CITY OF GOLETA

CREEK & WATERSHED MANAGEMENT PLAN

Public Workshop #2

Goleta Valley Community Center

February 26, 2020
6:30 p.m.

CITY OF GOLETA

Workshop Agenda

- Project Overview 35 minutes
  - Background
  - Public Outreach Results
  - Policy and Regulatory Background
  - Work Product Updates
    - Biology, Geomorphology, Hydrology and Water Quality
  - Next Steps
- Group Sessions 45 minutes
  - Rotating Groups
- Report Out 10 Minutes

Introductions

- City Team
  - Andy Newkirk — Senior Planner
  - Pam Ricci — Contract Planner
  - Anne Wells — Planning Manager
  - Gillian Fennessy — Planning Intern
  - Viviana Marsano — Spanish Translator
- Dudek
  - John Davis IV — Project Manager, Ecologist
  - Melissa Blundell — Deputy PM, Biologist
  - Jane Gray — Public Outreach Specialist
  - Matt Naftaly — Hydrogeologist
  - Anne Senter (Balance Hydrologics) — Geomorphologist

Background

- Creek and Watershed Management Plan (CWMP)
  - Long term goal of City since General Plan adopted in 2006
  - Conservation Element – CE-IA-3
    - *The CWMP will provide a detailed approach for protecting the ecological function, water quality, and drainage and flood control of Goleta's creeks and watersheds.*

- CWMP will:
  - Provide information about the physical characteristics of the creek corridors and their habitats;
  - Identify places where repairs or improvements are warranted; and
  - Provide best management practices to keep the creeks vital and healthy

Background

- **June 4, 2019**
  - City Council approved contract with Dudek to prepare the CWMP
- **July 29, 2019**
  - Kickoff meeting with project team
- **Fall - Winter 2019**
  - Biology, water quality, and geomorphology assessments
- **November 6, 2019**
  - First public workshop
- **November 13, 2019**
  - First Technical Advisory Committee (TAC) meeting

Public Outreach

- The CWMP has a Public Communication & Engagement Plan to guide public outreach, including:
  - Public Workshops – #3 planned for spring 2020
  - TAC meetings – open to public to attend
  - Planning & City Council meetings for review and adoption of CWMP
  - Email blasts
  - Website - tinyurl.com/GoletaCWMP
  - Outreach activities (Farmers market)
  - **Online Public Survey Results** (154 responses)

Why are Creeks Important?

