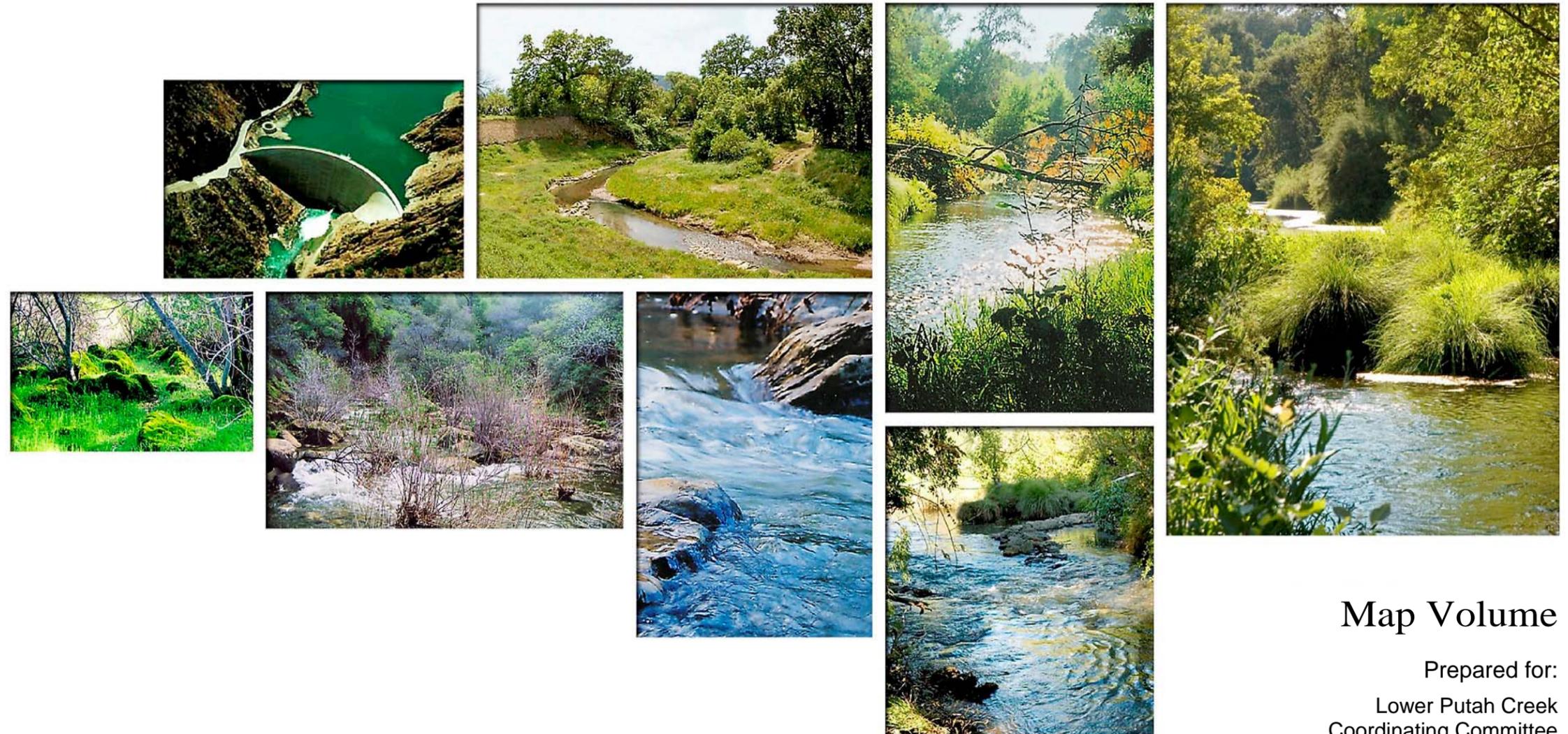


Lower Putah Creek Watershed Management Action Plan Phase I – Resource Assessment



Map Volume

Prepared for:
Lower Putah Creek
Coordinating Committee

Contact:
Rich Marovich
Putah Creek Streamkeeper

December 2005



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PART 1: Putah Creek Riparian Vegetation Coverage

PART 2: Resource Assessment Maps

PART 1 – PUTAH CREEK RIPARIAN VEGETATION COVERAGE

The draft riparian vegetation map set for lower Putah Creek was developed by the Chico Geographic Information Center (GIC), California State University-Chico (GIC 2000). It was part of a California Bay-Delta Authority-funded Sacramento River Riparian Mapping Project developed to inventory and map riparian lands along the Sacramento River and its major tributaries. Riparian vegetation types were delineated from aerial interpretation of infrared photographs and are shown by reach. Reaches 1-6 cover lower Putah Creek from the Los Rios check dam at the Yolo Bypass continuing upstream to Monticello Dam. The vegetation types had not been field verified throughout the mapped area and are not entirely reflective of the actual vegetation types. However, the information provides an overview of vegetation communities that serves as a starting point for further analysis and resource management planning.

DESCRIPTION OF RIPARIAN CATEGORIES

- BS Blackberry Scrub. ≤ 80% coverage by blackberry vegetation.
- CF Great Valley Cottonwood Riparian Forest. ≤ 80% Cottonwood by canopy cover - One year old or greater. CF represents the earliest successional sere. These forests are dominated by cottonwood (*Populus fremontii*) and one or more tree willows (*Salix gooddnightii*, *S. laevigata*, and *S. lasiandra* are most common) California Grape (*Vitis californica*) is the only conspicuous vine.
- EUC Eucalyptus (*Eucalyptus* spp.). Found in fairly monospecific stands (one species only) on heavily modified banks. Eucalyptus tends to shade out competitors. NOTE: 1998 coverages only.
- GR Giant Reed (*Arundo donax*). Grass < 8 meters. A very invasive plant that reduces and replaces native species. NOTE: 1998 coverages only.
- HL Herbland Cover. Composed of annual and perennial grasses and forbs. Must be enclosed by riparian vegetation or the stream channel.
- M Valley Freshwater Marsh. Valley freshwater marshes are dominated by perennial emergent monocots. Coverage may be very high, approaching 100%. Cattails (*Typha* spp.) or tule (*Scripus* spp.) usually are the dominants, often forming monotonous swards that are sparingly punctuated with additional taxa such as sedges (*Carex* spp.), cane (*Phragmites australis*), or blue vervain (*Verbena hastata*).
- MF Great Valley Mixed Riparian Forest. In this unit neither willows nor cottonwoods dominate - also contains a mixture of more upland, later successional species that may

include valley oak (*Quercus lobata*) at less than 60% canopy coverage, black walnut (*Juglans* spp.), ash (*Fraxinus latifolia*), tree of heaven (*Ailanthus altissima*), and sycamore (*Platanus racemosa*).

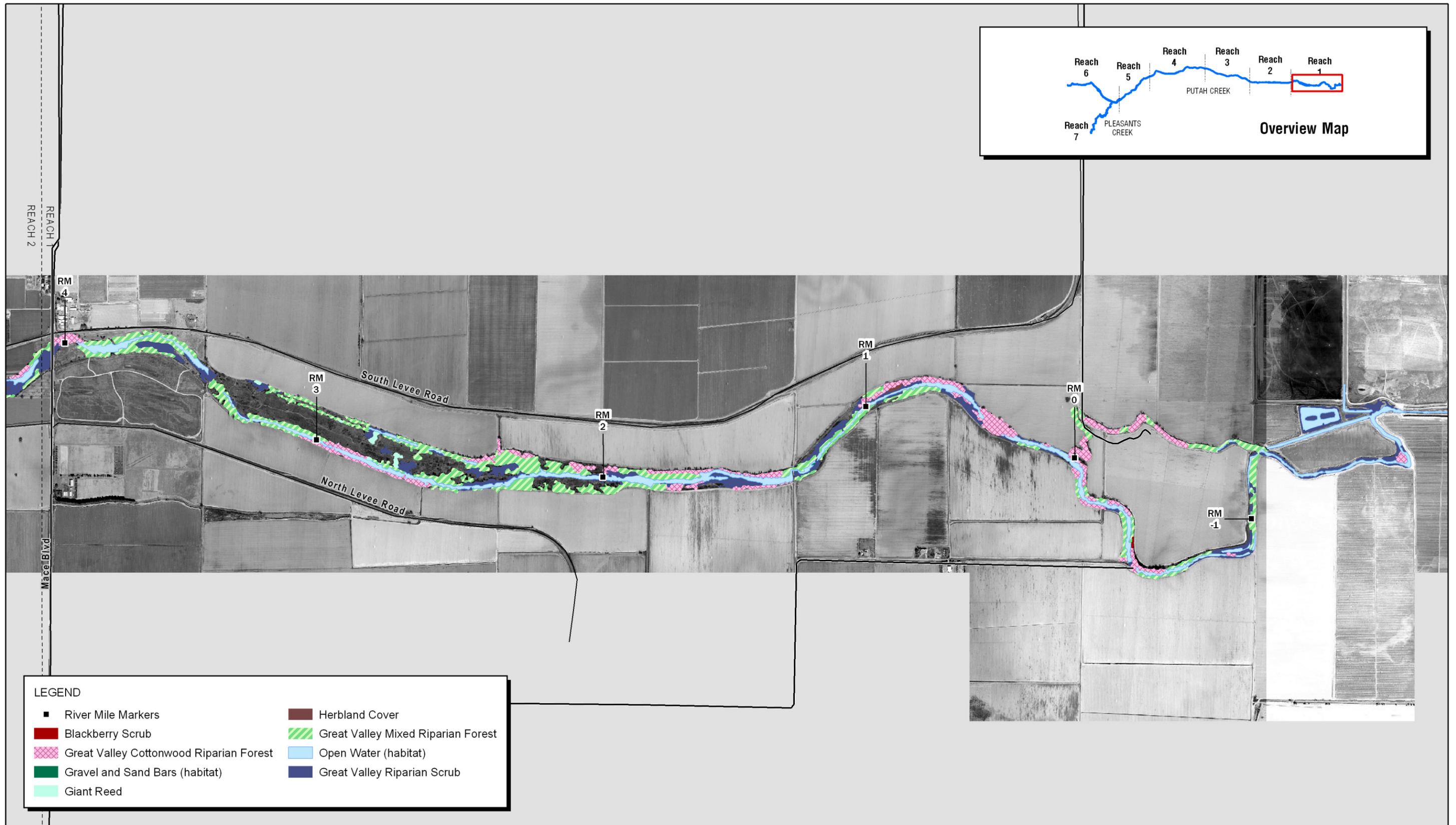
- NL No label. In some of our older maps we used NL to depict non-riparian areas surrounded by riparian types. It was a way to show that the label was not missed. It has been dropped in recent coverages, however.
- RS Great Valley Riparian Scrub. Young primary succession.
- TAM Tamarisk. "Saltcedar" (*Tamarix chinensis*). Invasive shrub found in open areas along the river. Originally introduced as an ornamental and for erosion control, Tamarisk has become an undesirable weed. Plants spread by seed and cuttings and grow rapidly. NOTE: 1998 coverages only.
- VO Valley Oak (*Quercus lobata*) \leq 60% canopy cover - must be contiguous or have longest axis greater than the distance from riparian vegetation.

Habitat Types:

- D Disturbed. This unit identifies areas that are undergoing major disturbances and are now either completely devoid of riparian vegetation or contain only small remnants of it.
- DR Disturbed Riparian. This unit identifies a past disturbance, primarily dredge tailings with cottonwoods (*Populus fremontii*) the dominant species and other riparian vegetation types having established since the disturbance.
- G Gravel and Sand Bars. These appear as open, unvegetated areas in air photos, but ground truthing reveals several annual and short-lived perennial species of sun-loving herbs, grasses, and suffrutescent subshrubs. The vegetation coverage is less than 50%.
- OW Open Water. This mapping unit constitutes water, either standing or moving, and does necessarily imply vegetation.

Reference:

- GIC 2000. Sacramento River Riparian Vegetation Coverage Draft. Metadata. Putah Creek – Putah Creek from Monticello Dam to Yolo Bypass, 1998, nominal scale RF = 1:12,000. Datum: NAD 27; Projection: Universal Transverse Mercator (UTM); Source: Color infrared aerial photography. Sacramento River Mapping Project. Geographic Information Center (GIC), California State University-Chico. Chico, California. February.



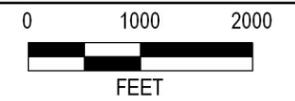
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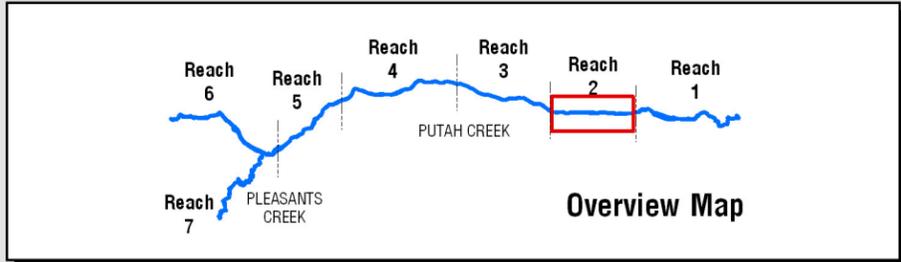
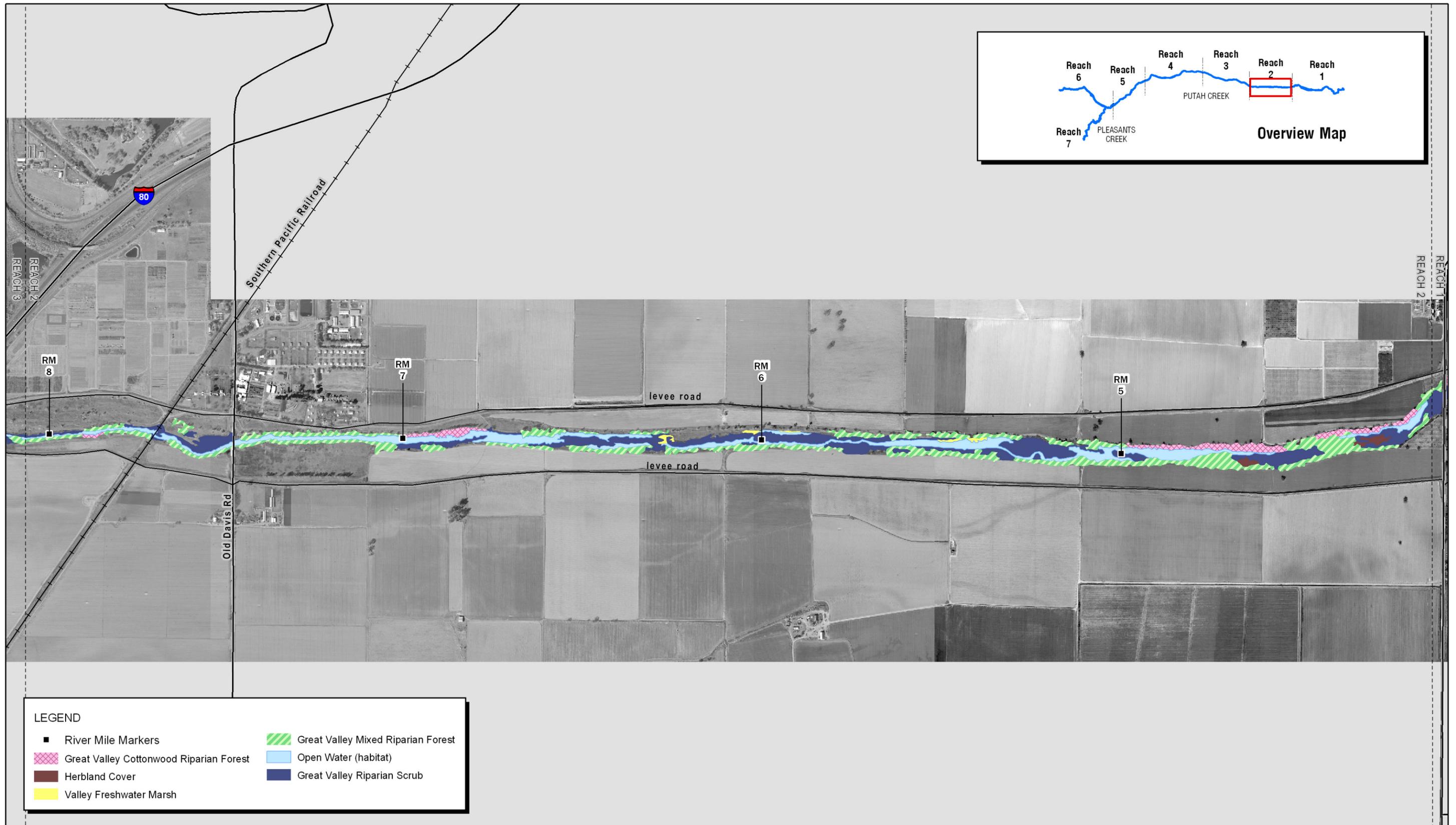
Reach 1 Important Farmlands

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MAP EXHIBIT 1





LEGEND

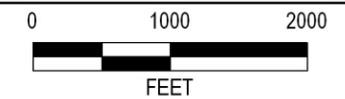
■ River Mile Markers	Green diagonal hatched box: Great Valley Mixed Riparian Forest
Pink cross-hatched box: Great Valley Cottonwood Riparian Forest	Light blue box: Open Water (habitat)
Brown box: Herbland Cover	Dark blue box: Great Valley Riparian Scrub
Yellow box: Valley Freshwater Marsh	

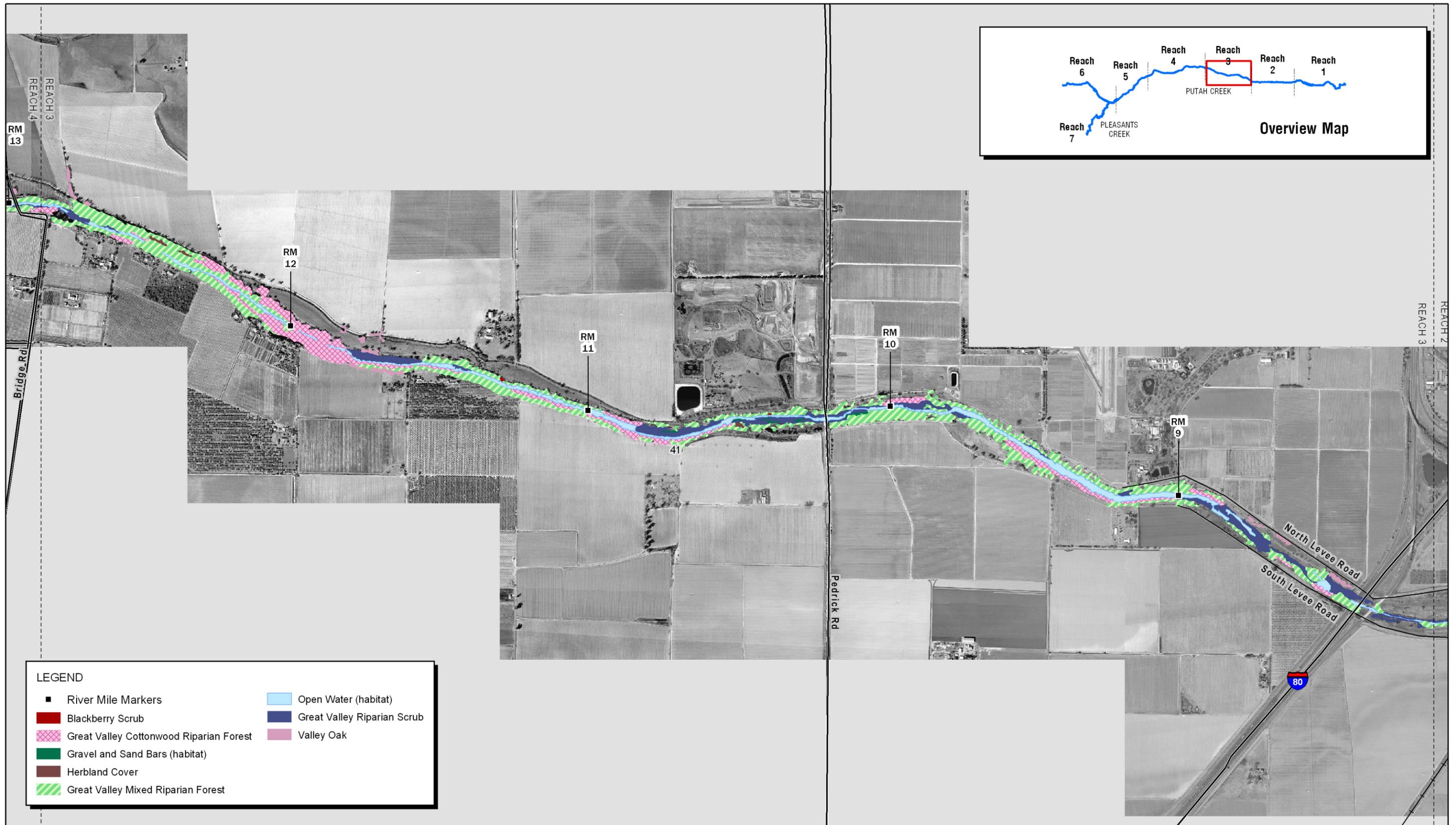
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Reach 2 Vegetation

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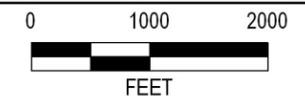


