

DOCKETED

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Project Title:	Redondo Beach Energy Project
TN #:	206059
Document Title:	Study of population densities near gas-fired power plants in California
Description:	N/A
Filer:	Jon Welner
Organization:	Jeffer Mangels Butler & Mitchell LLP
Submitter Role:	Intervenor Representative
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September 10, 2015

VIA E-MAIL

Karen Douglas, Presiding Member
Janea A. Scott, Associate Member
Redondo Beach Energy Project
AFC Committee, California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: Redondo Beach Energy Project (12-AFC-03, RBEP)
Analysis of Population Data for Gas-Fired Power Plants in California

Dear Commissioners:

The City of Redondo Beach ("City") is convinced that the proposed location for a new power plant in Redondo Beach is unsuitable.

One of the key reasons for this finding is the extremely high population of residents immediately surrounding the facility. The initial power plant at this location was built in the 1800s, long before the modern cities of Redondo Beach and Hermosa Beach had sprung up around the site. The proposed plant is now in the center of a dense and thriving community. As noted below, the residential population within one mile of the proposed plant is now more than 21,000 people! And this does not begin to take into account the number of people from out of town who visit our beach every summer (also within one mile of the plant).

Gas-fired power plants should not be built in such an urban environment. All of the local impacts—air, noise, visual blight—are multiplied by the number of people who live, work, and play in the immediate vicinity of the plant. The recent uncontrolled gas leak from the existing plant is a perfect example.¹ If the plant were in a more isolated location, the gas leak would not have affected so many people. But because the plant is located in the middle of a crowded city, emergency responders were flooded by dozens of 911 calls and a large number of citizens reported being affected by the foul odor, noisy alarms, and fear generated by the incident.

¹ See *Report on Uncontrolled Release of Natural Gas from AES Plant*, TN# 205973, for a description of this incident.

For this reason, the City retained mapping consultant GreenInfo Network to conduct a study of the populations located within one mile of existing gas-fired power plants in California, with generation capacities of 50MW or greater. We wanted to determine whether Redondo Beach is an outlier, and whether most power plants are built in locations with much lower population density.²

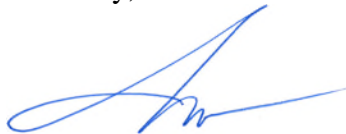
The results of the study are attached. The conclusion: the vast majority of power plants are sited in locations with very low population density (as they should be). Of the 102 power plants that were analyzed, 46 were located at sites with surrounding populations of less than 1,000; 85 had populations of less than 10,000; and only 6 (including Redondo Beach) had populations above 20,000.

Attached please find the following materials: (1) a spreadsheet with data on the 102 power plants that were reviewed (Exhibit A); (2) a chart comparing the population figures for each the 102 plants (Exhibit B); and (3) maps generated by GreenInfo to calculate the populations within one mile of each plant (Exhibit C). We would be pleased to provide a presentation of the data and methodology at your request.

We urge the Commission to take this data into account when determining whether to approve the proposed project in Redondo Beach. In particular, we urge the Commission to incorporate this data into its consideration of potential alternative sites, and its analysis of local impacts including air, noise, and visual blight. Moreover, the Commission should incorporate this data into its determination of whether the project is required for "public convenience and necessity," and whether there are more "prudent and feasible means" for achieving any such public convenience and necessity.

Thank you for your consideration of this data.

Sincerely,



JON WELNER of
Jeffer Mangels Butler & Mitchell LLP

JXW:jbe
Enclosures

² The City is grateful to Energy Commission staff for producing maps on the population density of six coastal plants, in response to the City's request for data on this issue. (TN# 205103) The maps were very helpful to our effort.