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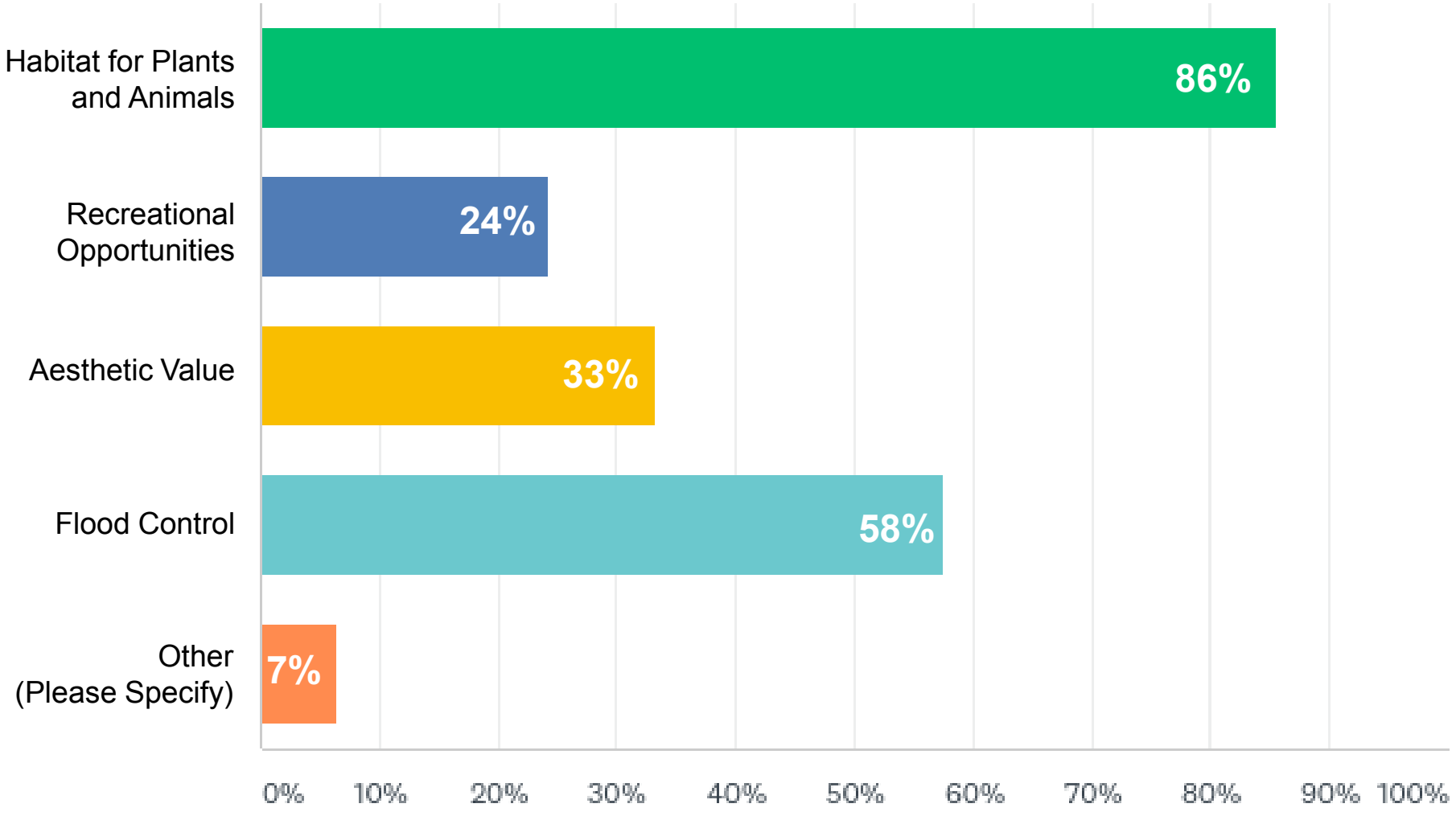
