise awareness of flood hazards</li> </ul> <p><b>Habitat protection:</b></p> <ul style="list-style-type: none"> <li>▪ Landowner and homeowner education about the threat of exotic ornamentals (<i>Brunnera</i>, <i>Vinca minor</i>, <i>Vinca major</i>)</li> <li>▪ Russian Olive removal</li> <li>▪ Eradicate Dyer's Woad occurrence in Smith Park</li> <li>▪ Some planting of native cotton woods might restore the balance of species composition</li> </ul> <p><b>Water quality:</b></p> <ul style="list-style-type: none"> <li>▪ Develop and implement stream habitat improvement matching grant program for adjacent properties</li> <li>▪ Educate adjacent neighborhoods to encourage backyard management to protect habitat, wetlands and enhance water quality</li> </ul> |                   |

# Wetland Evaluation

**Wetland #:** 40502

**Former #:** 14

**T\_R\_S:** T1NR71WS36

**Investigator:** A. Carpenter, C. Browne

**Date of Visit:** 7/2/2004

**Obs. Method:** Viewed from property boundary

**General Location:** Gregory Creek east of Mountain Parks and south of Boulder Creek

**Description:** Steep, rocky intermittent stream that flows northward along eastern edge of a Pierre shale bedrock formation, draining into Boulder Creek. Characterized by generally narrow active channel with fairly steep gradient. Precipitation in foothills to the west supports seasonal flows in creek. (Includes tributary to Gregory Creek which flows in from the west along the north edge of Smith Park, between Aurora and Euclid Streets.)

**Wetland Origin:** Natural

**Primary Water Source:** Creek

**Hydroperiod:** Intermittently flooded

**Max WaterDepth (ft):** 1.5

**Major plant communities present**

narrow leaf cottonwood/ mixed herbaceous  
urban tree/ mixed herbaceous  
open water

**% of wetland area**

35  
60  
5

**% Vegetated:** 90  
**% Bare ground:** 5  
**% Water:** 5

**FUNCTION AND VALUE ASSESSMENT**

**Ratings:** 5 = very high, 4 = high, 3 = medium, 2 = low, 1 = no      **Confidence in rating:** c = high, b = medium, a = low

|  |   |   |   |
|--|---|---|---|
| <b>Groundwater recharge</b>                    | 1 | b | Geohydrologic map indicates groundwater recharge or discharge are possible. Effectiveness of the function is limited by impermeable bedrock near surface, narrow channel, and intermittent flows. Uncertain extent to which infiltration into fractures recharges water in deeper formations. |
| <b>Recharge the</b>                            |   |   |   |
| <b>Groundwater Discharge</b>                   | 2 | b | Local discharge of rainwater infiltration into creek likely but the thin overburden limits opportunity.   |
| <b>Flood Storage / Floodflow Alteration</b>    | 2 | b | Rough streambed slows flows somewhat and small pools in lower section offer minor storage benefits.   |
| <b>Shoreline Anchor. / Stabilization</b>       | 3 | b | Fairly dense understory and tree cover along banks, though rocks are significant factor in erosion control.   |
| <b>Sediment Trapping / residence Retention</b> | 2 | b | High velocity flows likely to transport sediments through the system, though small pockets of short sediments were observed in pockets along the bank and in pools.   |
| <b>Nutrient Retention (long-term)</b>          | 2 | b | Abundance of trees and understory   |
| <b>Nutrient Retention (short-term)</b>         | 2 | b |   |
| <b>Food Chain Support may (export)</b>         | 3 | b | Good supply of leaf litter from overhanging vegetation and good export flows. Grates and control structures trap some of larger material.   |
| <b>Food Chain Support (within basin)</b>       | 3 | b |   |
| <b>Fish Habitat / Aquatic Diversity</b>        | 1 | b |   |
| <b>Wildlife Habitat</b>                        | 3 | b | deer observed and diversity of trees and understory offers food and shelter, but narrow buffer reduces effectiveness  |
| <b>Active Recreation</b>                       | 1 | b |   |
| <b>Passive Rec / Heritage Value</b>            | 3 | b |   |

**Comments:** Gregory Creek runs through residential back yards starting at edge of Mountain Parks and flows north to Boulder Creek (access to the creek was generally limited to where it intersected with city streets)