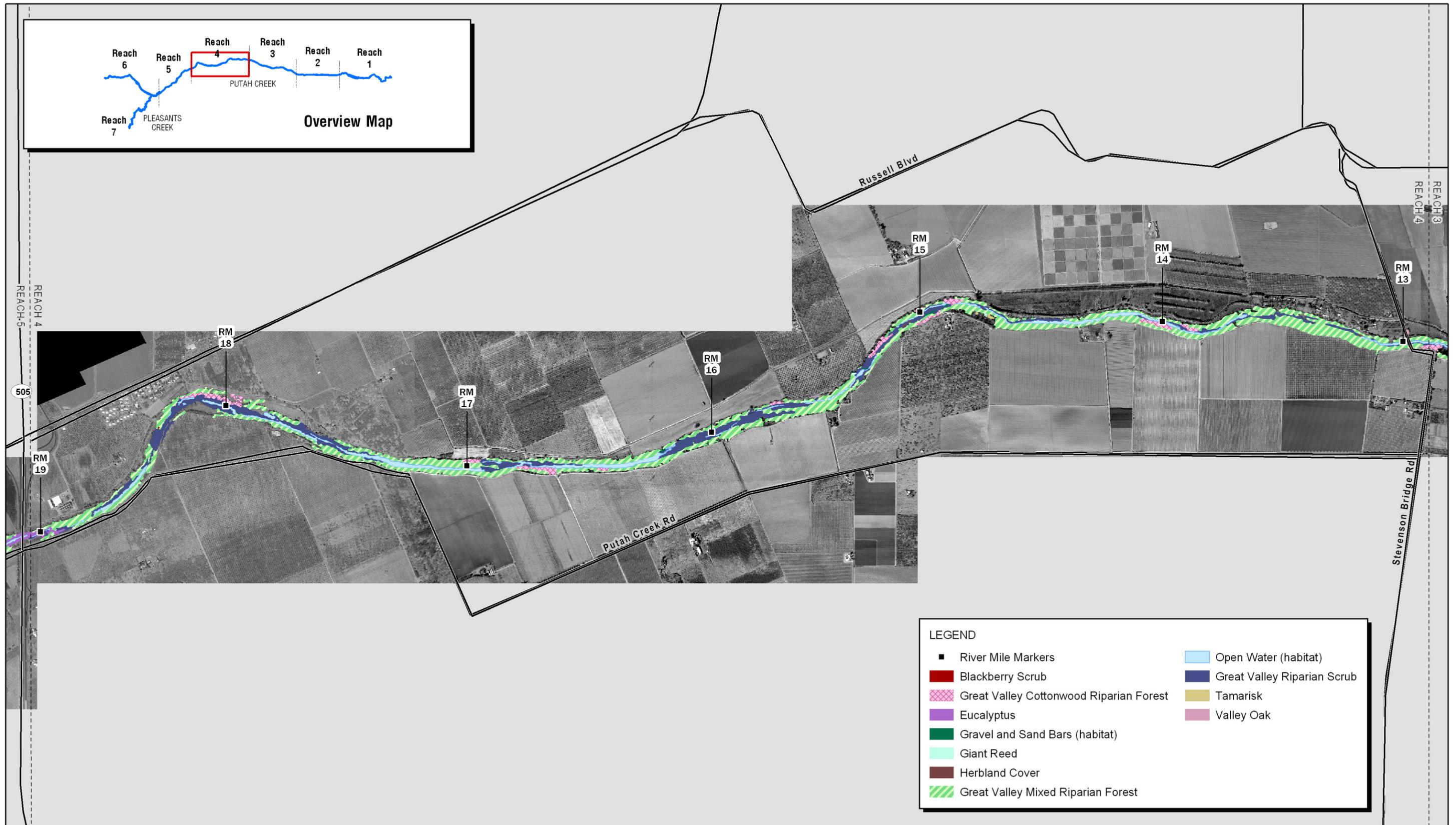
Sources: Image America, March 2001; California State University, Chico, 2000

Reach 3 Important Farmlands

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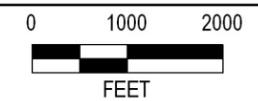


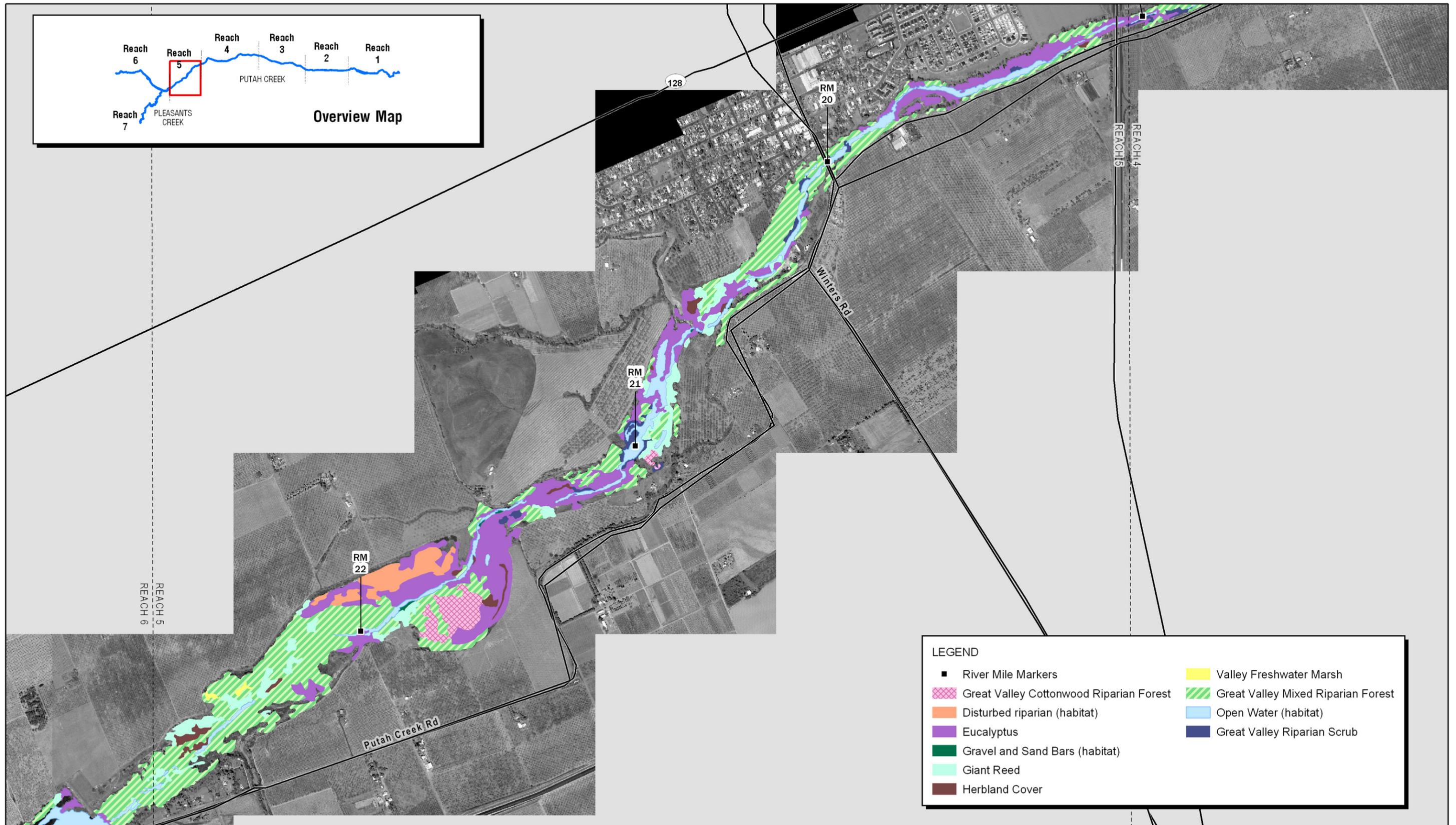
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Reach 4 Vegetation

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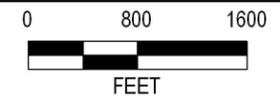


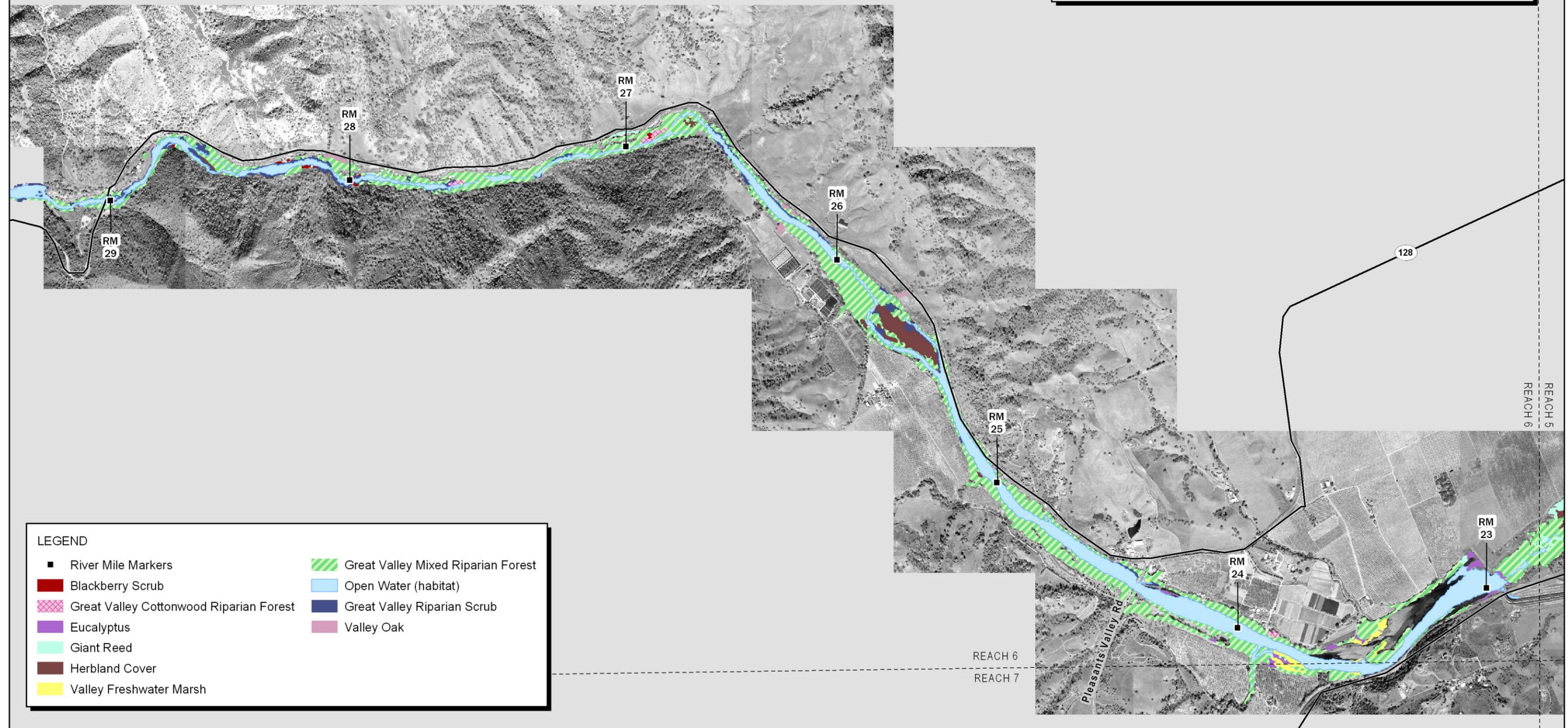
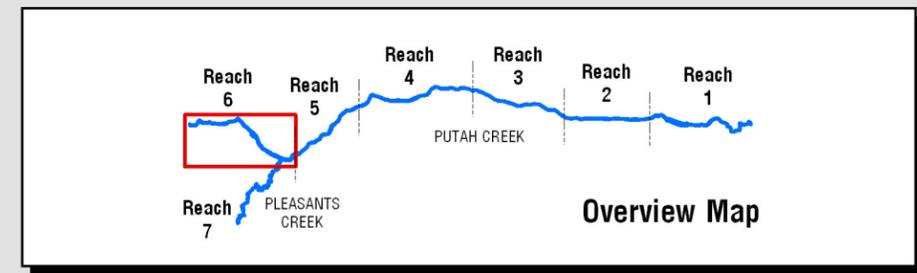
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Reach 5 Vegetation

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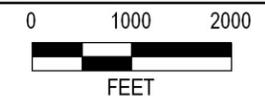
■ River Mile Markers	▨ Great Valley Mixed Riparian Forest
■ Blackberry Scrub	■ Open Water (habitat)
▨ Great Valley Cottonwood Riparian Forest	■ Great Valley Riparian Scrub
■ Eucalyptus	■ Valley Oak
■ Giant Reed	
■ Herbland Cover	
■ Valley Freshwater Marsh	

Sources: Image America, March 2001; California State University, Chico, 2000

Reach 6 Vegetation

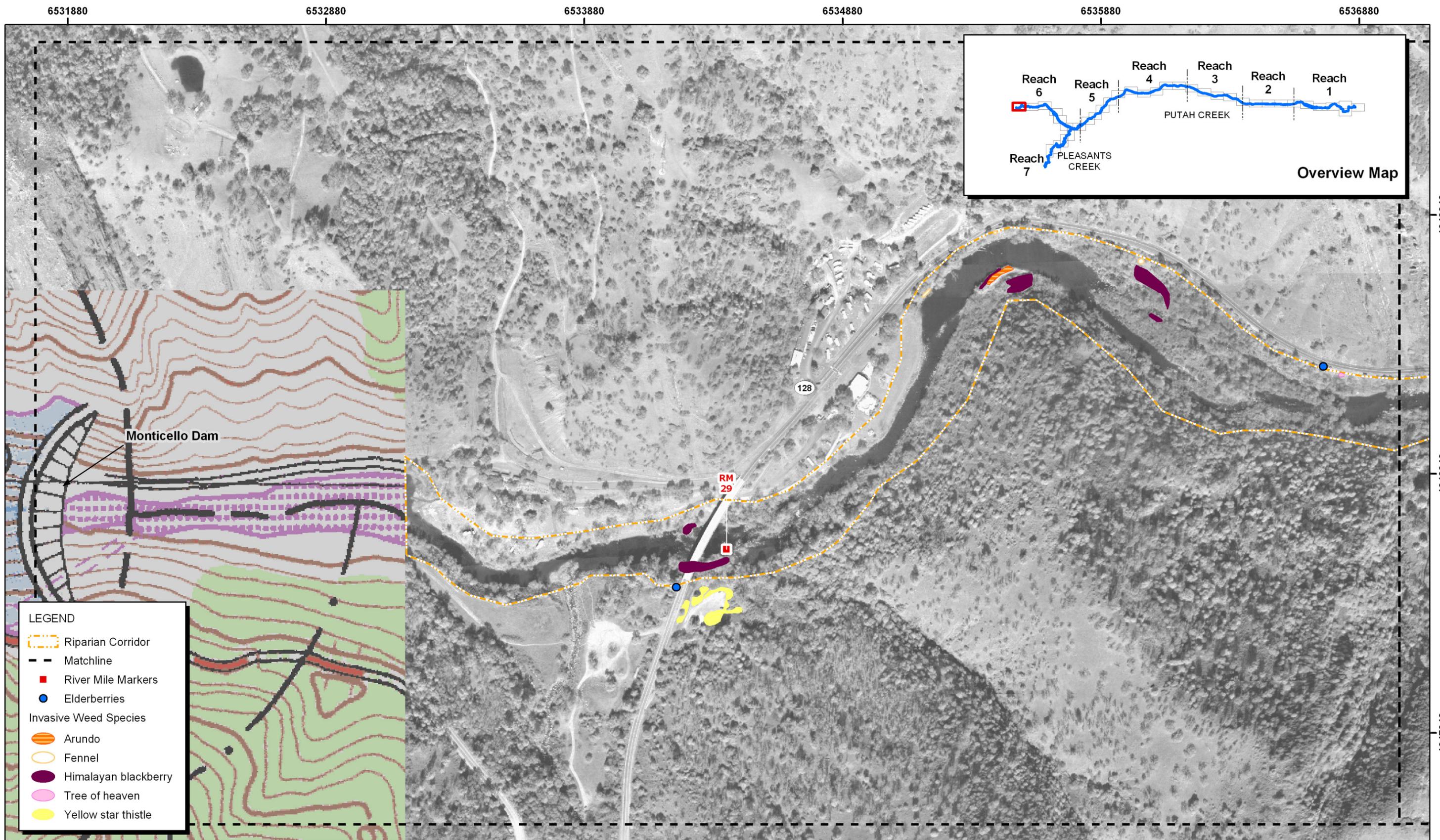
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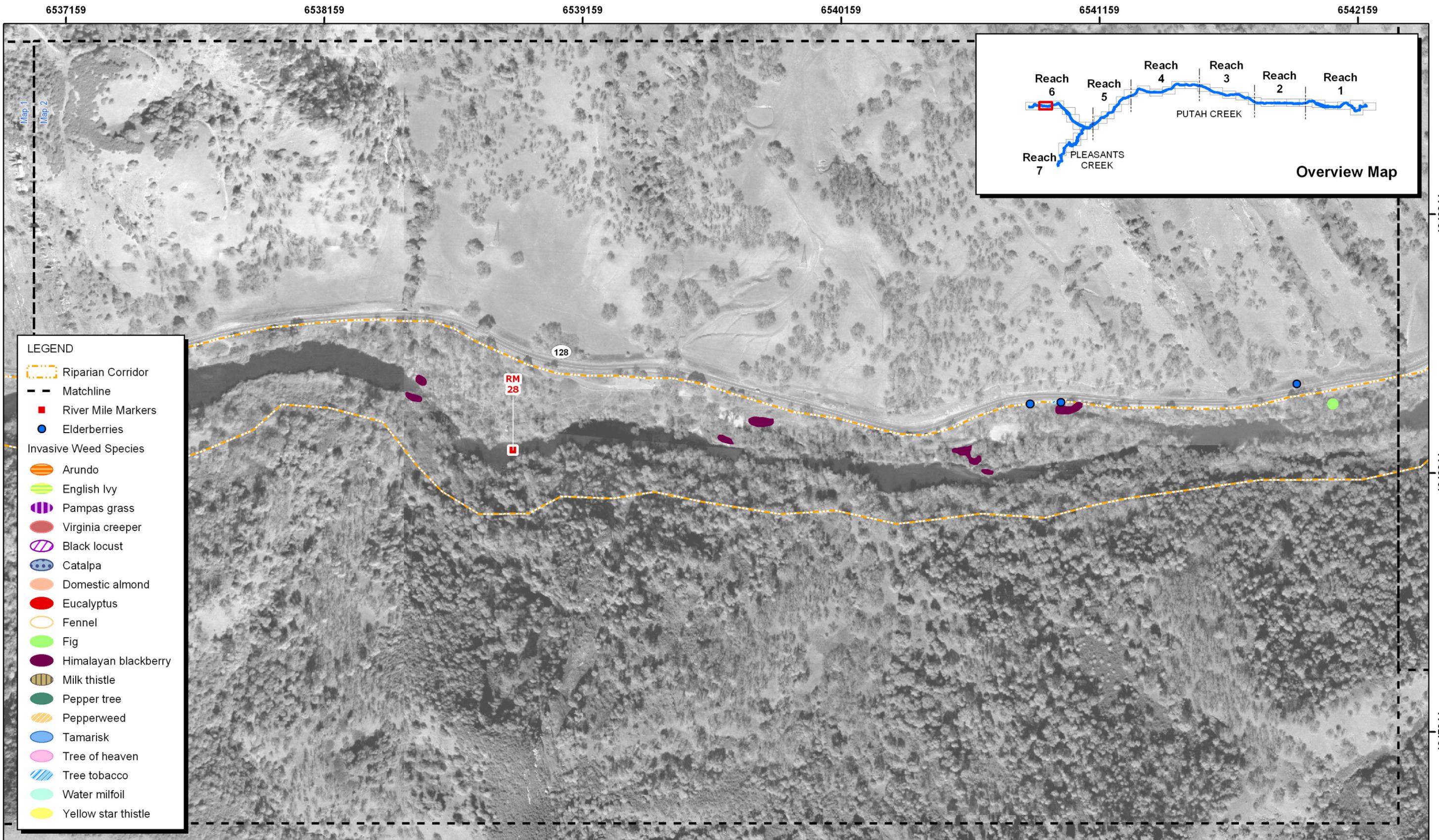
PART 2 – RESOURCE ASSESSMENT MAPS

The resource assessment map set includes 36 maps that provide information on sensitive resources, invasive weeds, trash sites, and erosion sites in the lower Putah Creek riparian corridor study area extending from Monticello Dam to the Yolo Bypass and the lower portion of Pleasants Creek. The information provided was acquired during field surveys conducted in the summer of 2002 and mapped onto color aerial photographs taken in April 2001 and orthophotographs taken in June 2001. The data was subsequently incorporated into geographic information systems (GIS) layers. Chapters 6 and 7 of the Lower Putah Creek Watershed Management Action Plan, Phase I – Resources Assessments contain information on the resource data provided in this map set.



Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

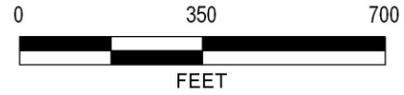
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Sources: Image America, March 2001; EDAW 2002
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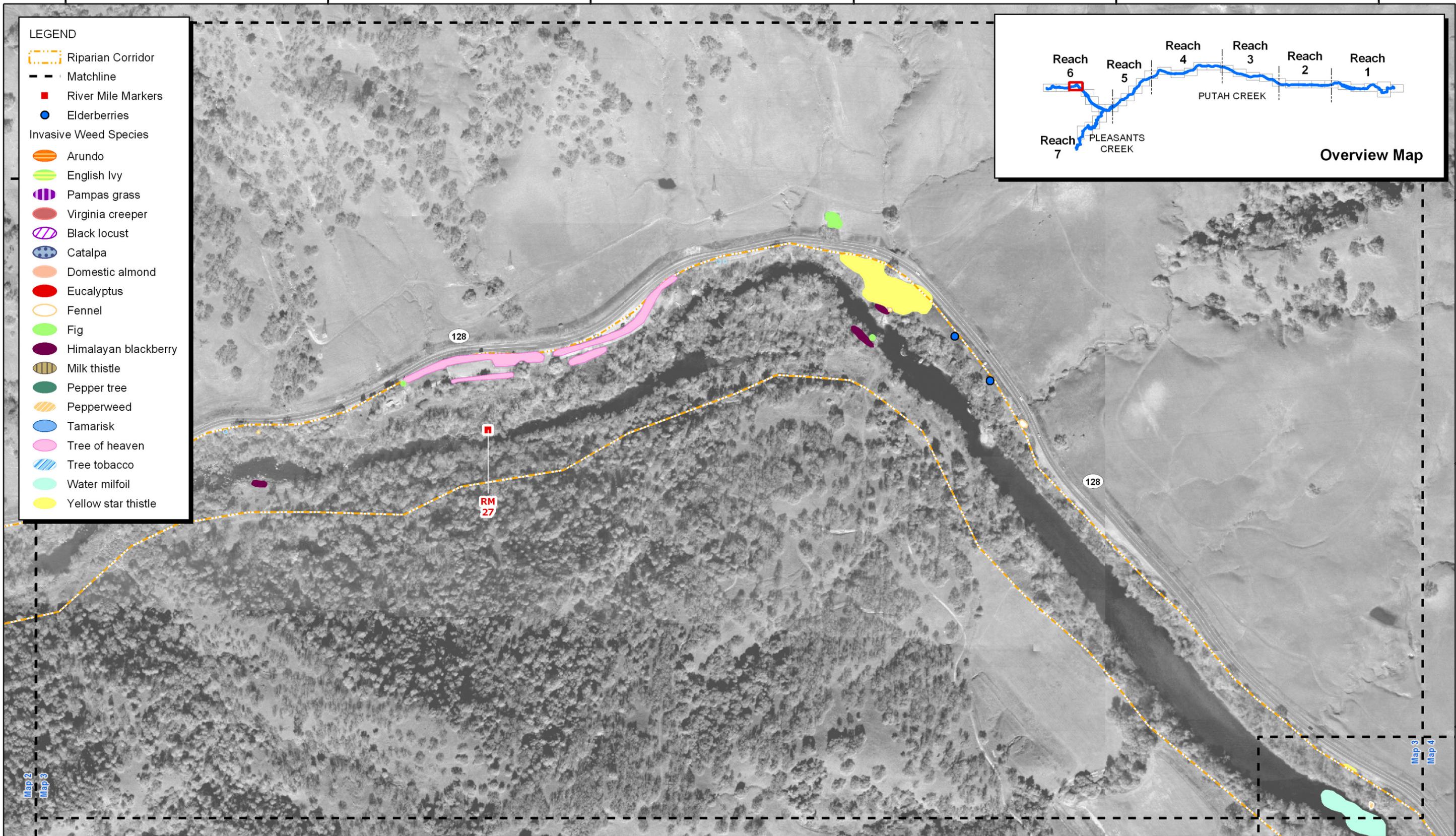
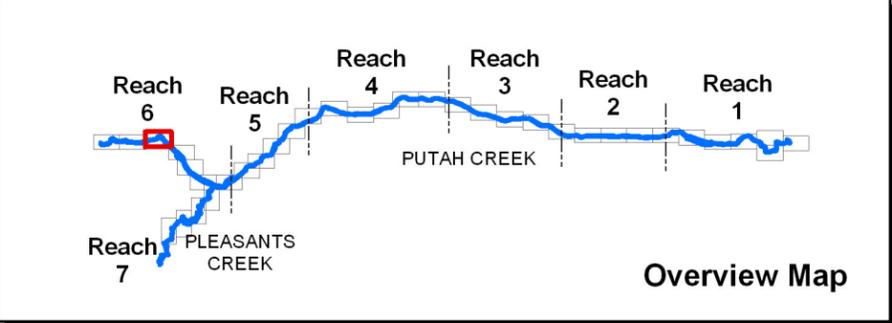
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LEGEND

- Riparian Corridor
- Matchline
- River Mile Markers
- Elderberries
- Invasive Weed Species**
- Arundo
- English Ivy
- Pampas grass
- Virginia creeper
- Black locust
- Catalpa
- Domestic almond
- Eucalyptus
- Fennel
- Fig
- Himalayan blackberry
- Milk thistle
- Pepper tree
- Pepperweed
- Tamarisk
- Tree of heaven
- Tree tobacco
- Water milfoil
- Yellow star thistle



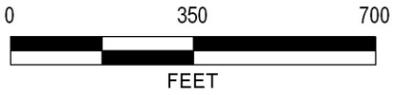
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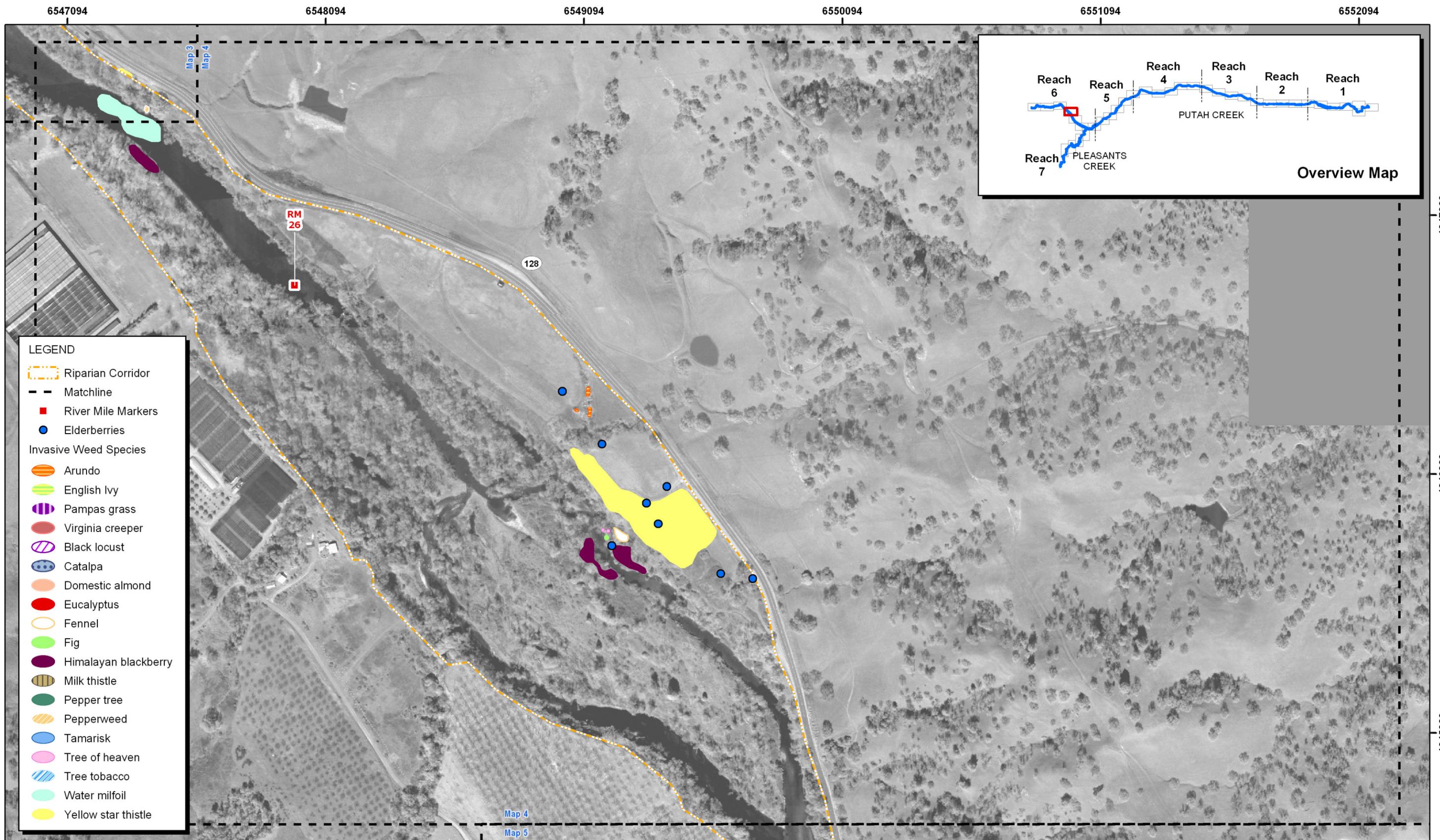
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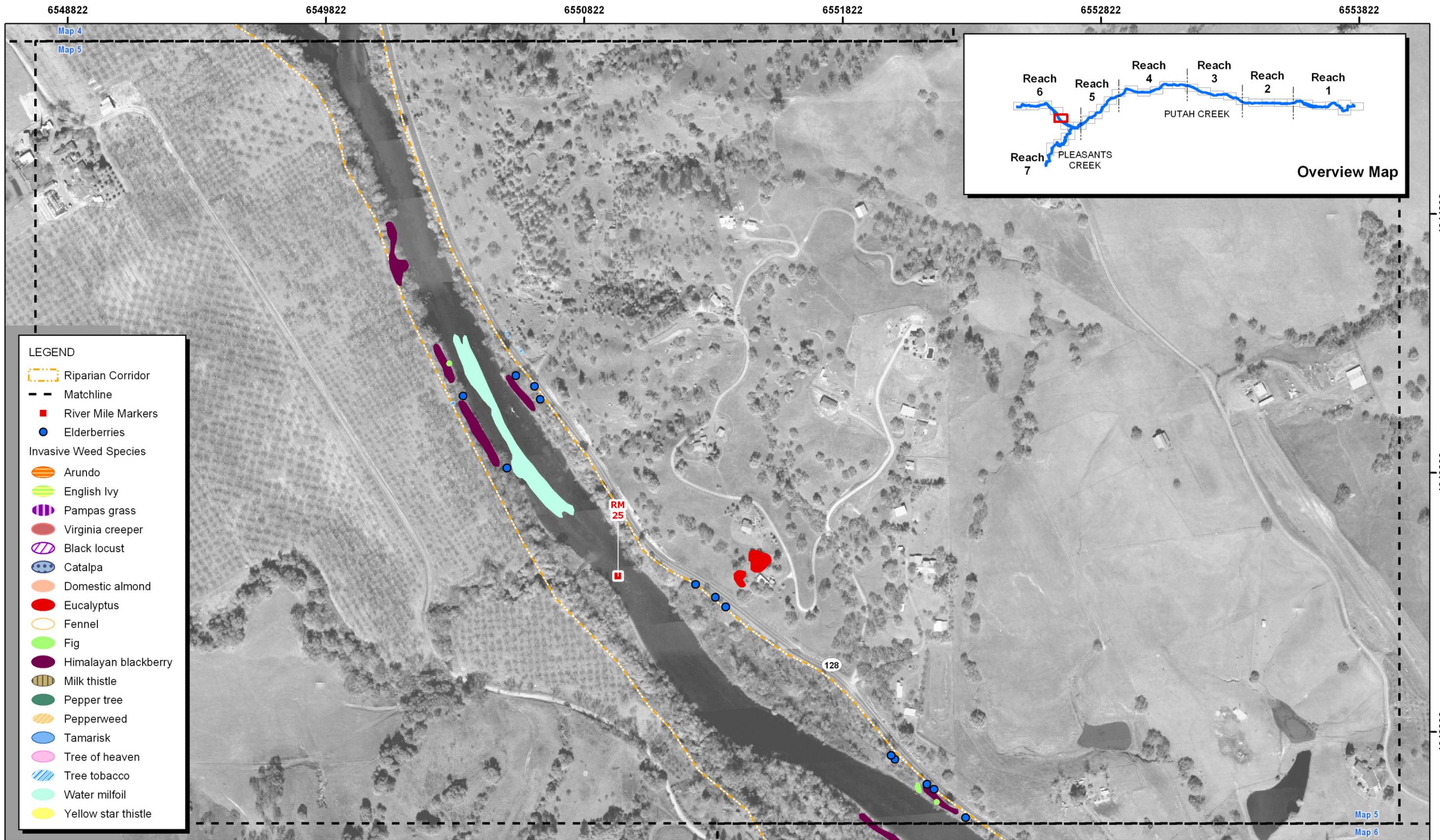
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Sources: Image America, March 2001; EDAW 2002
Coordinate System: California State Plane, region 2, NAD 83 (feet)

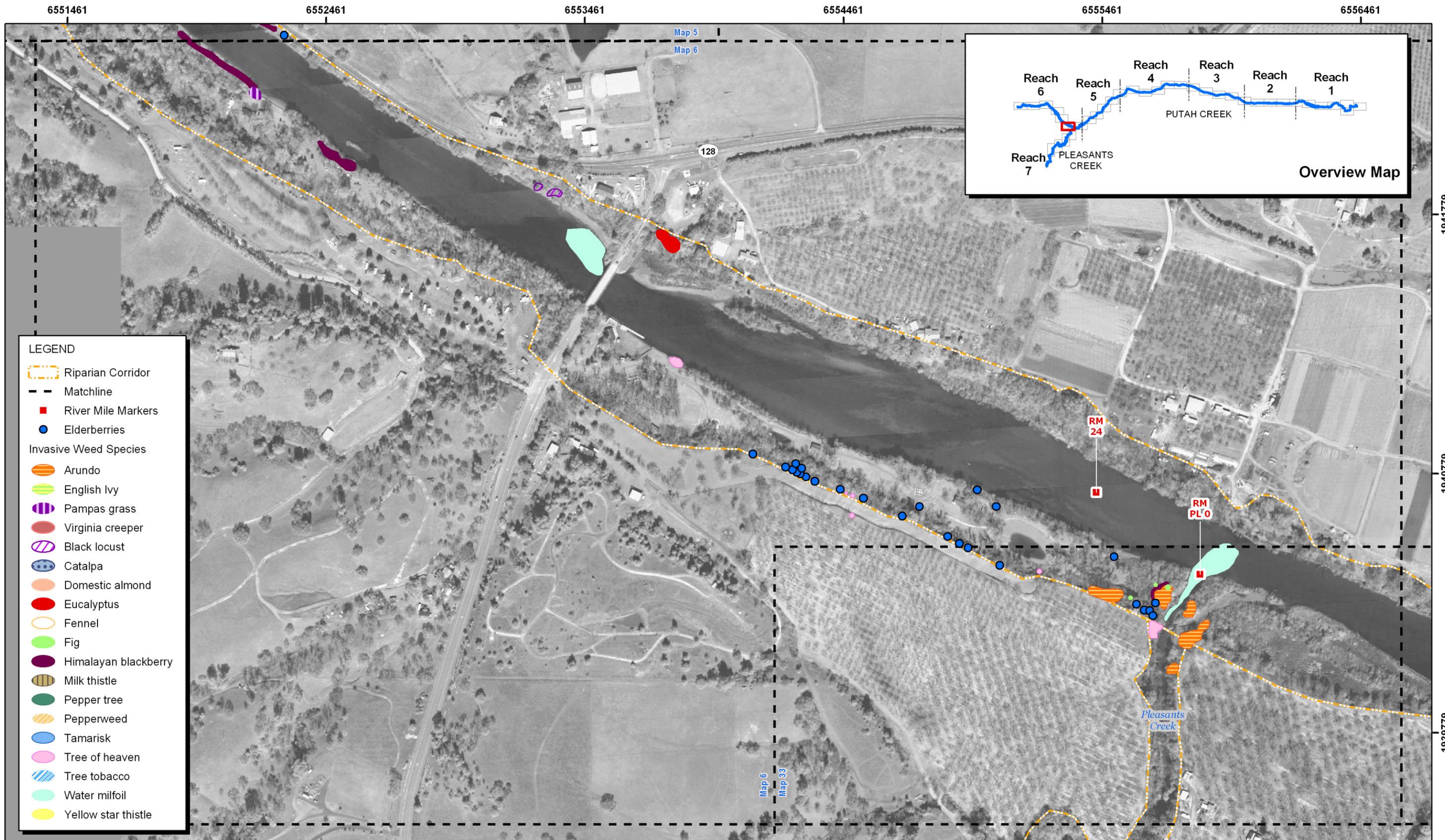
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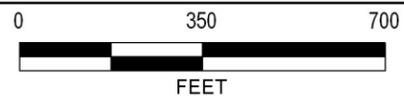
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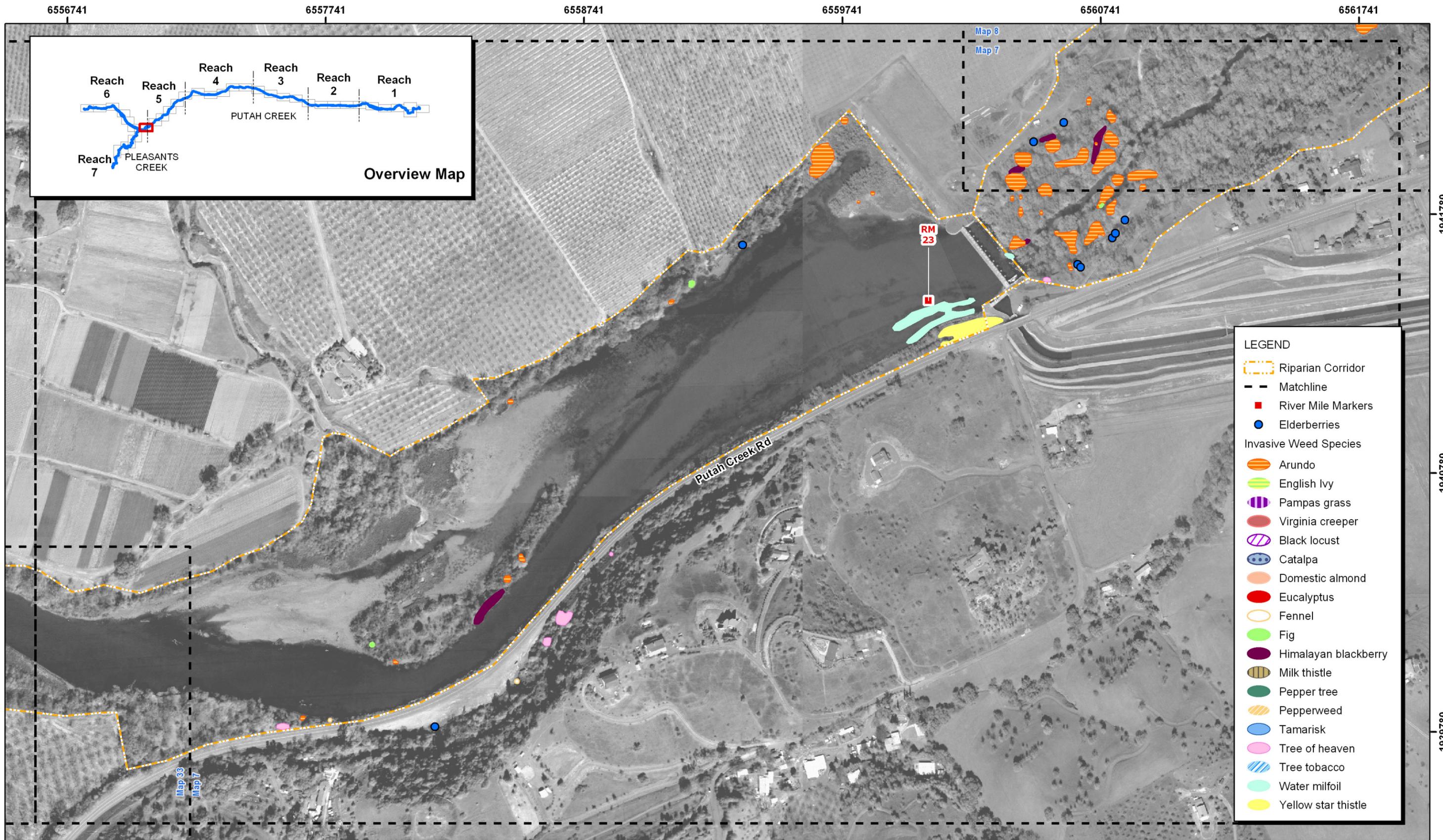