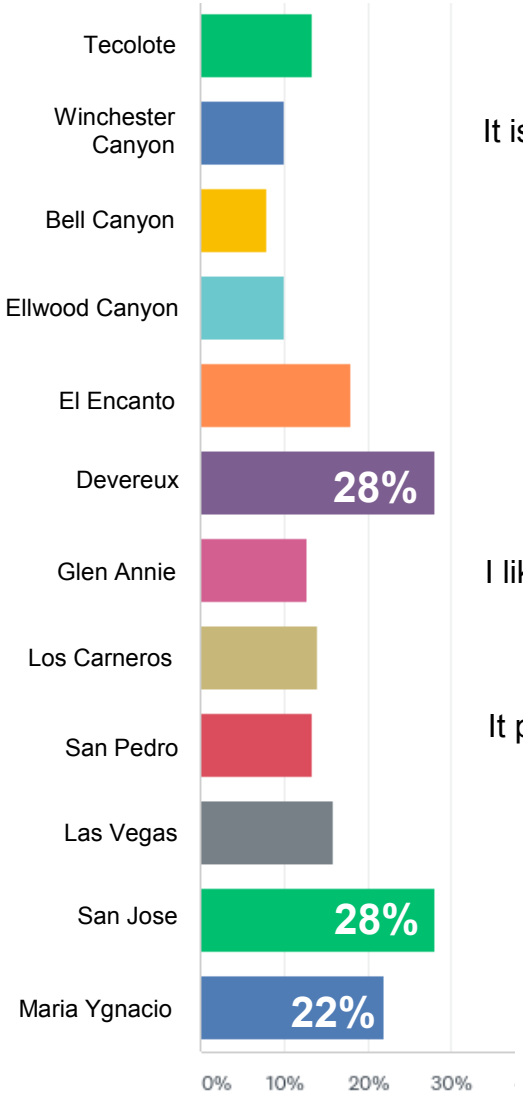
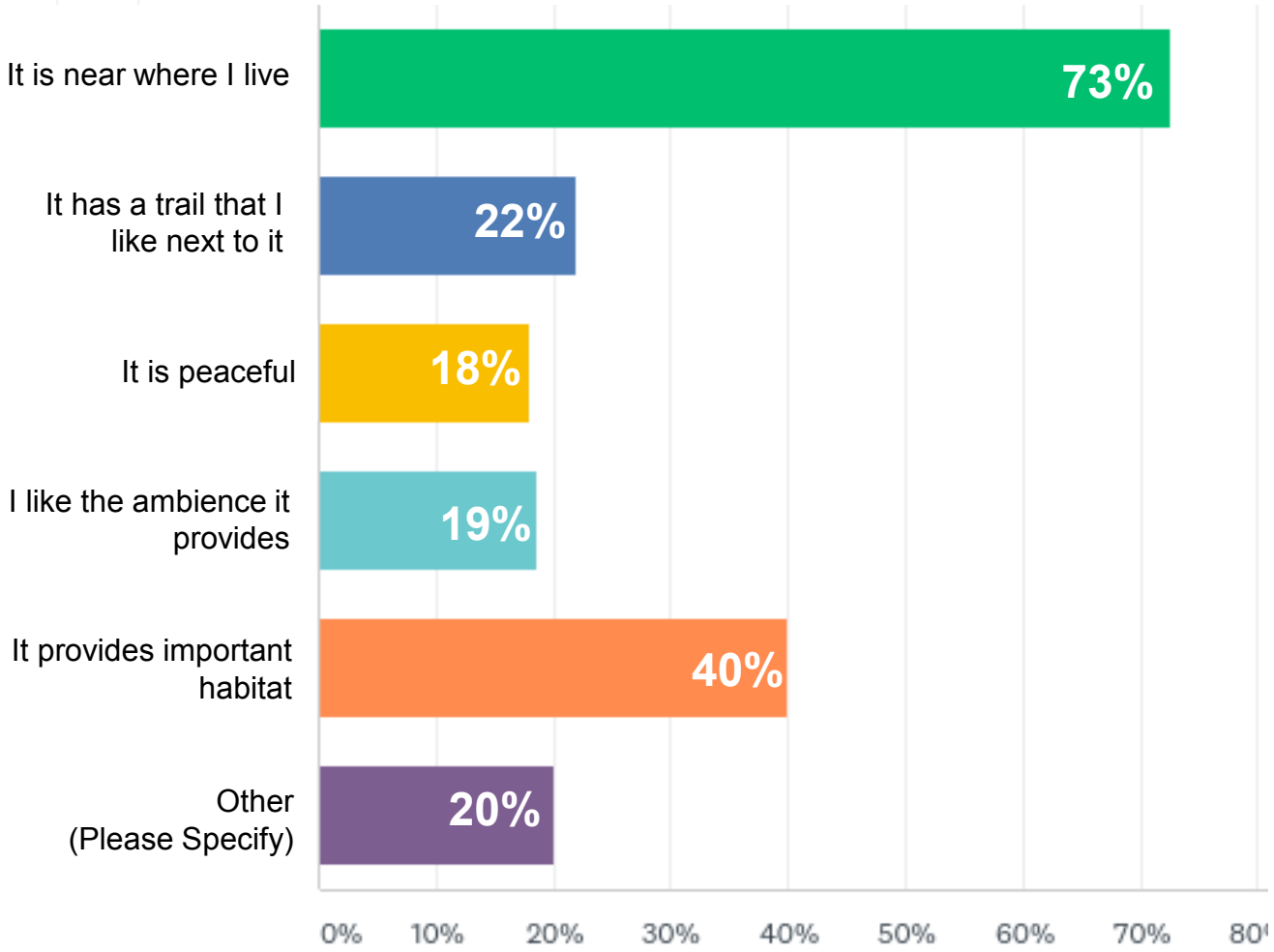
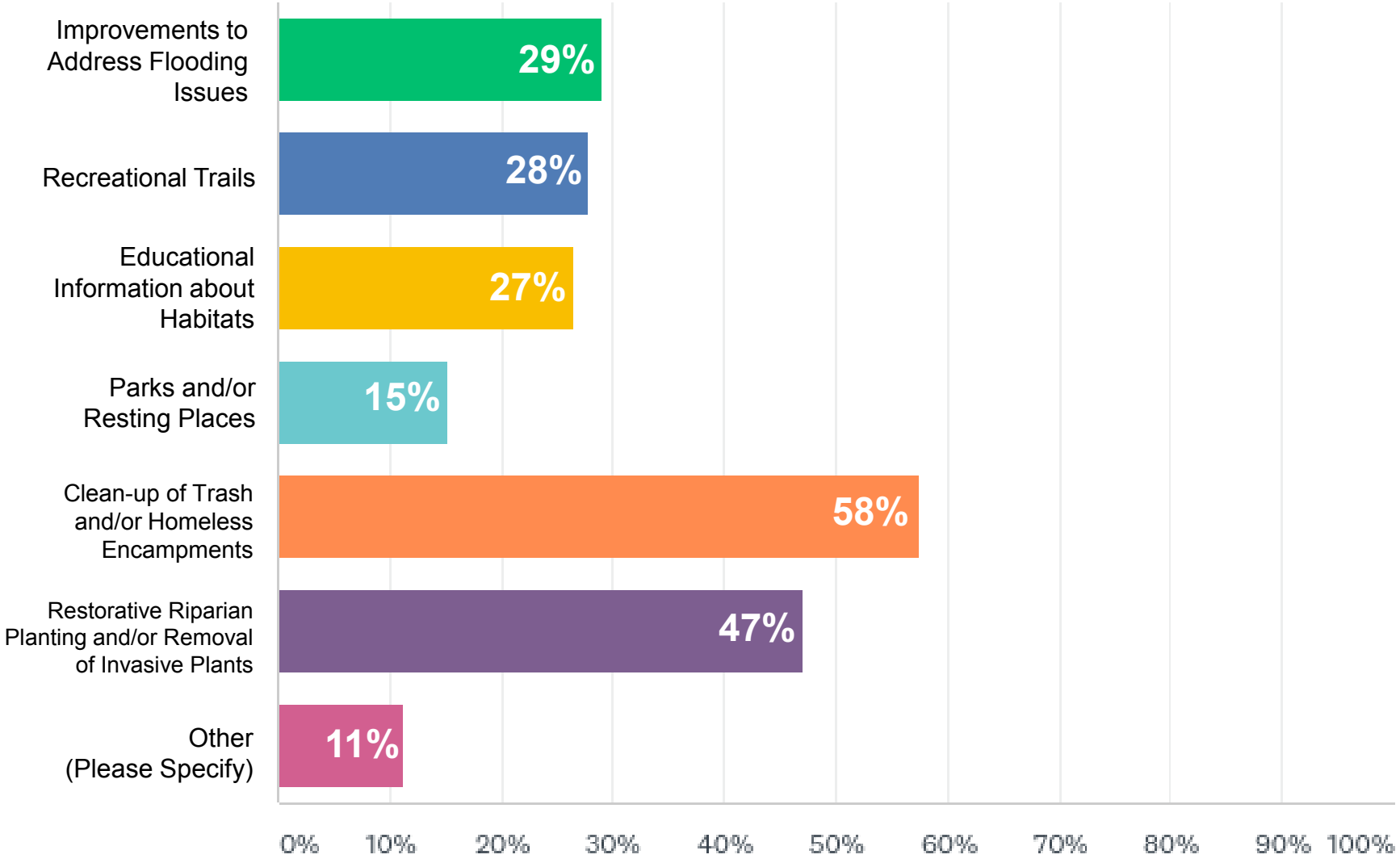