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MAP EXHIBIT R6





Sources: Image America, March 2001; EDAW 2002
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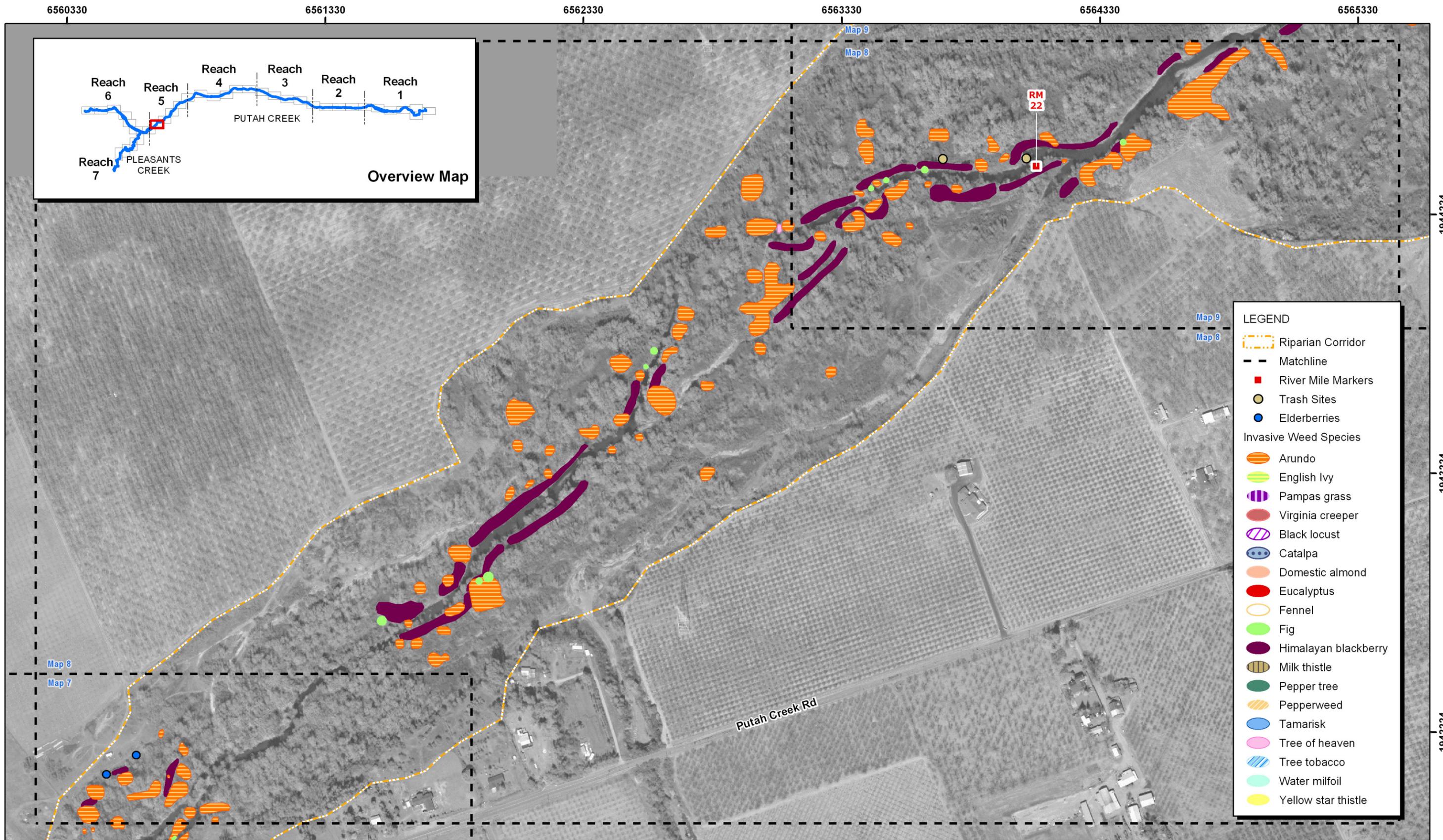
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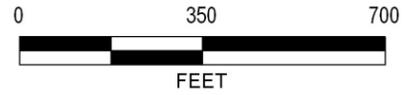
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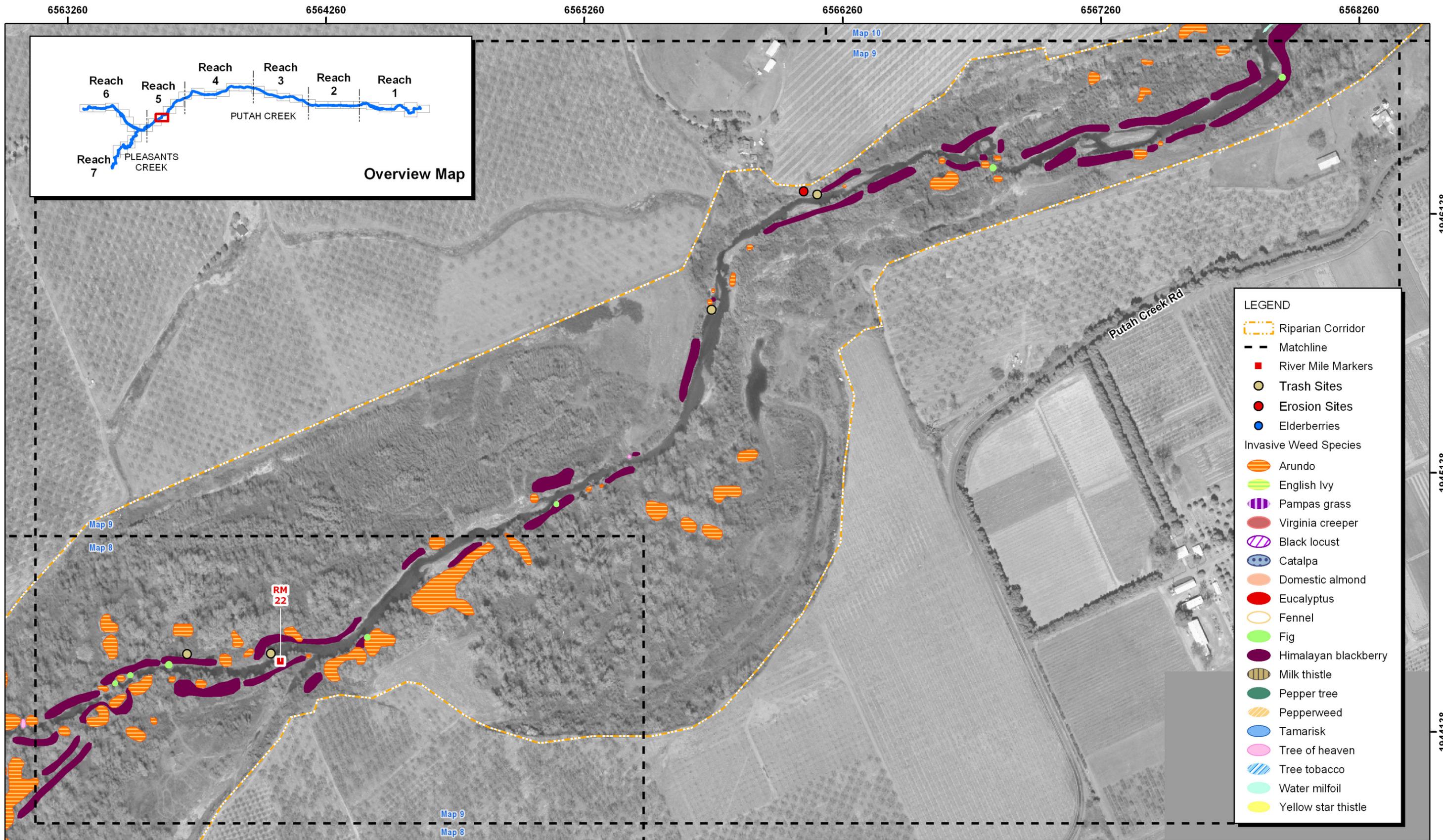


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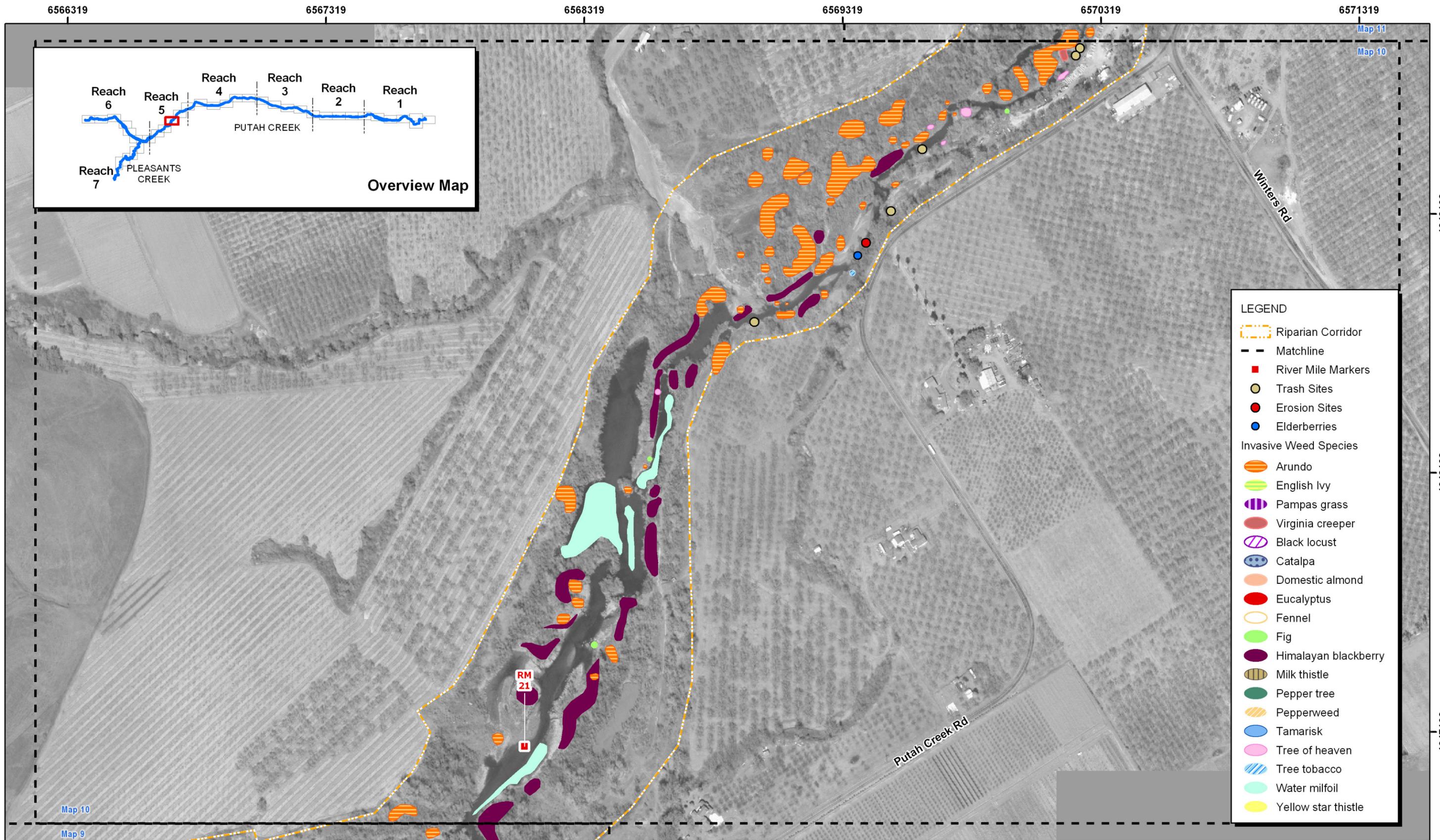
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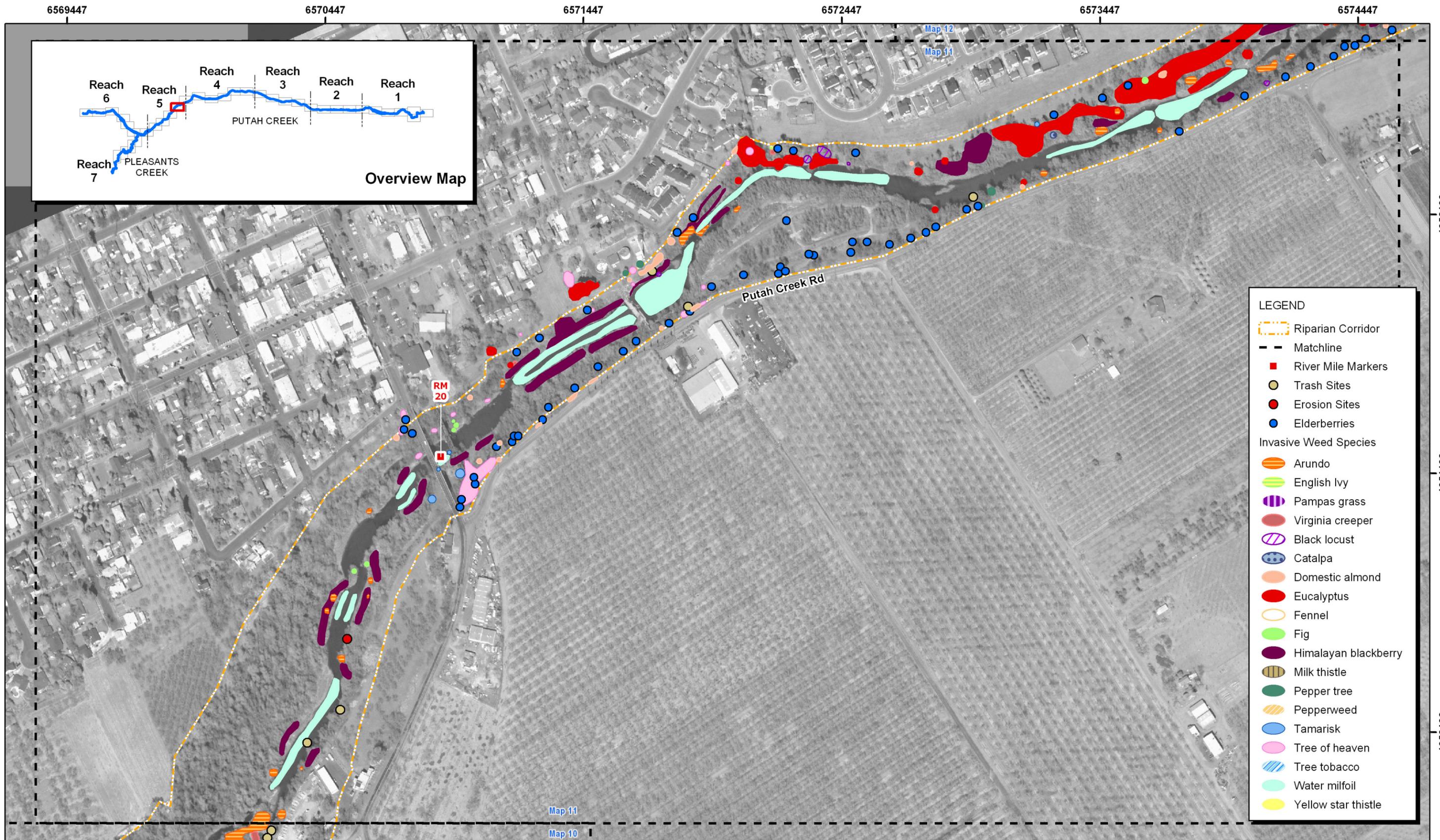
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Sources: Image America, March 2001; EDAW 2002
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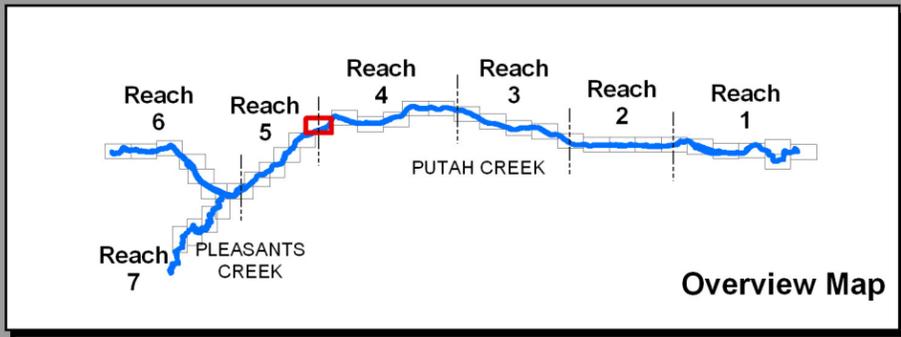
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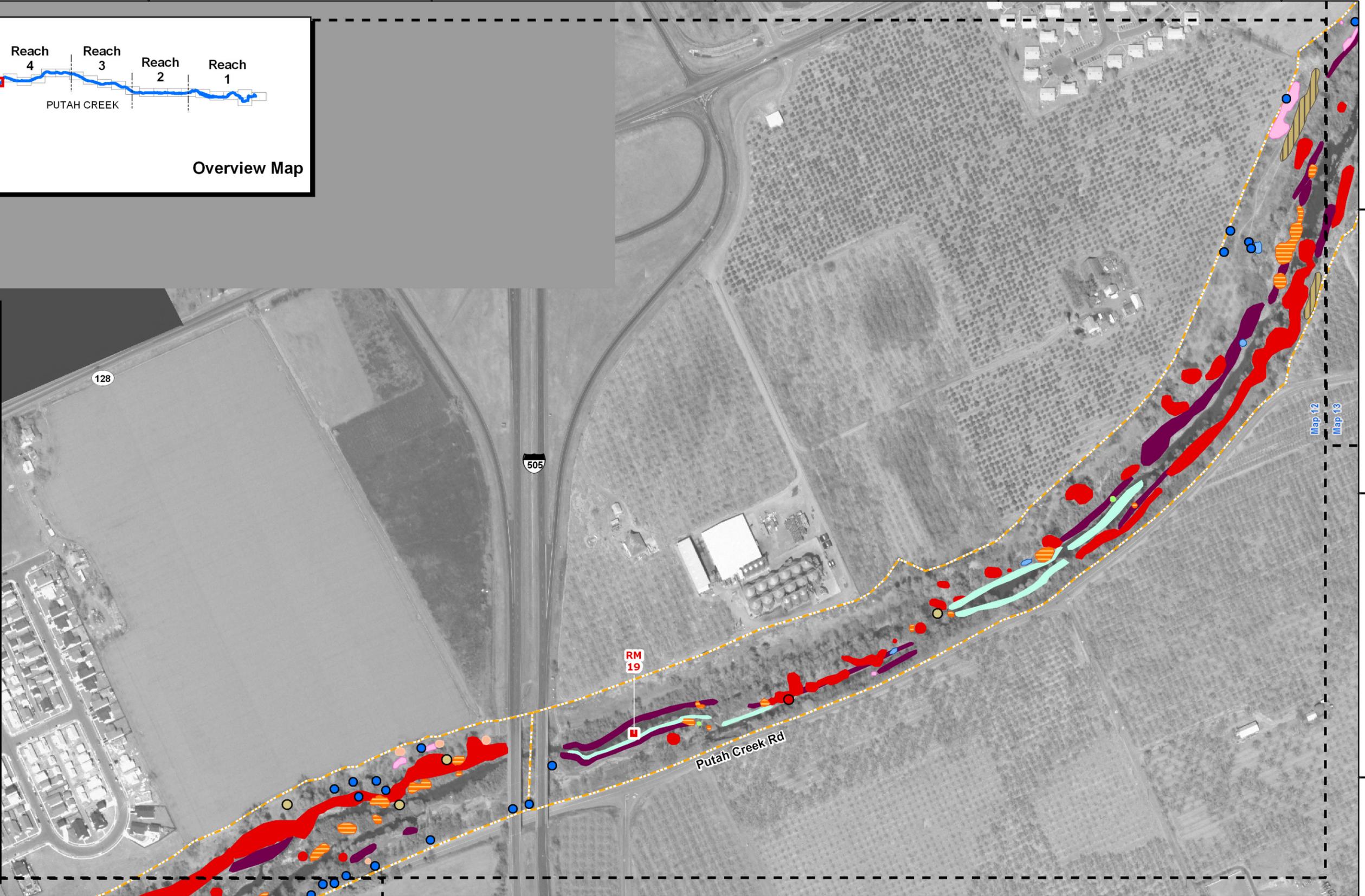
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EDAW

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- LEGEND**
- Riparian Corridor
 - Matchline
 - River Mile Markers
 - Trash Sites
 - Erosion Sites
 - Elderberries
 - Invasive Weed Species**
 - Arundo
 - English Ivy
 - Pampas grass
 - Virginia creeper
 - Black locust
 - Catalpa
 - Domestic almond
 - Eucalyptus
 - Fennel
 - Fig
 - Himalayan blackberry
 - Milk thistle
 - Pepper tree
 - Pepperweed
 - Tamarisk
 - Tree of heaven
 - Tree tobacco
 - Water milfoil
 - Yellow star thistle



Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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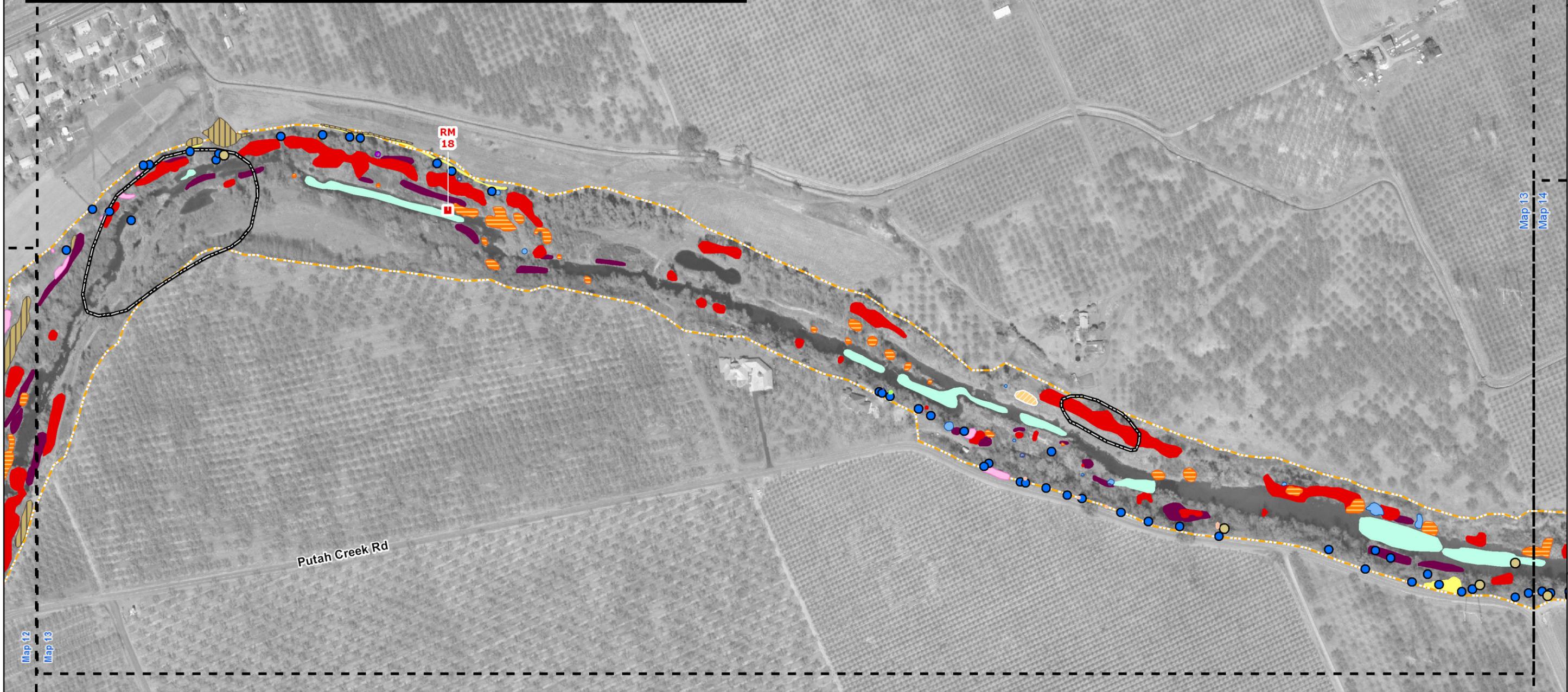
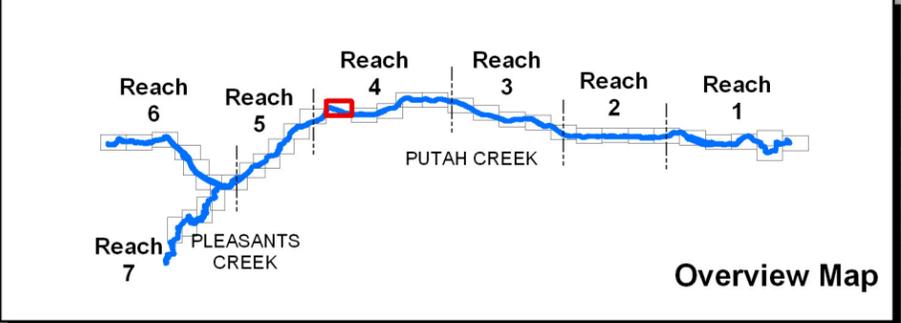
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EDAW

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LEGEND

Riparian Corridor	Invasive Weed Species	Domestic almond	Pepperweed
Matchline	Arundo	Eucalyptus	Tamarisk
River Mile Markers	English Ivy	Fennel	Tree of heaven
Trash Sites	Pampas grass	Fig	Tree tobacco
Elderberries	Virginia creeper	Himalayan blackberry	Water milfoil
Possible Raptor Nesting Location	Black locust	Milk thistle	Yellow star thistle
	Catalpa	Pepper tree	