Which Creek Most Important and Why?





Creeks - What is Most Needed?



Policy and Regulatory Background

- Overlapping Regulation (federal, state, and local)
- General Plan
  - Conservation Element Policy 2 (Protection of Creeks and Riparian Areas)
  - Safety Element Policies 5 (Soil and Slope Stability Hazards) and 6 (Flood Hazards)
- New Zoning Ordinance and other City regulations
- Other Management and Master Plans
- Existing Capital Improvement Program (CIP) Projects

Methods: Biological Resources

- Approx. 660 acres survey area
- Vegetation/Land Cover Types
- Creek characteristics, such as:
  - Riffles, pools, runs
  - % canopy cover
  - % substrate embeddedness
  - Substrate/soil composition
  - Non-native invasive species
  - Abundances of instream habitat components (e.g., filamentous algae, emergent vegetation, woody debris, live tree roots, artificial structures, undercut banks, etc.)
  - Understory density and structure


San Jose Creek

- Suitability for plants, benthic macroinvertebrates, invertebrates, fish, amphibian, reptiles, birds, and mammals (including special-status species)

Results: Biological Resources

- Example: Maria Ygnacio
- Primarily CLOW-AW; CLOW
- Creek characteristics, such as:
  - 14 separate riffles, 8 pools
  - Well-shaded creek canopy cover (98%)
  - 0-80%, average 40% embeddedness
  - Sandy; medium loam under the top soil and medium to very fine, sandy loam along the banks
  - Arundo, cape ivy
  - Complex instream habitat components (e.g., emergent vegetation, woody debris, live tree roots, artificial structures, undercut banks)
  - Understory density and structure
  - Variety of common and special-status wildlife

Results: Biological Resources

- Example: Las Vegas
- Primarily CLOW-AW
- Creek characteristics, such as:
  - No particular riffles or pools
  - Well-shaded south of Shirrel Way
  - Narrow sandy channel
  - Few non-native, invasive species
  - Complexity instream habitat components (e.g., emergent vegetation, boulders, woody debris, live tree roots, artificial structures, undercut banks)
  - More open understory
  - Variety of common species; some possibility for special-status wildlife

Next Steps

- Spring/Summer 2020 (pending contract amendment)
  - Wildlife Corridor and Riparian Bird Studies
  - Purpose: Understand use wildlife corridor, primarily mammals and birds; more fully assessing habitat suitability/potential

Methods: Geomorphic Conditions

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Watershed-scale:

- Geology
- Hydrology
- Wildfire

City-scale:

- Geography
- Historical aerial photographs

Site-scale:

- Field sheets and photos
- Summary of geomorphic impairments

Summary of watershed precipitation and estimated flow by return interval.

Watershed	Mean Annual Precipitation (MAP, inches)	2-year flow (cfs)	10-year flow (cfs)	25-year flow (cfs)	100-year flow (cfs)	Maximum Elevation (ft)
Tecolote Creek	24.1	129	782	1,360	2,470	1,363
Bell Canyon[1]	21.9	125	744	1,260	2,260	3,079
Winchester Canyon[2]	19.4	48	237	367	587	1,840
Ellwood Canyon[3]	23.8	96	554	939	1,660	--
Devereaux Creek	16.7	36	164	241	364	163
El Encanto Creek	17.0	38	177	262	400	561
Glen Annie Creek	20.5	109	622	1,030	1,800	3,078
Los Carneros Creek	20.8	87	480	786	1,340	2,946
San Pedro Creek	21.4	98	555	922	1,600	2,854
Las Vegas Creek	17.8	57	284	436	696	992
Old San Jose Creek	16.8	13	52	72	100	--
San Jose Creek	22.9	162	1,010	1,760	3,240	3,081
Maria Ygnacio Creek	24.2	208	1,370	2,460	4,690	3,719

Notes:

[1] Bell Canyon MAP and flows include the areas of Winchester Canyon and Ellwood Canyon.