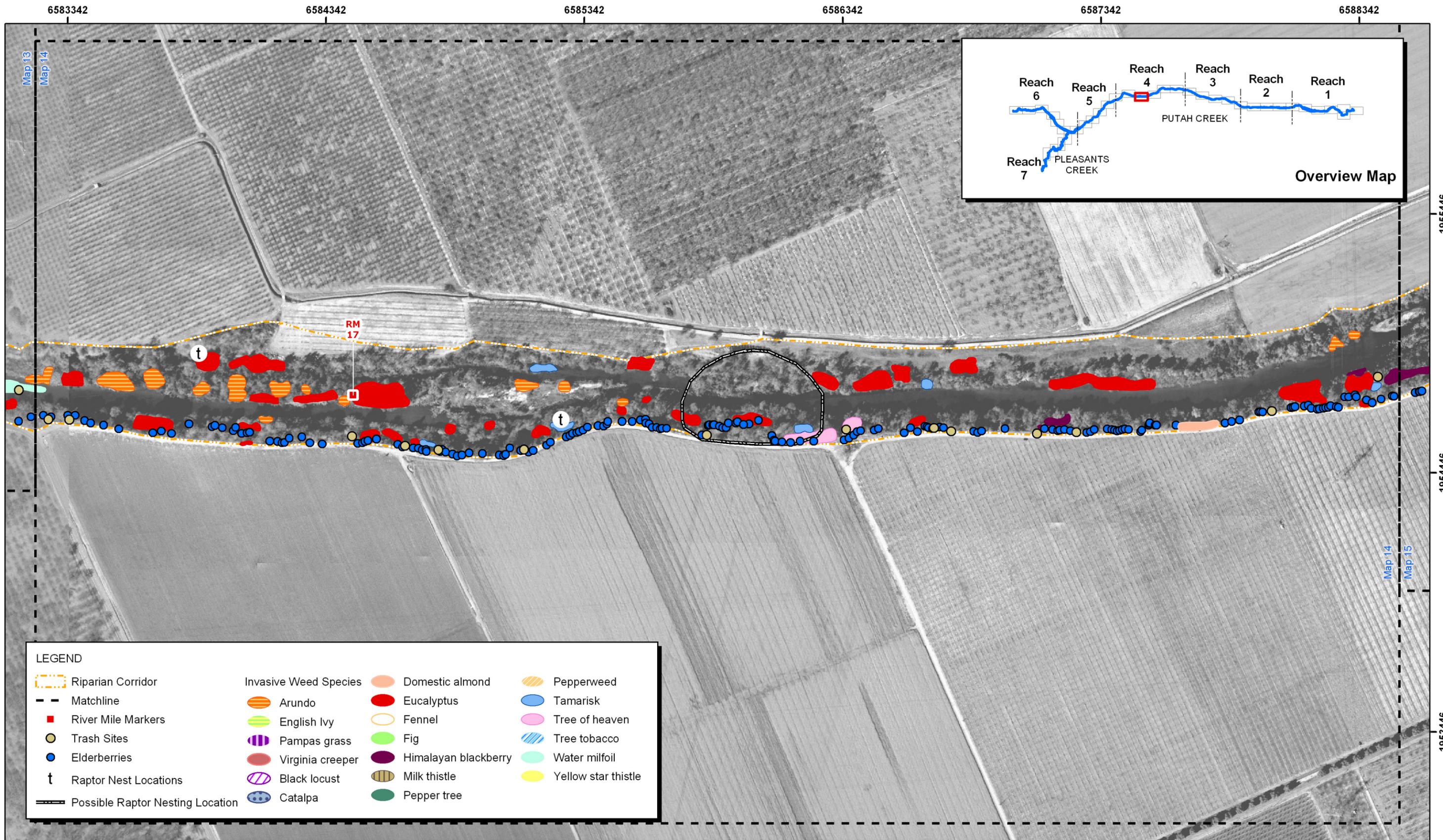
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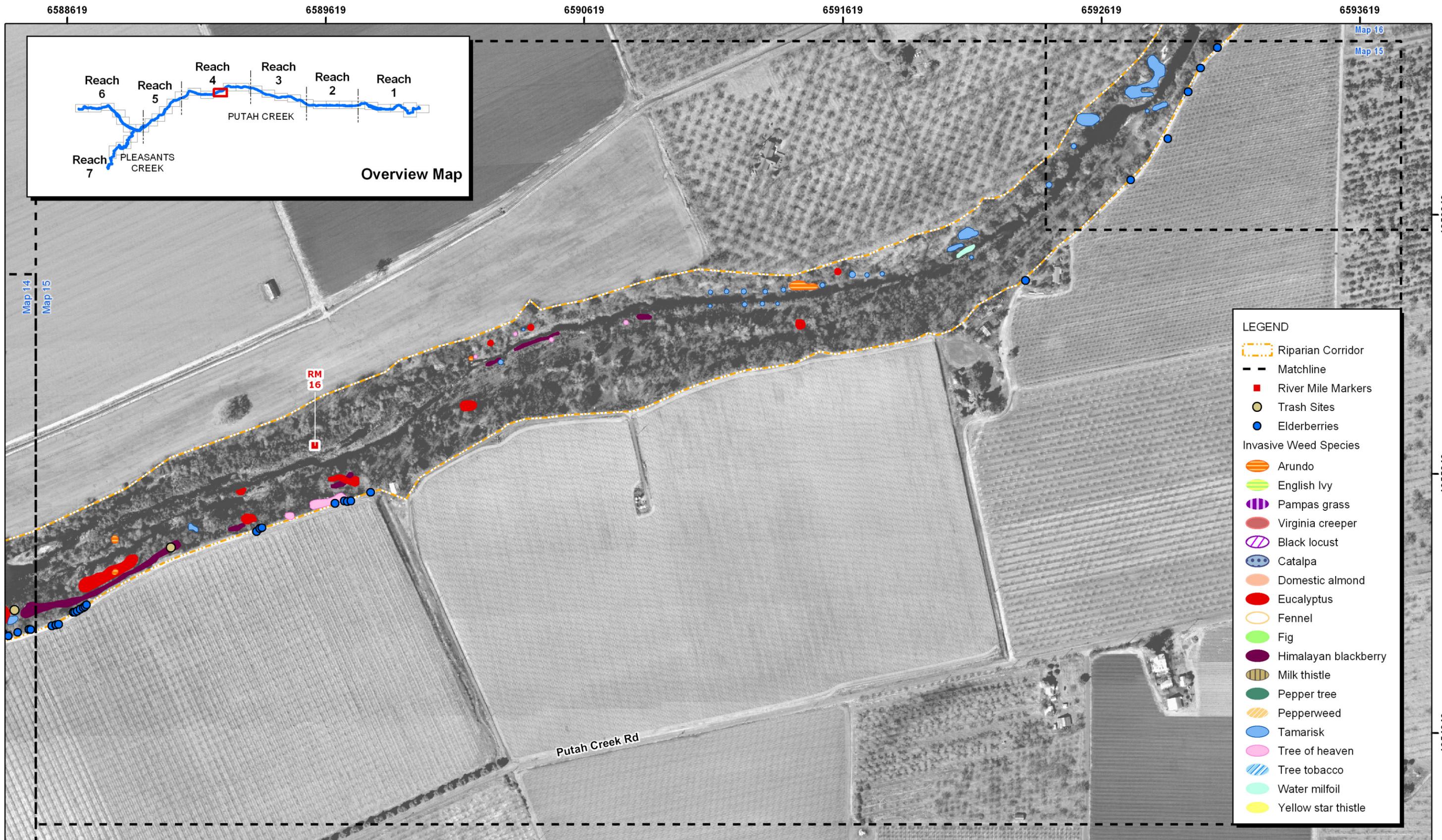
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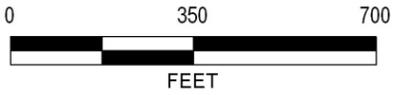
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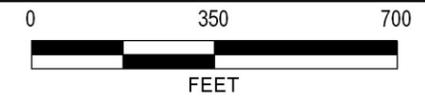