[2] Winchester Canyon is a tributary of Bell Canyon.

[3] Ellwood Canyon is a tributary to Bell Canyon.

Results: Geomorphic Conditions

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Summary of geomorphic impairments, by watershed, for segments of creeks within the Goleta city limits.

Watershed	Concrete-lined channel[1]	Fence revetment[2]	Bank protection structures[3]	Altered channel alignment[4]	High sedimentation[5]	Sediment transport barriers[6]	Knickpoints[7]	Relict incised condition[8]	Active bed incision (recent)[9]	Active bank erosion[10]	Constrained floodplain[11]	Lack of bank-top vegetation[12]
Tecolote Creek	--	--	--	--	--	yes	--	yes	--	--	--	--
Bell Canyon	--	--	--	--	--	yes	--	yes	--	--	--	--
Winchester Canyon	--	--	at crossings	--	--	yes	some	yes	--	--	yes	--
Ellwood Canyon	--	--	--	--	--	--	--	yes	--	--	yes	--
Devereaux Creek	--	--	at crossings	--	--	yes	--	--	--	--	--	portions through golf course
El Encanto Creek	long portions	present	at crossings	--	--	--	--	yes	--	--	yes	small portions
Glen Annie Creek	long portions	--	at crossings	--	--	--	yes	yes	--	--	yes	--
Los Carneros Creek	long portions	--	at crossings	--	--	--	yes	yes	--	--	yes	--
San Pedro Creek	long portions	prevalent	at crossings	--	yes	--	yes	yes	--	--	yes	--
Las Vegas Creek	long portions	prevalent	at crossings	portions	yes	--	yes	yes	--	--	yes	small portions on one side
Old San Jose Creek	--	--	at crossings	lower segment	--	yes	--	yes	--	--	yes	--
San Jose Creek	long portions	prevalent	at crossings	lower segment	yes	--	yes	yes	--	present	yes	--
Maria Ygnacio Creek	short portions	present	at crossings	--	yes	--	yes	yes	--	--	yes	--

Notes:

[1] Does not include culverts under roads

[2] Constructed in the mid-1900's, presumably for bank erosion protection or flood control

[3] Bank protection structures that significantly impinge on in-channel gemorphology, typically at road crossings in between natural channel banks and concrete culverts

[4] Watersheds where long sections of creek have been moved or diverted to a different location; does not include sections that have been straigtened but maintain the same general alignment; we generally used aerial photographs from the 1920's as the earliest reference data for this assessment

[5] Where some portion of the creek appears to have depositional zones with more sediment than would be expected; potentially supplied by upstream processes

[6] Undersized culverts or other disruptions in channel continuity that may block sediment transport in natural flows

[7] In Goleta, generally a localized condition, often located downstream of concrete aprons associated with road culverts

[8] Historical incision over the past 100 years or so; different than active (current) incision mechanisms

[9] Bed incision, or downcutting, that is more widespread through the creek than knickpoints are

[10] Bank erosion generally located on the outer edge of a bend in the channel

[11] Bed incision, channelization, and concrete-line channels are examples of channels that are constrained from flowing onto adjacent floodplain space

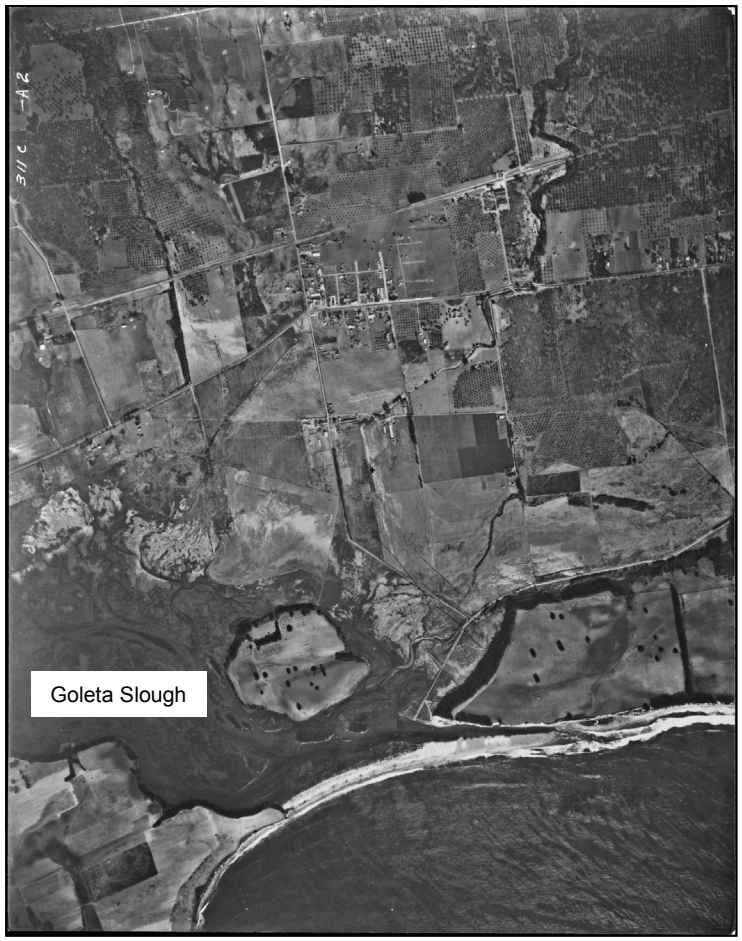
[12] Riparian corridors supply shade, temperature modulation, and organic materials to channels, enhancing in-stream and near-stream habitat for aquatic and terrestrial species

San Jose Creek

Glen Annie Creek

Devereux Creek

Results: Geomorphic Conditions



San Jose Creek, 1927

Old San Jose Creek alignment, 1944

San Jose Creek flood control alignment, 1965

San Jose Creek, 2018

Next Steps

Collate Field Sheets into Appendices

- Resource of visited reach details

Begin Project Description Sheets

- Possible management or restoration approaches at specific locations

Hydrology and Water Quality:
Watershed Land Use Analysis

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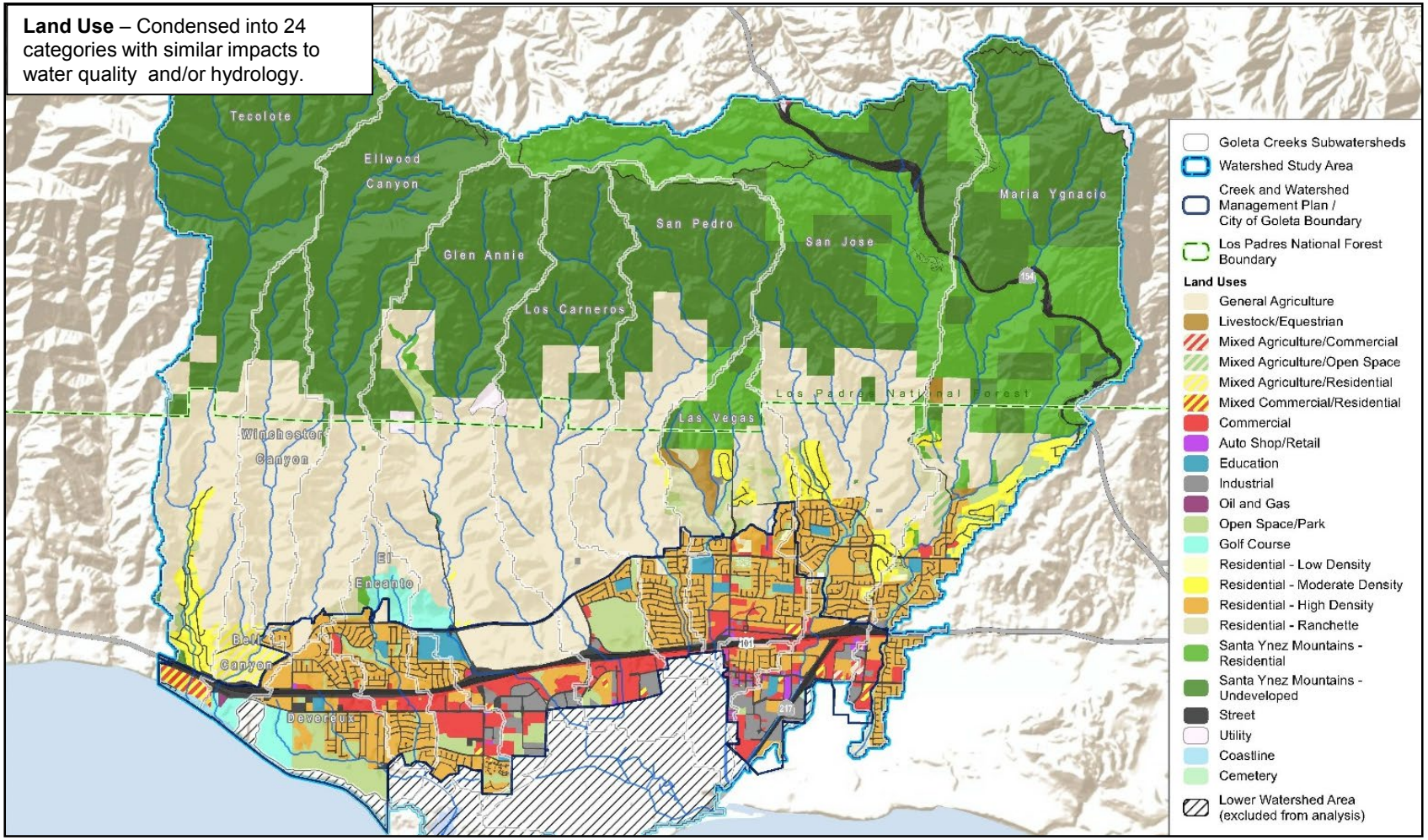
Land Use – Condensed into 24 categories with similar impacts to water quality and/or hydrology.