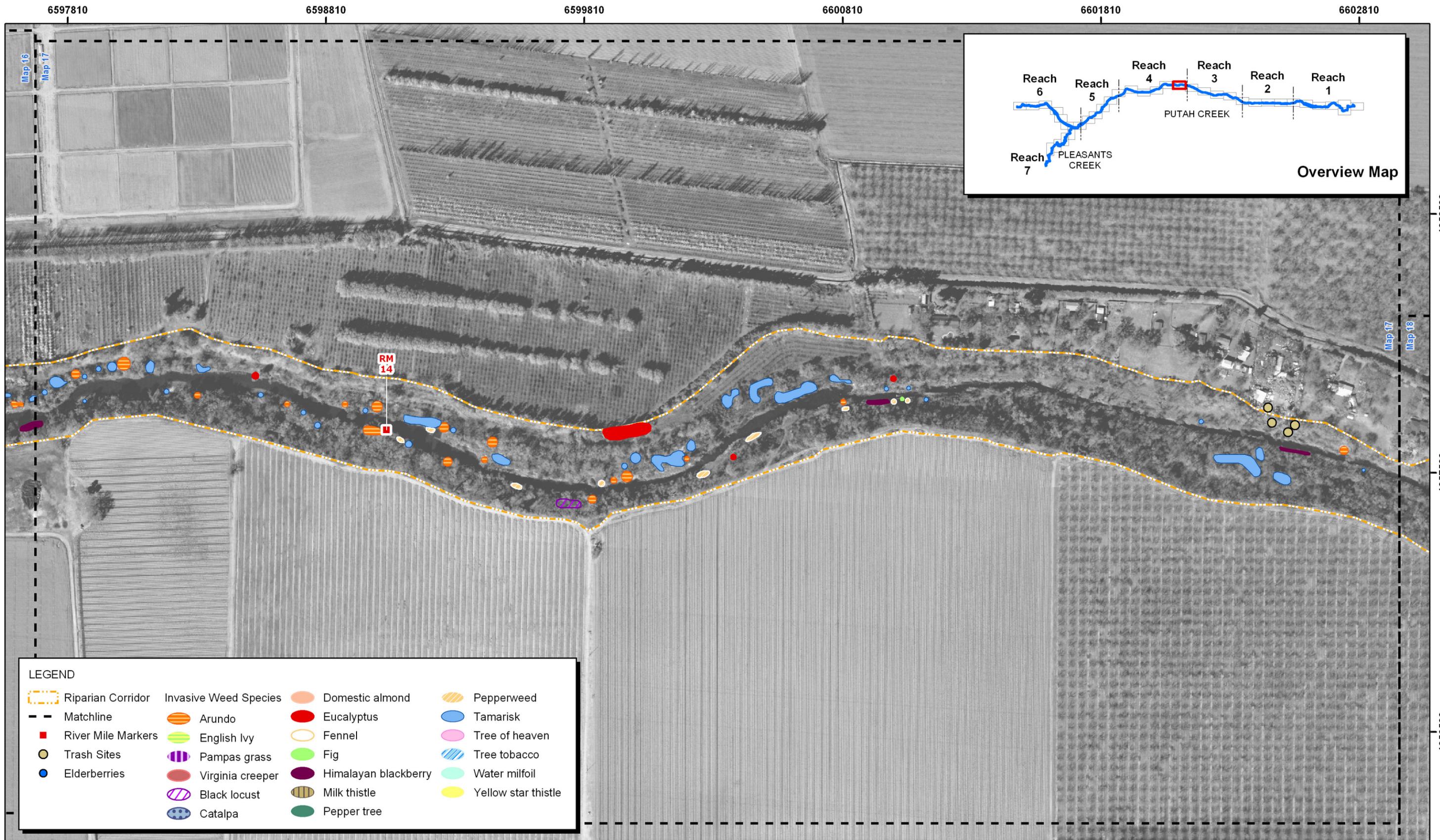
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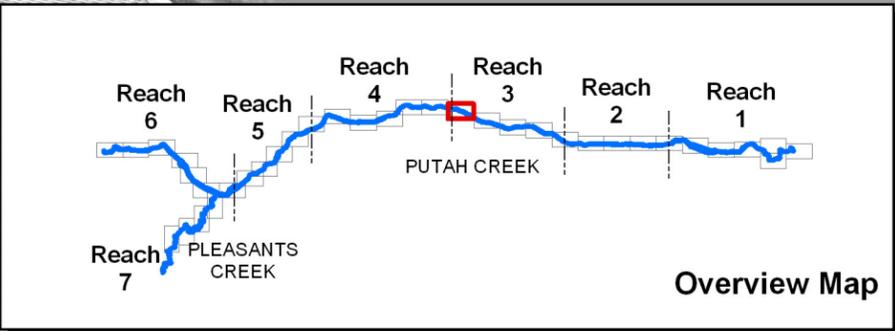
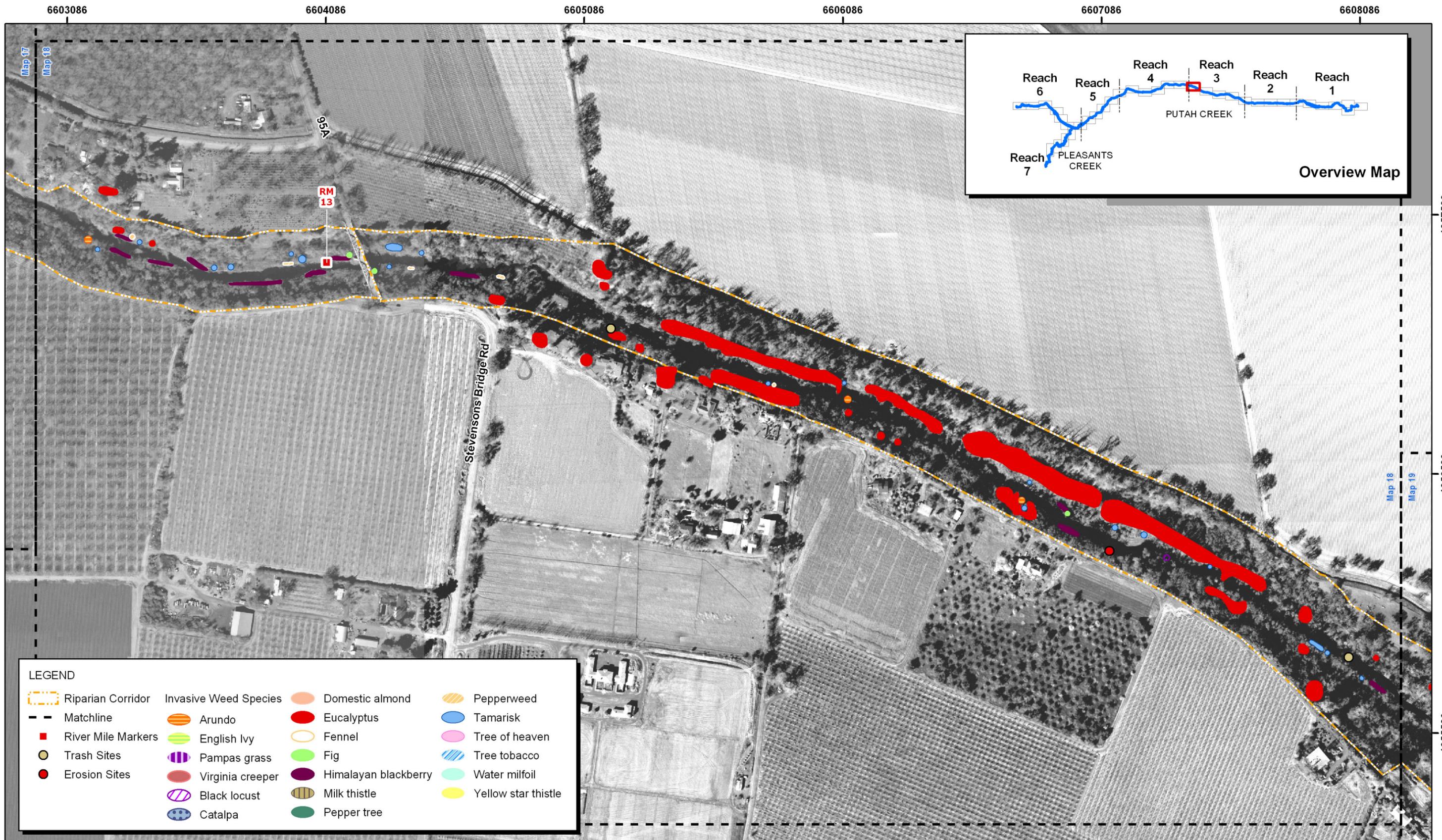
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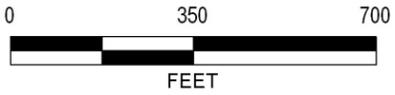
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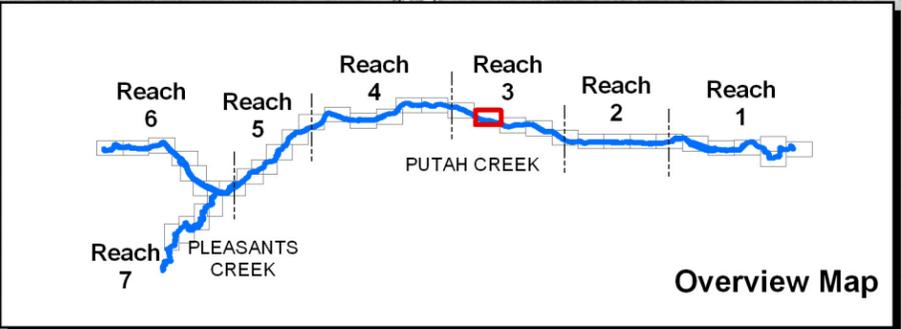
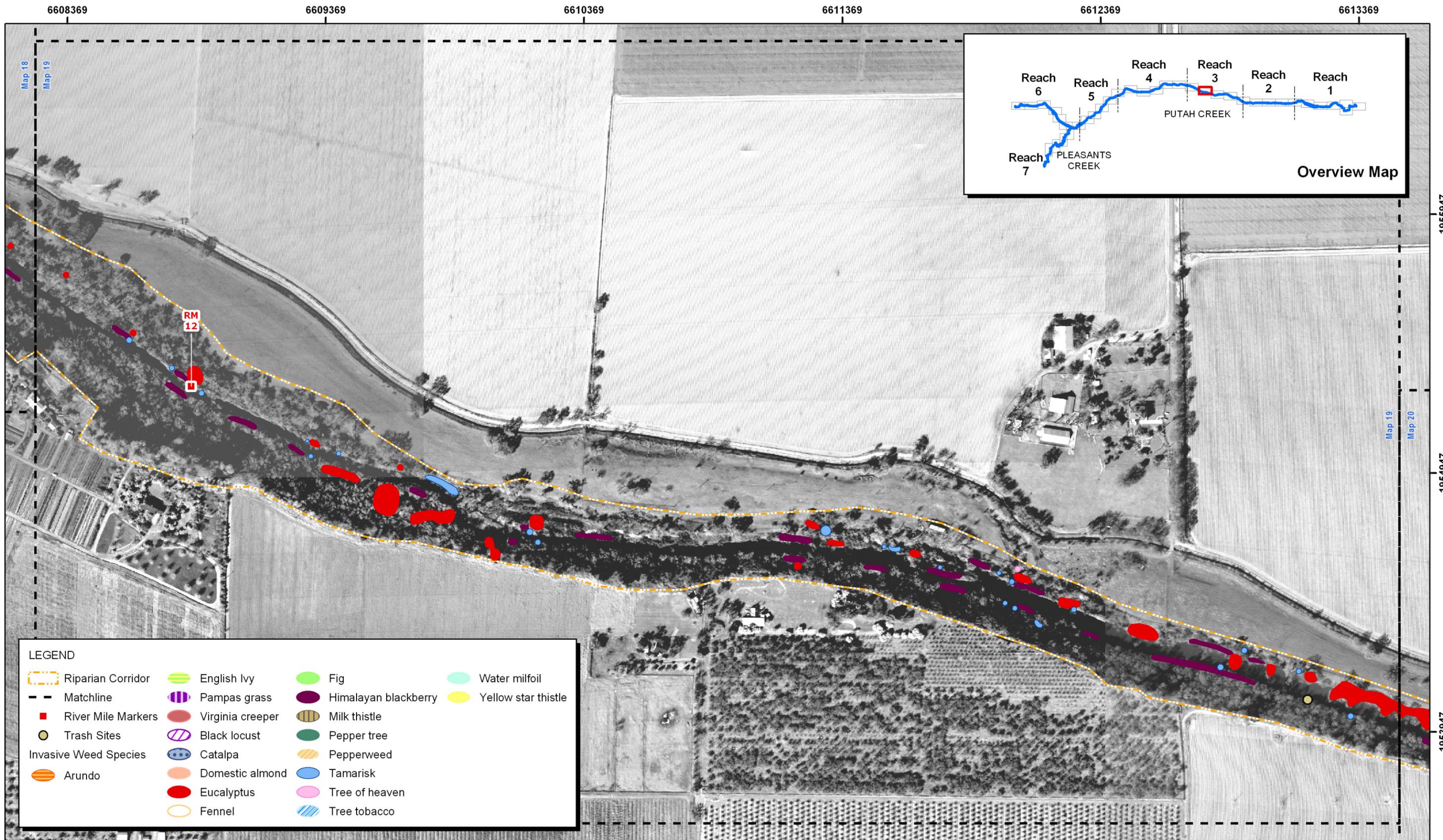
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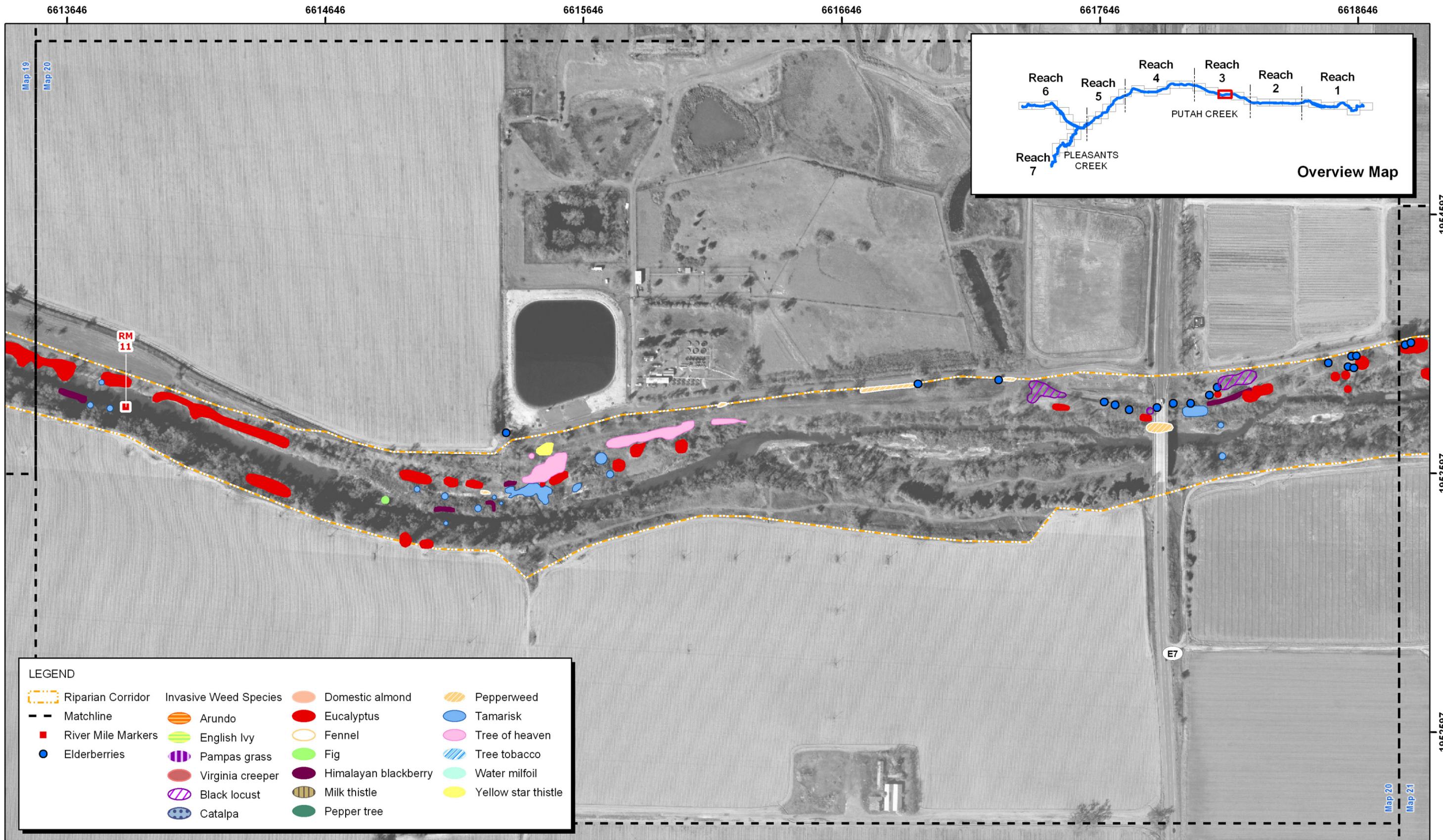
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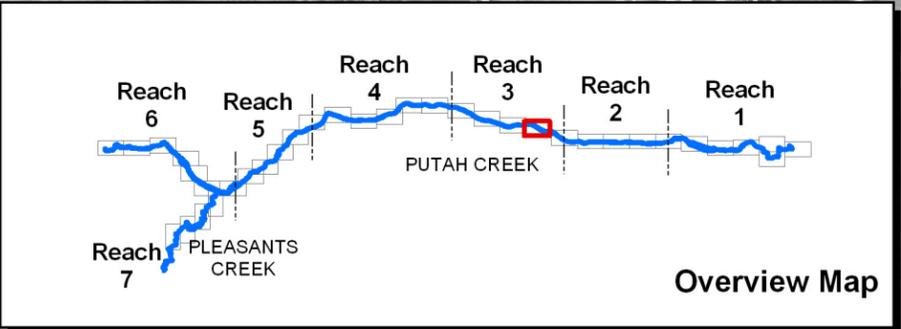
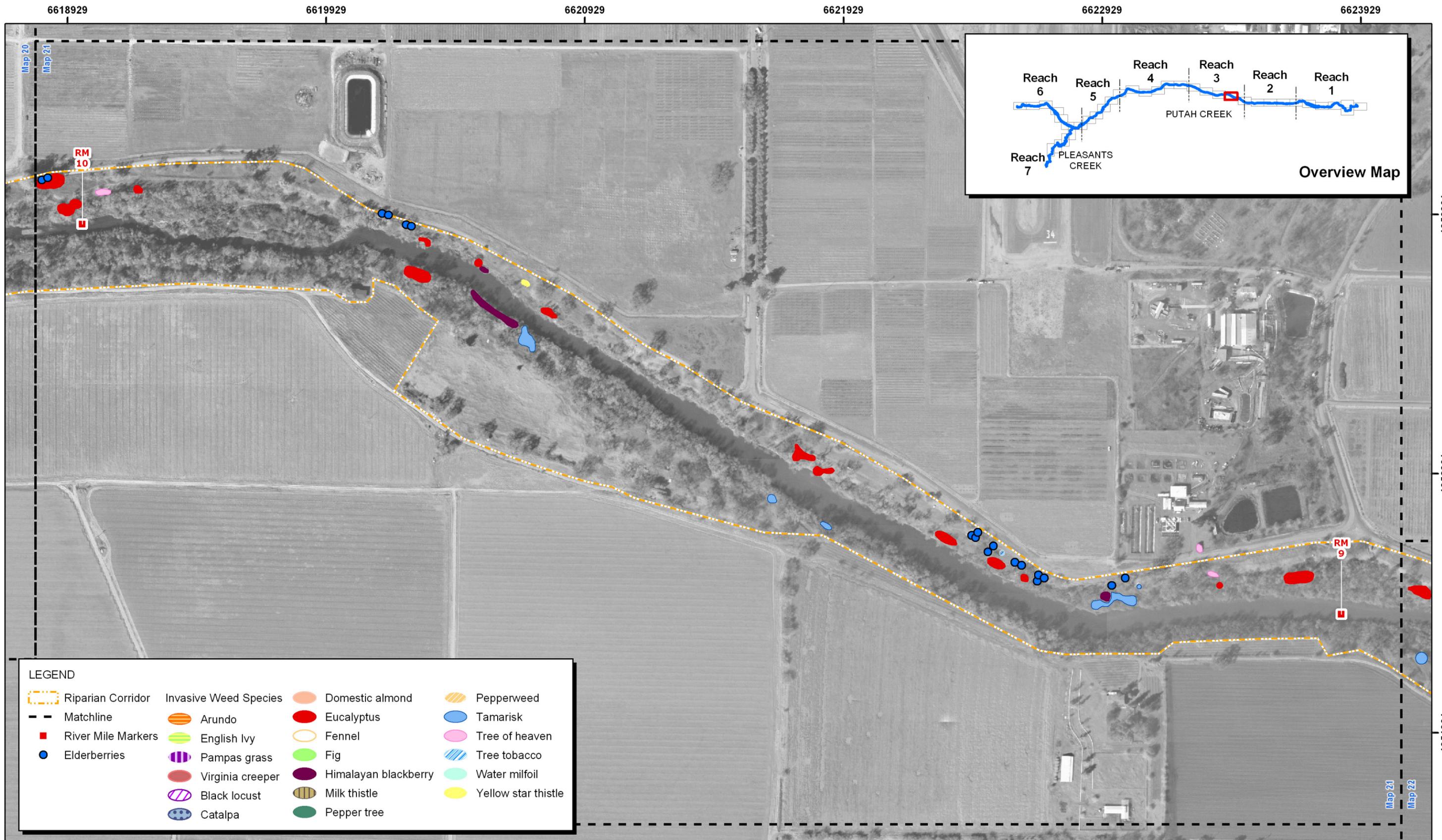
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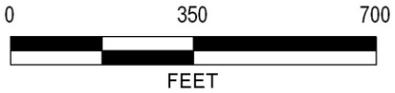
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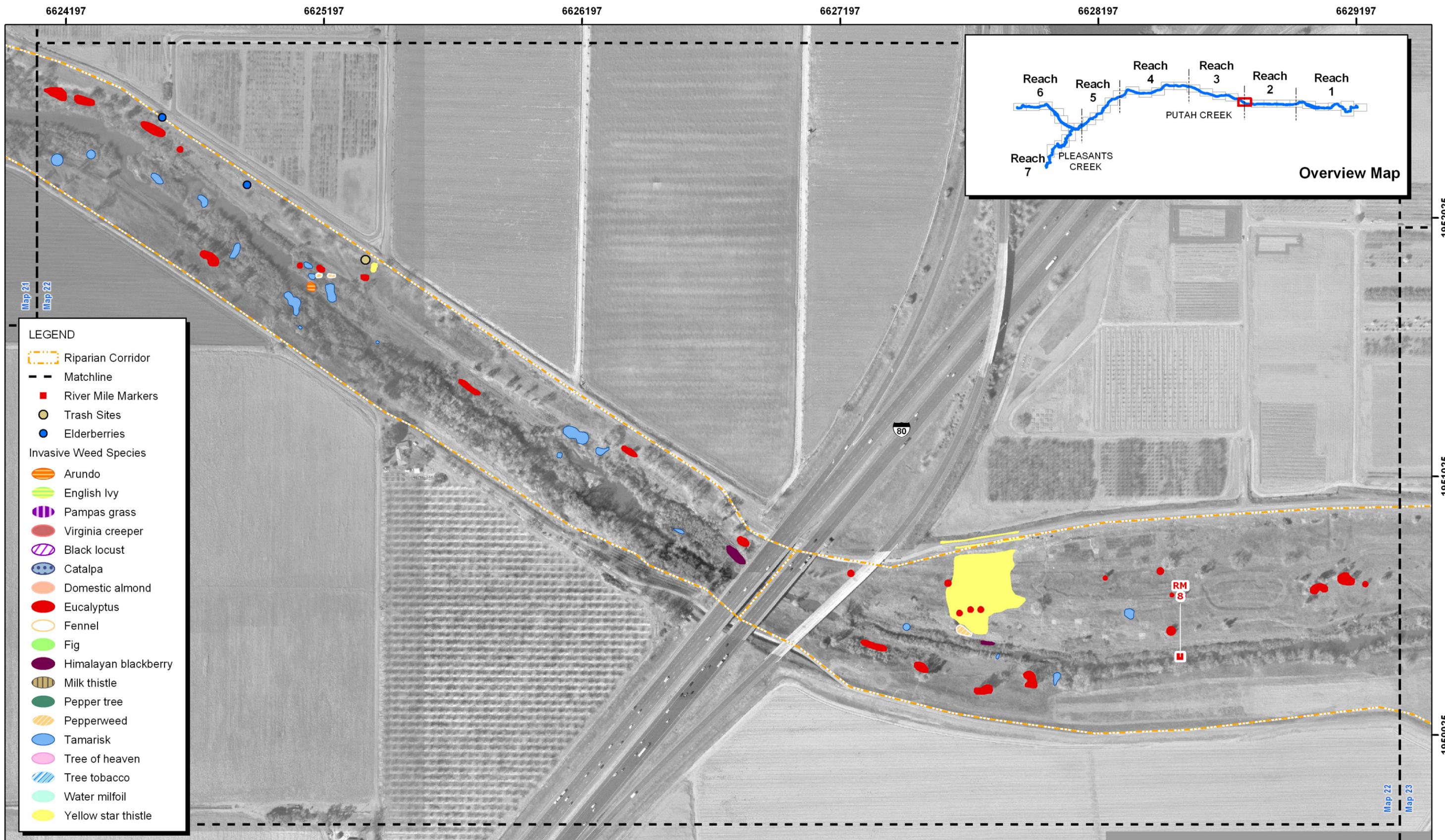
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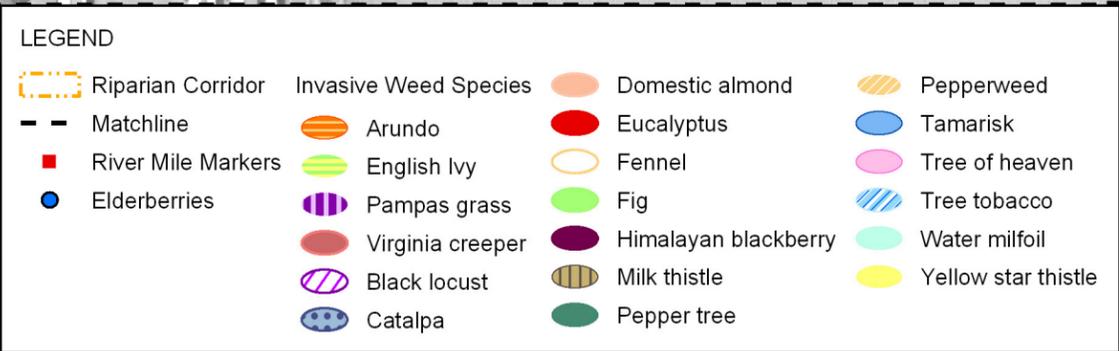
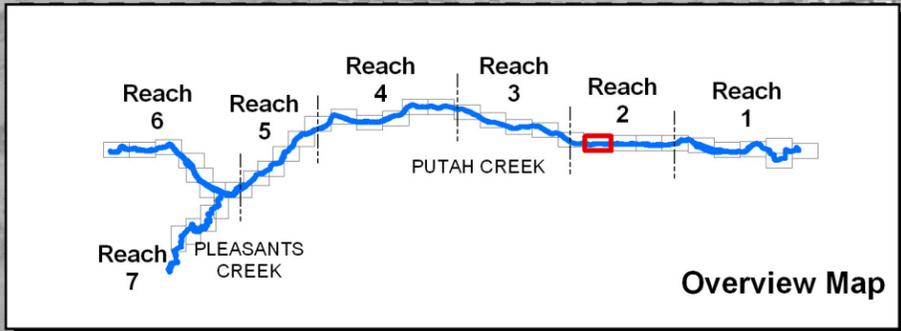
Resource Assessment
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Sources: Image America, March 2001; EDAW 2002
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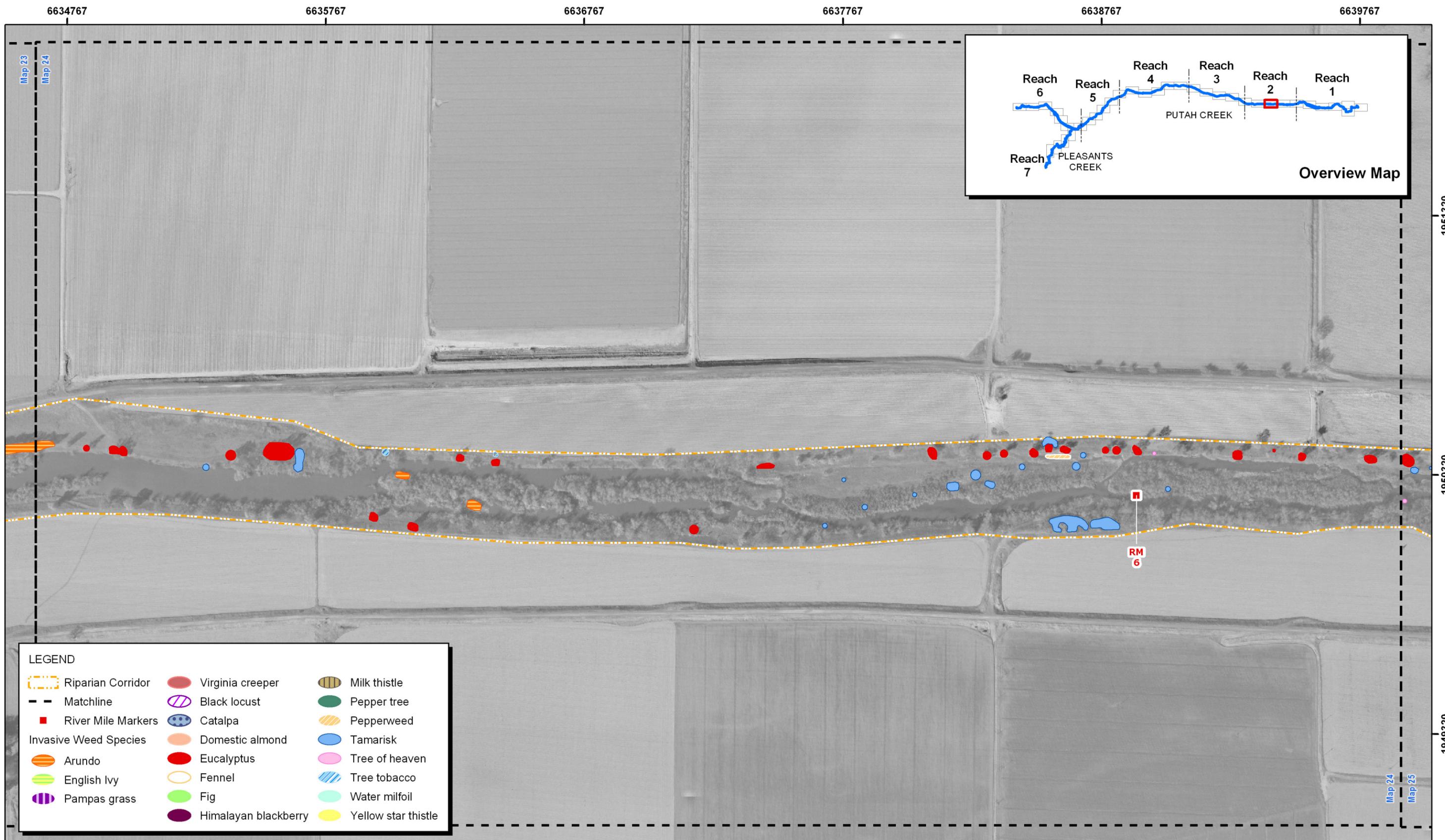
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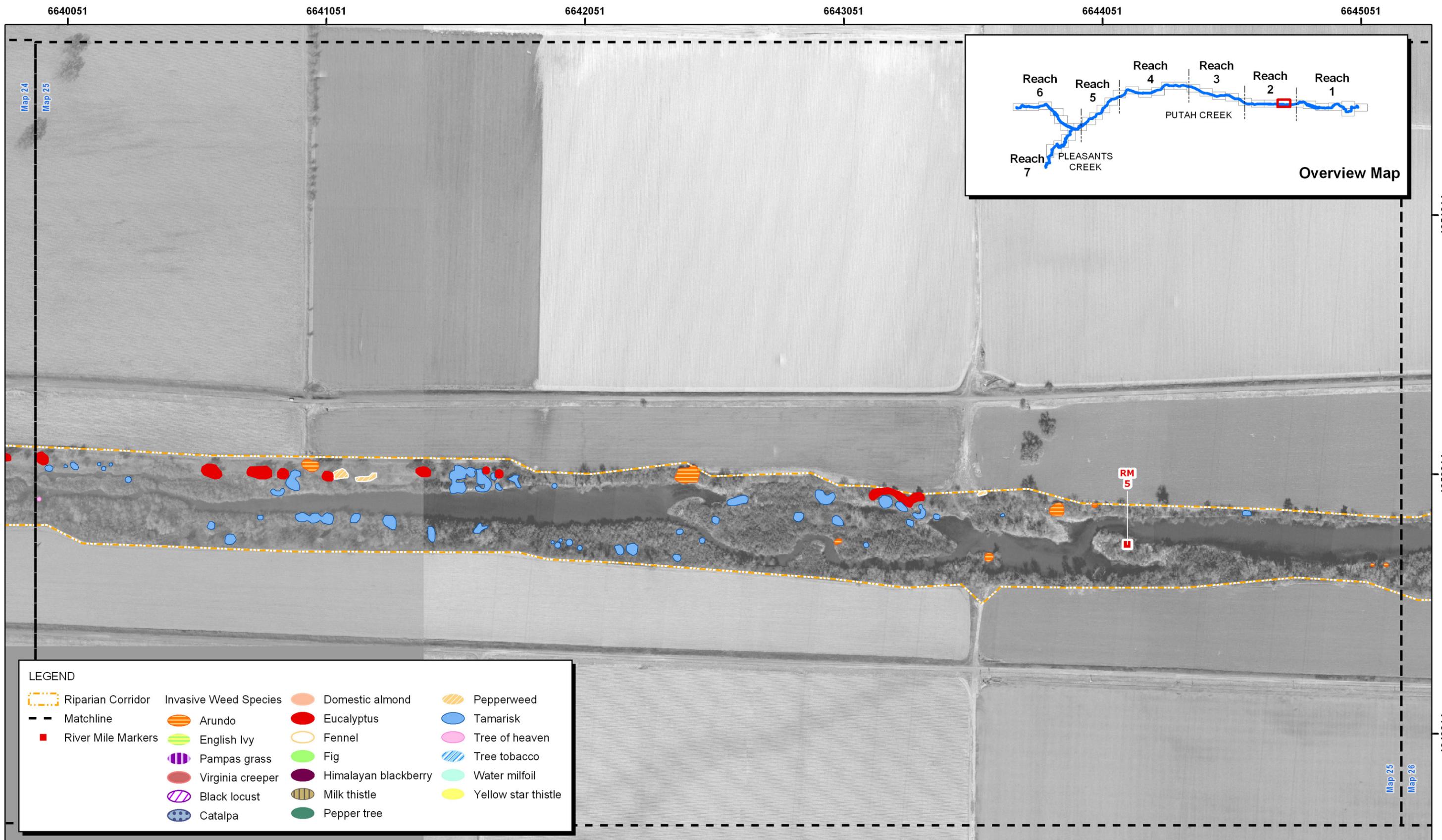
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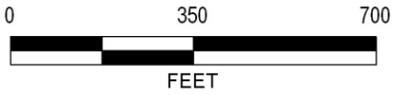
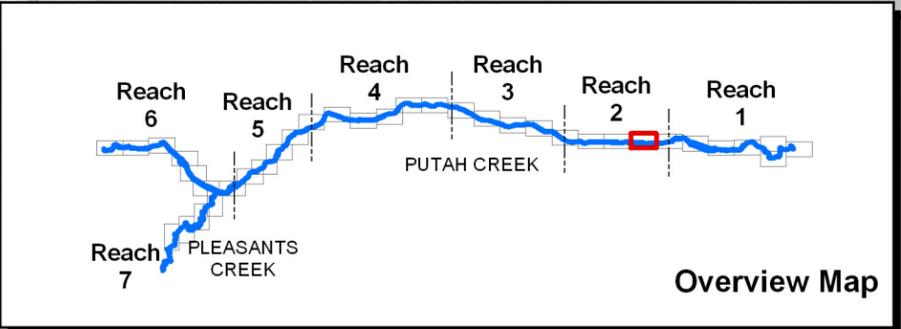
Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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 Lower Putah Creek Watershed Management Action Plan



Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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 Lower Putah Creek Watershed Management Action Plan





Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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 Lower Putah Creek Watershed Management Action Plan

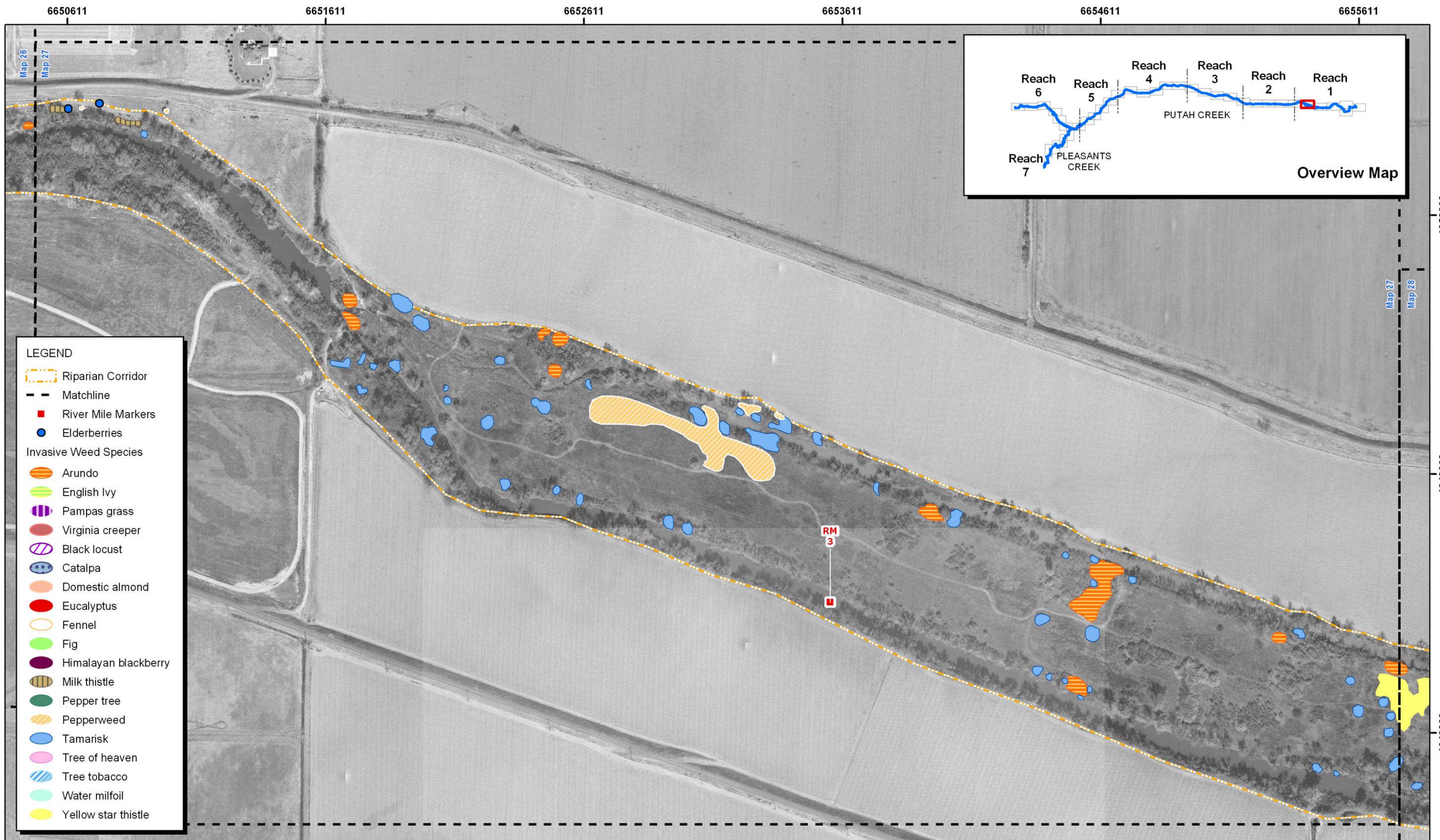
X 1T136.02 11/05

MAP EXHIBIT **R26**

0 350 700
 FEET

NORTH

EDAW



Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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 Lower Putah Creek Watershed Management Action Plan

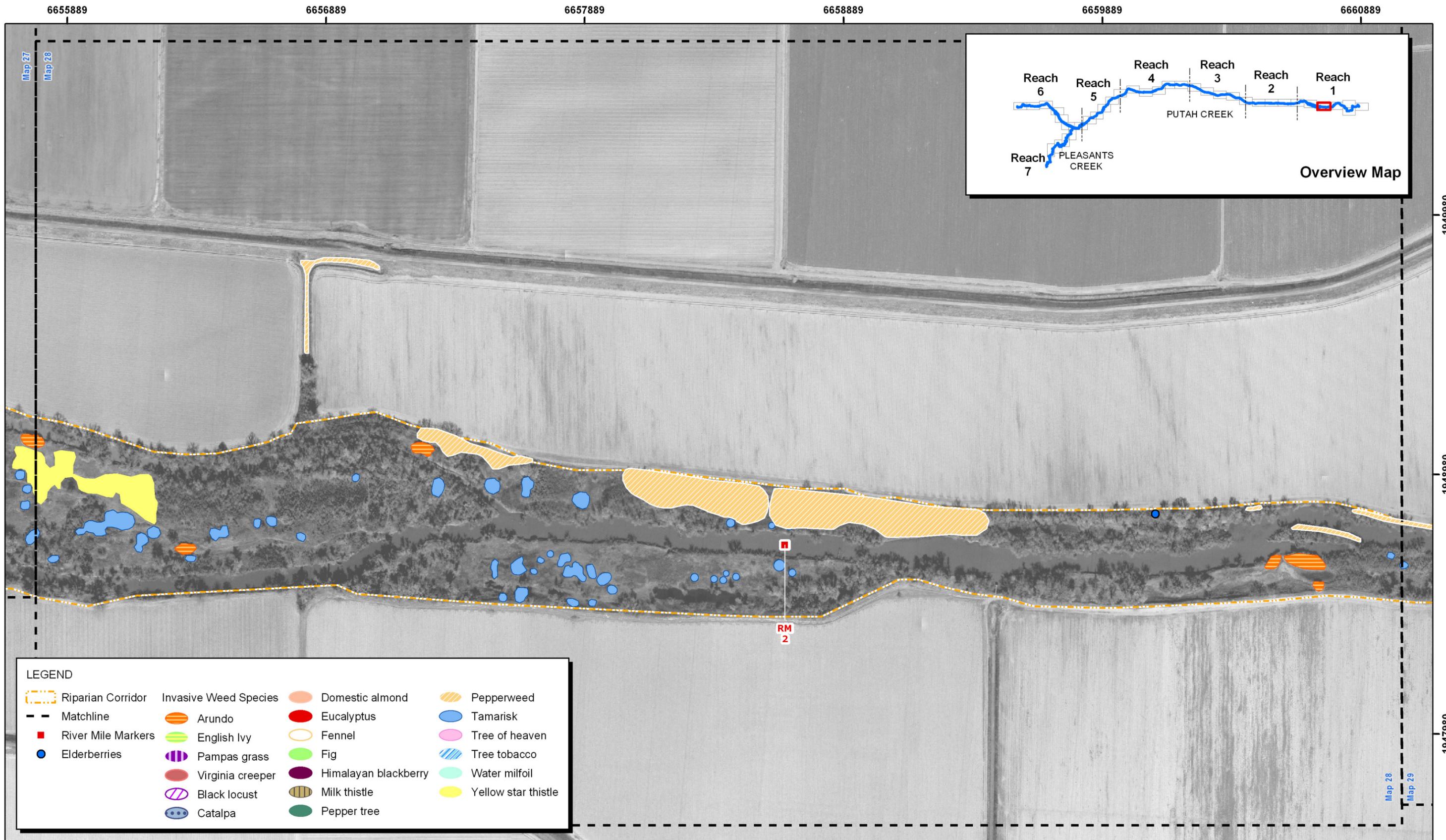
X 1T136.02 11/05

MAP EXHIBIT **R27**

0 350 700
 FEET

NORTH

EDAW



Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

Resource Assessment

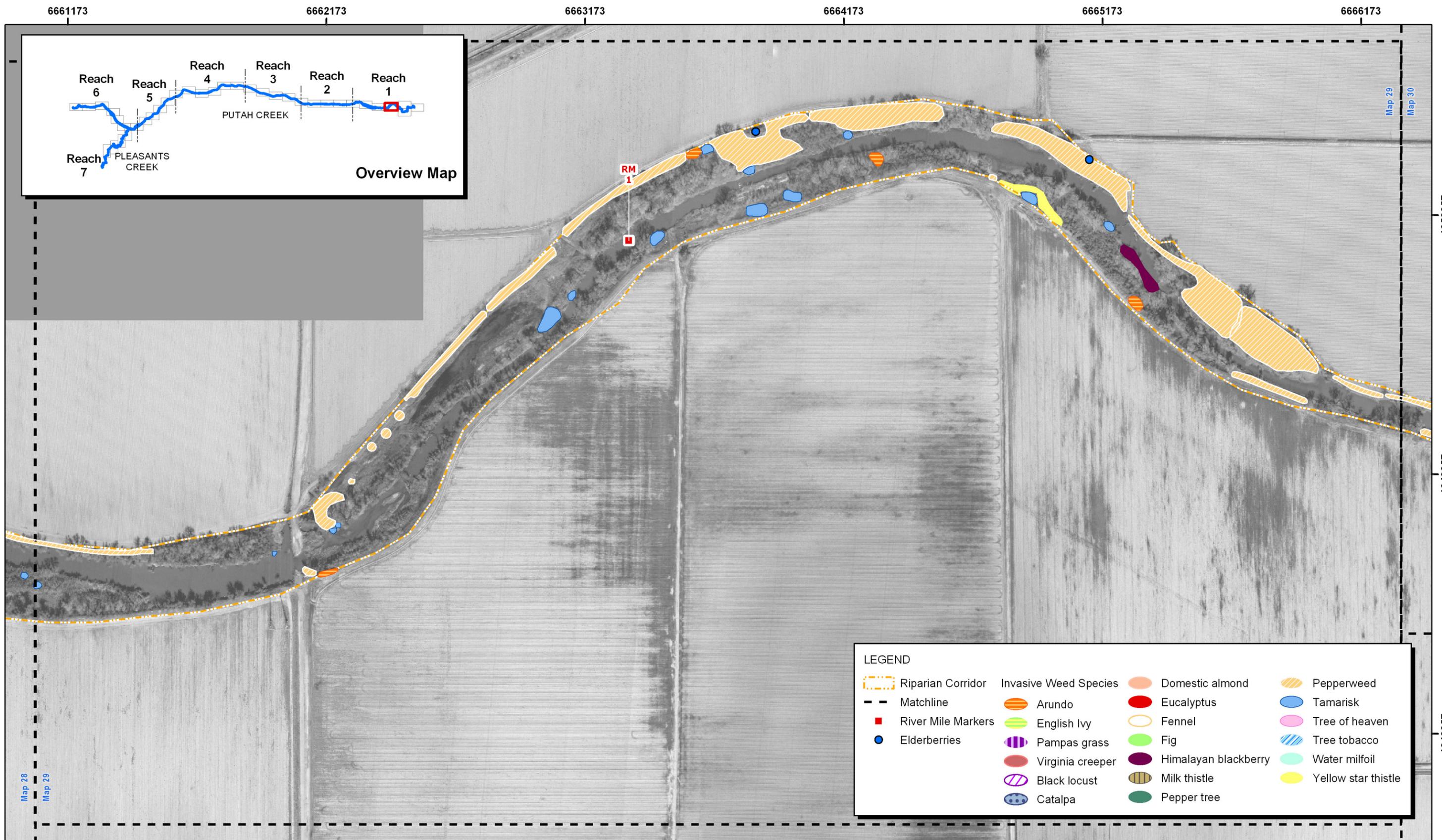
Lower Putah Creek Watershed Management Action Plan

MAP EXHIBIT **R28**

0 350 700
 FEET

NORTH

EDAW



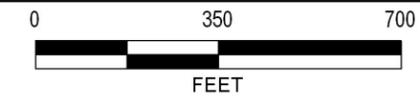
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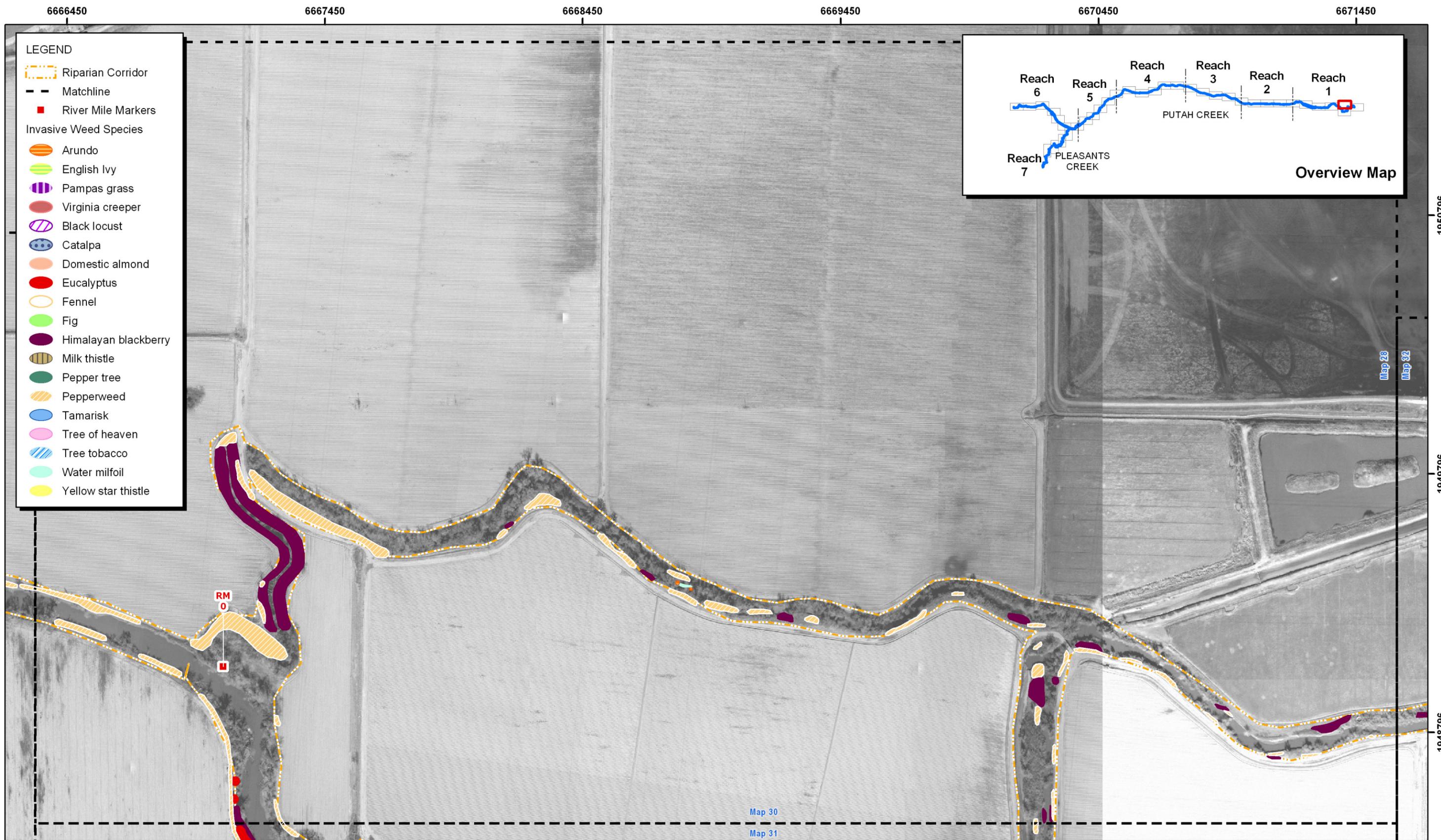
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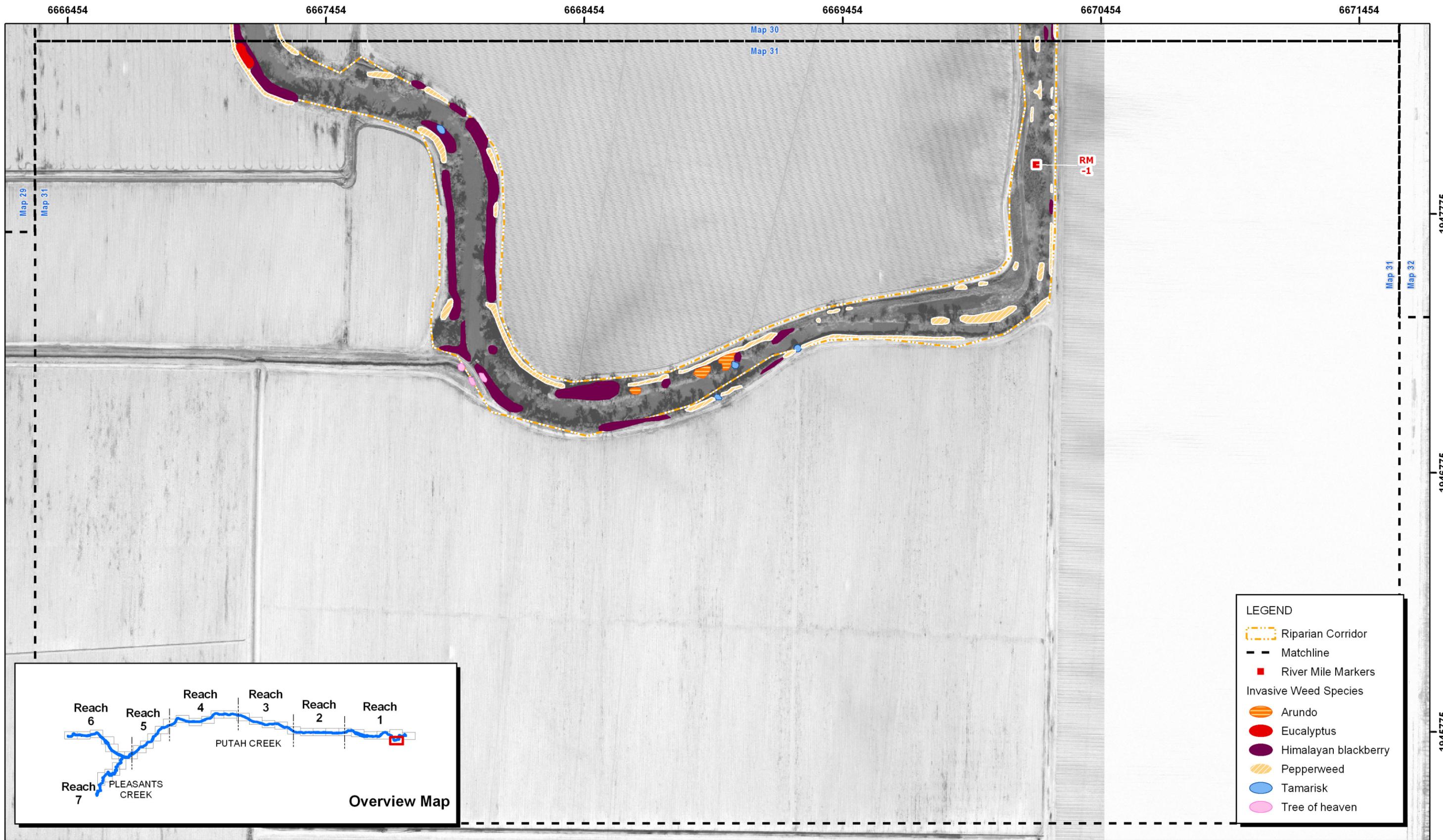
MAP EXHIBIT **R29**





Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

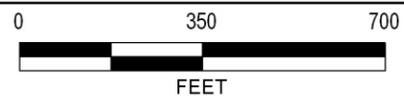
Resource Assessment
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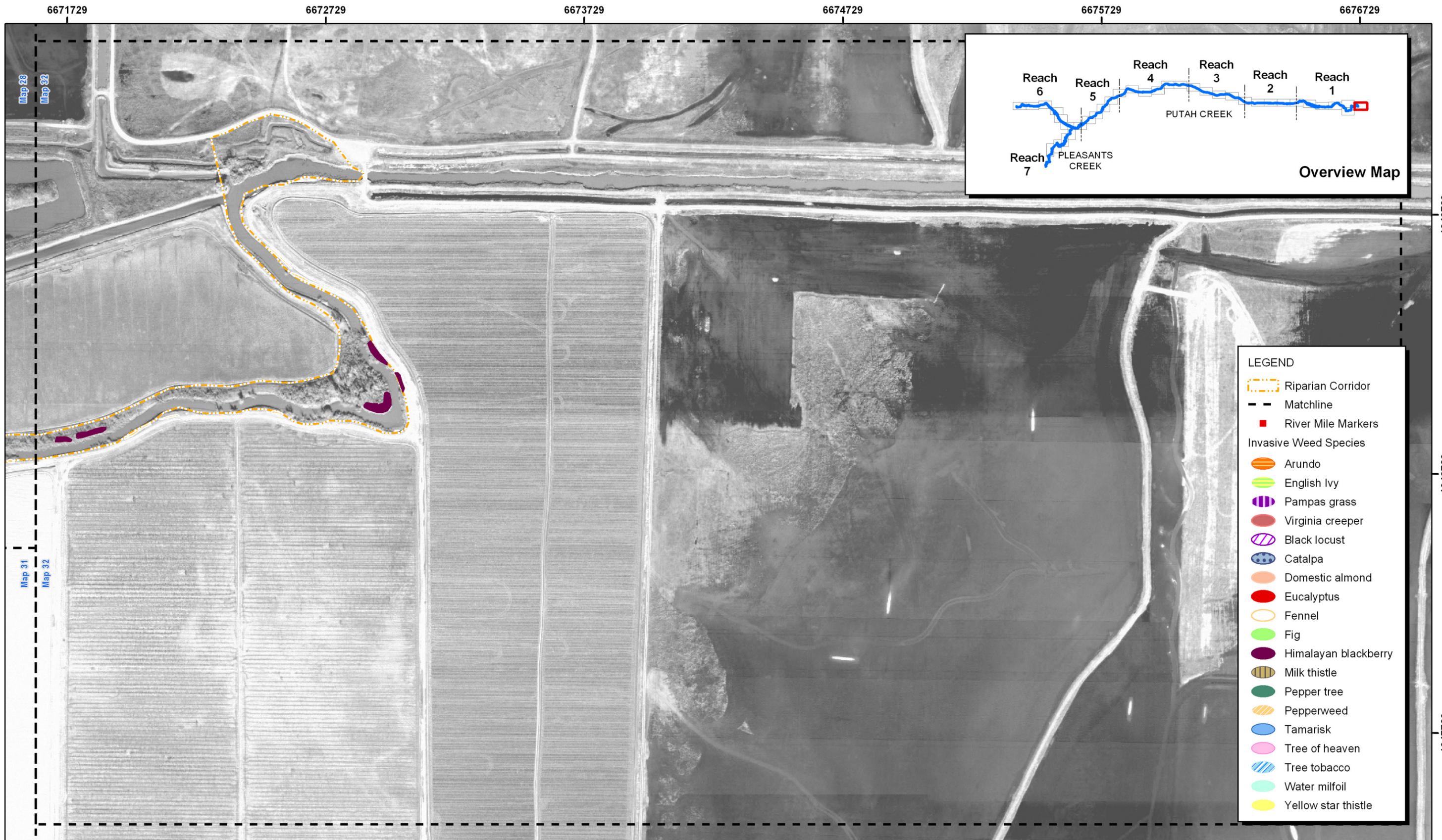


Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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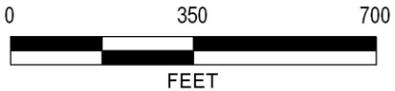


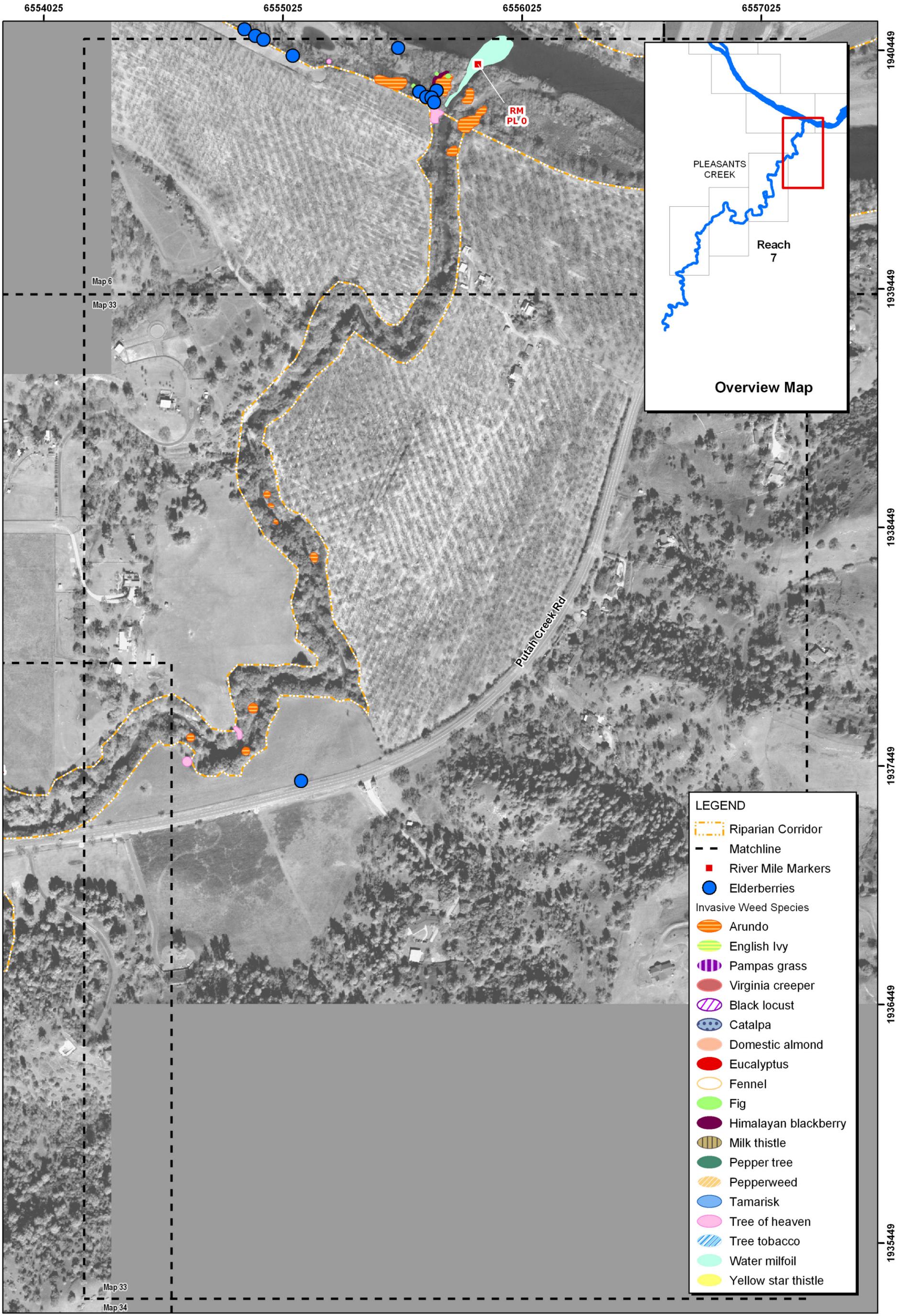


Sources: Image America, March 2001; EDAW 2002
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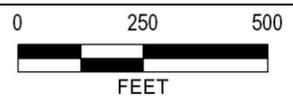
Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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MAP EXHIBIT **R33**



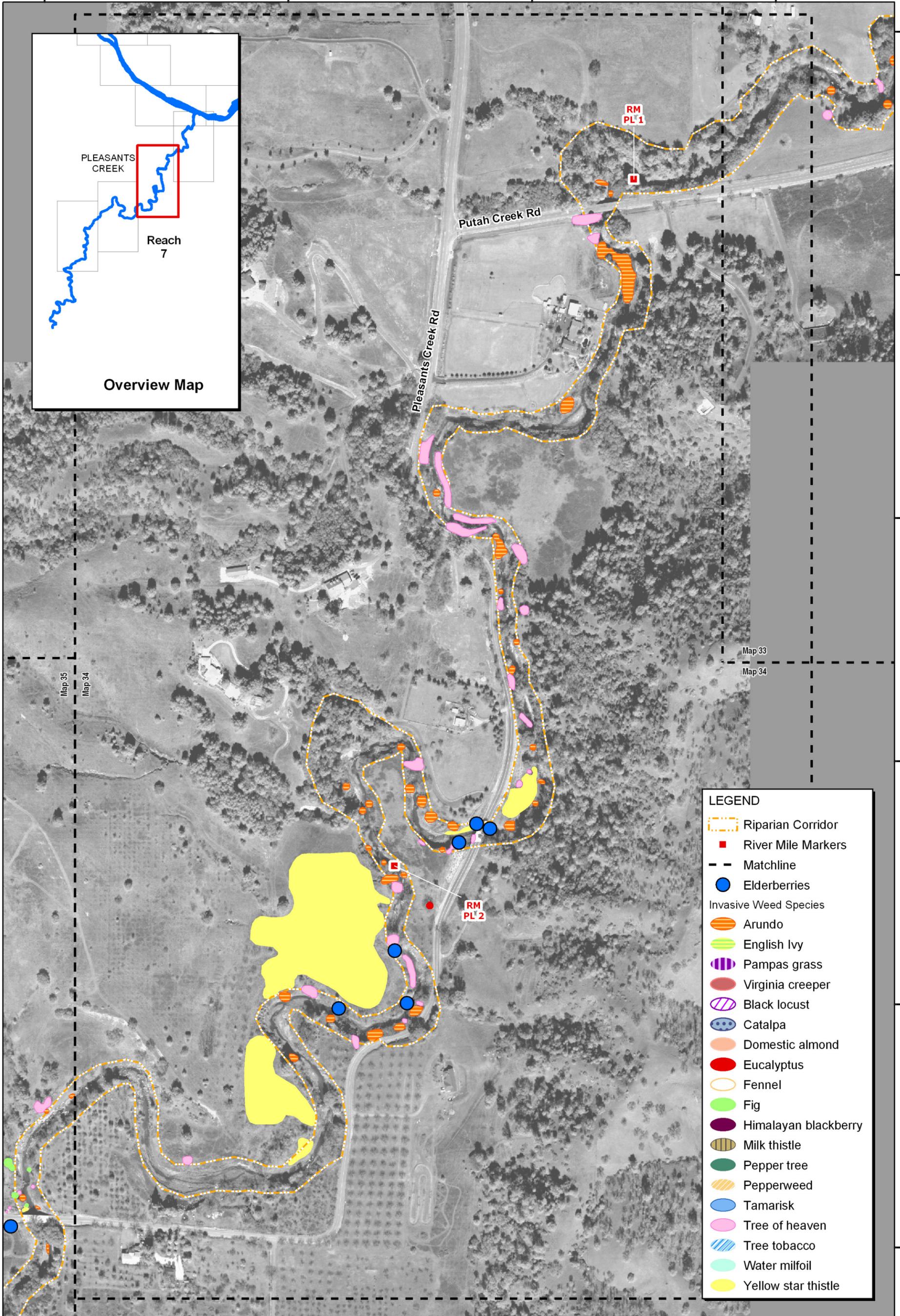
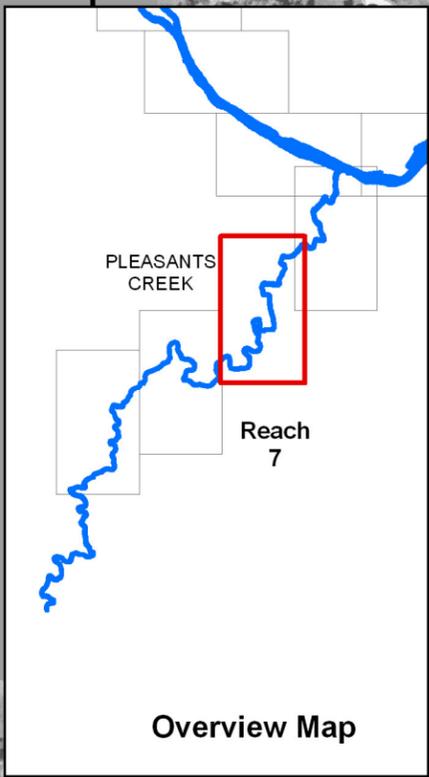
6551413

6552413

6553413

6554413

1937810
1936810
1935810
1934810
1933810
1932810



LEGEND	
	Riparian Corridor
	River Mile Markers
	Matchline
	Elderberries
Invasive Weed Species	
	Arundo
	English Ivy
	Pampas grass
	Virginia creeper
	Black locust
	Catalpa
	Domestic almond
	Eucalyptus
	Fennel
	Fig
	Himalayan blackberry
	Milk thistle
	Pepper tree
	Pepperweed
	Tamarisk
	Tree of heaven
	Tree tobacco
	Water milfoil
	Yellow star thistle

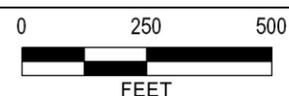
Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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MAP EXHIBIT R34



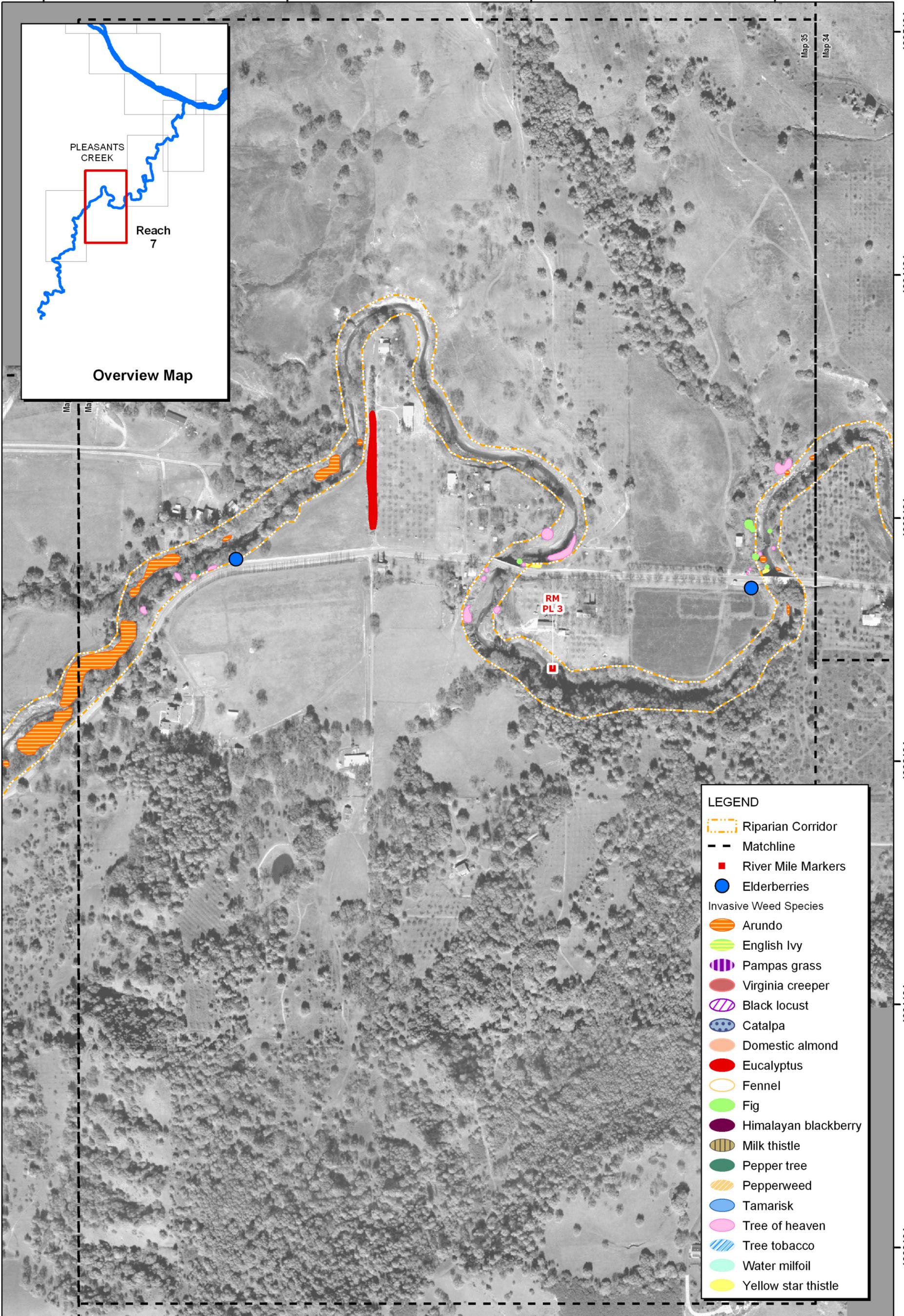
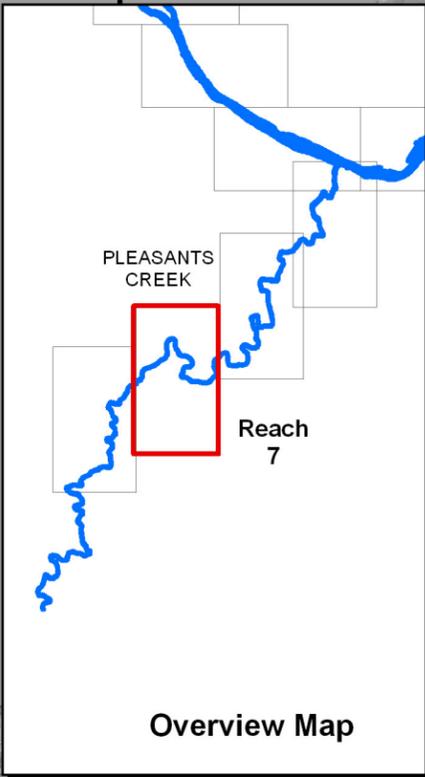
6548372

6549372

6550372

6551372

1935184
1934184
1933184
1932184
1931184
1930184



LEGEND

- Riparian Corridor
- Matchline
- River Mile Markers
- Elderberries
- Invasive Weed Species**
- Arundo
- English Ivy
- Pampas grass
- Virginia creeper
- Black locust
- Catalpa
- Domestic almond
- Eucalyptus
- Fennel
- Fig
- Himalayan blackberry
- Milk thistle
- Pepper tree
- Pepperweed
- Tamarisk
- Tree of heaven
- Tree tobacco
- Water milfoil
- Yellow star thistle

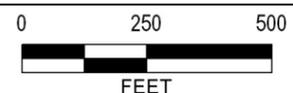
Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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MAP EXHIBIT **R35**

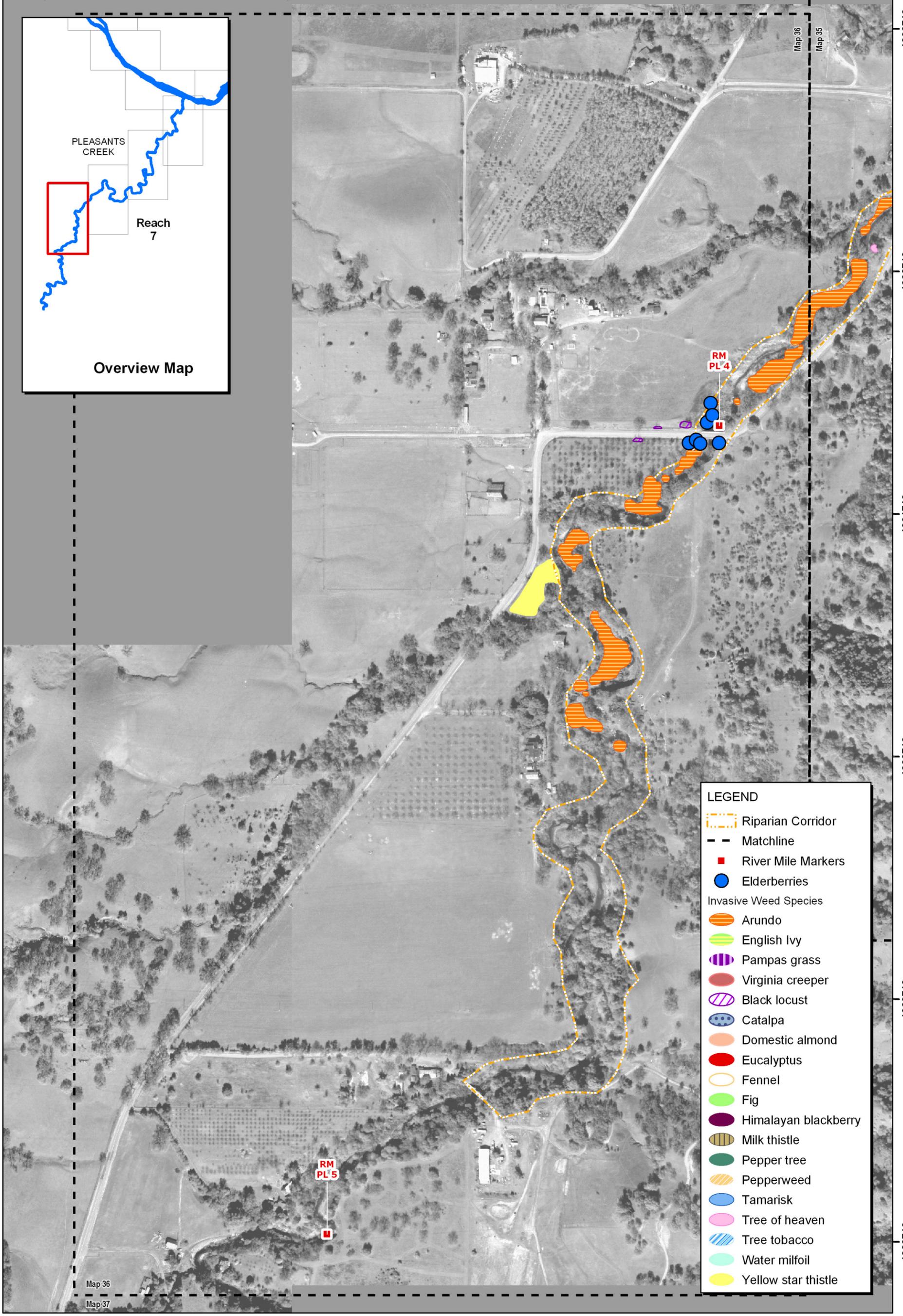
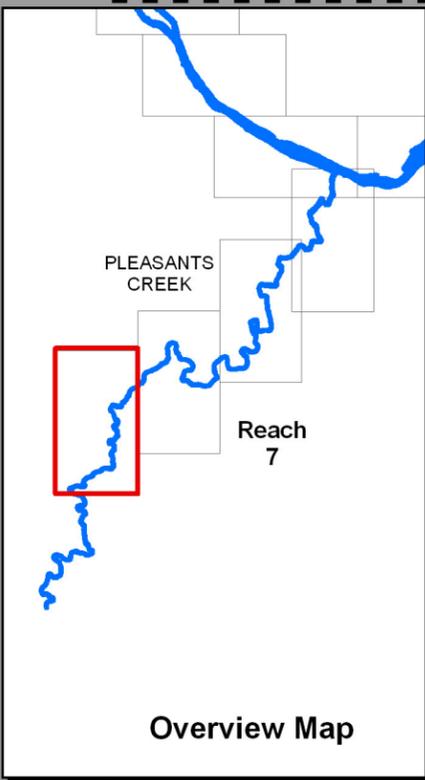


6545371

6546371

6547371

6548371



LEGEND

- Riparian Corridor
- Matchline
- River Mile Markers
- Elderberries
- Invasive Weed Species**
- Arundo
- English Ivy
- Pampas grass
- Virginia creeper
- Black locust
- Catalpa
- Domestic almond
- Eucalyptus
- Fennel
- Fig
- Himalayan blackberry
- Milk thistle
- Pepper tree
- Pepperweed
- Tamarisk
- Tree of heaven
- Tree tobacco
- Water milfoil
- Yellow star thistle

Sources: Image America, March 2001; EDAW 2002
 Coordinate System: California State Plane, region 2, NAD 83 (feet)

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MAP EXHIBIT **R36**