Source: City of Goleta General Plan/Coastal Plan and County of Santa Barbara Office of the Assessor Digital Parcel Database, Closed Roll 2019 – MODIFIED based on review of aerial imagery with conflicting land use designation

Dominant Land Uses and Associated Pollutants

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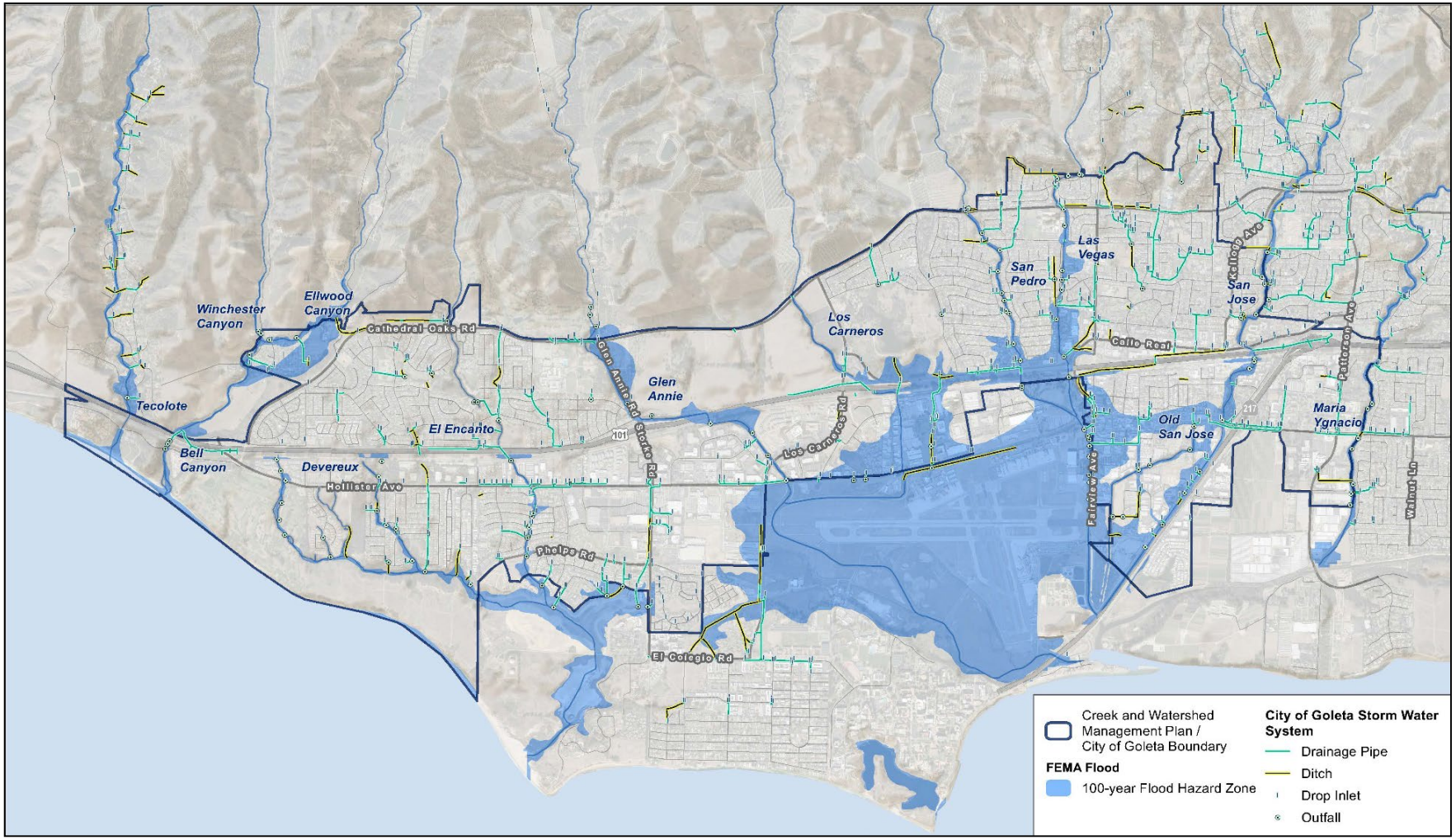
City Limits

- High-Density Residential (32%) – **nutrients** (nitrogen/phosphorus/bio-stimulatory substances) from fertilizers, wastewater, pet waste; **bacteria** from pet waste; **trash**; **oil and grease**; **metals**; **hydromodification** (e.g., increased runoff from rainfall events leading to flooding and/or increased channel scouring)
- Commercial/Industrial (23%) – **oil and grease**; **metals**; **trash**; **hydromodification**
- Streets (21%) – **oil and grease**; **metals**; **trash**; **hydromodification**
- Open Space/Park/Golf Course (14%) – **sediment**; **nutrients**; **bacteria**
- Agriculture (7%) – **nutrients**; **bacteria**; **sediment**

Contributing Watershed

- Undeveloped (44%) – **sediment**; **bacteria** from wildlife; **dissolved solids** from local geology
- Agriculture (30%) – **nutrients**; **bacteria**; **sediment**
- Low-Density Residential (15%) – **sediment** from unimproved access roads; **nutrients**; **bacteria**; **trash**; **hydromodification**

Hydrology and Water Quality: Stormwater & Flooding



Source: FEMA 2017

Next Steps

- Consider Impacts and Management Actions
- City reviewing interim draft CWMP baseline characterizations
- TAC meeting
- Potential wildlife corridor and riparian bird studies

Group Sessions

Goal:

- Provide you with an opportunity to sit down with the specialists to discuss topics in more detail.
- Listen to you! Get your feedback – questions, concerns, and thoughts.
- Table Questions – Report Out (Group).

Method:

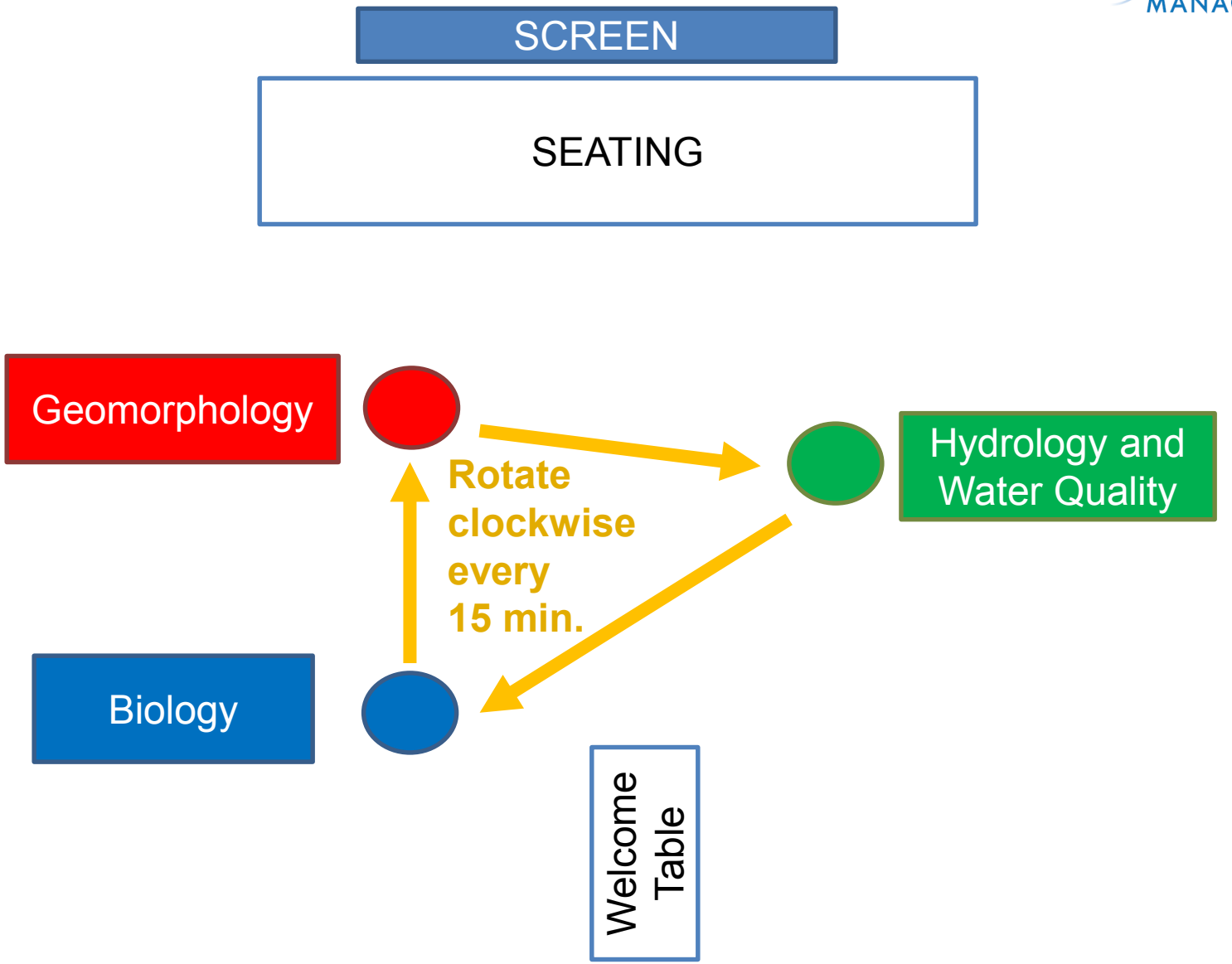
- What color is your sticker?

 = Start at the **Biology** table.

 = Start at the **Geomorphology** table.

 = Start at the **Hydrology and Water Quality** table.

Group Sessions



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Report Out
and
Closing Comments

Thank you for Participating!

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