EXHIBIT A

POPULATION WITHIN 1-MILE OF GAS-FIRED POWER PLANTS IN CALIFORNIA, 50W OR GREATER

RANK	POWER PLANT NAME	SERVICE AREA	COUNTY	CITY	MW	ONLINE YEAR	OPERATING COMPANY	POPULATION
1	MAGNOLIA	BURBANK WATER & POWER	LOS ANGELES	BURBANK	328	2004	BURBANK WATER AND POWER	34,169
2	OLIVE	BURBANK WATER & POWER	LOS ANGELES	BURBANK	92	1959	BURBANK WATER AND POWER	33,554
3	OAKLAND	PACIFIC GAS & ELECTRIC COMPANY	ALAMEDA	OAKLAND	224	1978	DYNEGY POWER AND NRG ENERGY, INC.	23,707
4	GRAYSON	GLENDALE WATER & POWER	LOS ANGELES	GLENDALE	288	1953	CITY OF GLENDALE	23,573
5	BROADWAY	PASADENA WATER & POWER	LOS ANGELES	PASADENA	75	1965	CITY OF PASADENA	22,248
6	REDONDO BEACH GEN. STATION	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	REDONDO BEACH	1343	1954	AES CORPORATION	21,632
7	SPAC	SACRAMENTO MUNICIPAL UTILITY DISTRICT	SACRAMENTO	SACRAMENTO	174	1997	SACRAMENTO MUNICIPAL UTILITY DISTRICT	17,850
8	HARBOR	LOS ANGELES DEPARTMENT OF WATER & POWER	LOS ANGELES	WILMINGTON	466	1949	LOS ANGELES DEPT. OF WATER & POWER	17,256
9	COACHELLA	IMPERIAL IRRIGATION DISTRICT	RIVERSIDE	COACHELLA	92	1973	IMPERIAL IRRIGATION DISTRICT	16,873
10	WALNUT CREEK ENERGY PARK	CITY OF INDUSTRY	LOS ANGELES	CITY OF INDUSTRY	500	2012	EDISON MISSION ENERGY	16,221
11	GIANERA GENERATING STATION	SILICON VALLEY POWER	SANTA CLARA	SANTA CLARA	64	1986	SILICON VALLEY POWER - CITY OF SANTA CLARA (CSC)	14,392
12	GREENLEAF UNIT TWO	PACIFIC GAS & ELECTRIC COMPANY	SUTTER	YUBA CITY	50	1989	CALPINE	13,942
13	CANYON	CITY OF ANAHEIM PUBLIC UTILITIES DEPARTMENT	ORANGE	ANAHEIM	100	2011	SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY	13,291
14	CARDINAL COGEN	PACIFIC GAS & ELECTRIC COMPANY	SANTA CLARA	STANFORD	53	1988	STANFORD UNIVERSITY	13,247
15	ALAMITOS GEN. STATION	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	LONG BEACH	1970	1956	AES CORP/WILLIAMS	11,811
16	MID WOODLAND I & II	MODESTO IRRIGATION DISTRICT	STANISLAUS	MODESTO	129	1993	MODESTO IRRIGATION DISTRICT	11,553
17	LOS ANGELES REFINERY	LOS ANGELES DEPARTMENT OF WATER & POWER	LOS ANGELES	WILMINGTON	69	1987	TOSCO CORP	11,466
18	HAYNES	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	LONG BEACH	1724	1962	LOS ANGELES DEPT. OF WATER & POWER	10,651
19	ELLWOOD	SOUTHERN CALIFORNIA EDISON	SANTA BARBARA	GOLETA	57	1974	RELIANT ENERGY	9,375
20	OXNARD I & II	SOUTHERN CALIFORNIA EDISON	VENTURA	OXNARD	70	1989	PROCTER & GAMBLE	9,154
21	SCATTERGOOD	LOS ANGELES DEPARTMENT OF WATER & POWER	LOS ANGELES	PLAYA DEL REY	803	1958	LOS ANGELES DEPT. OF WATER & POWER	8,634
22	HUNTINGTON BEACH	SOUTHERN CALIFORNIA EDISON	ORANGE	HUNTINGTON BEACH	904	1958	AES CORPORATION	8,336
23	TEXACO LOS ANGELES REFINERY	LOS ANGELES DEPARTMENT OF WATER & POWER	LOS ANGELES	WILMINGTON	83	1983	EQUILON ENTERPRISES LLC, LA REFINING	8,247
24	MARTINEZ REFINING CO.	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	MARTINEZ	100	1995	MARTINEZ REFINING CO.	7,971
25	LOS MEDANOS ENERGY CENTER	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	PITTSBURG	594	2001	CALPINE	7,958
26	CITY OF VERNON COMB. CYCLE (MALBURG)	CITY OF VERNON MUNICIPAL LIGHT DEPARTMENT	LOS ANGELES	VERNON	138	2005	CITY OF VERNON	7,477
27	VALLEY	LOS ANGELES DEPARTMENT OF WATER & POWER	LOS ANGELES	SUN VALLEY	573	1954	LOS ANGELES DEPT. OF WATER & POWER	7,088
28	RIVERSIDE ENERGY RESOURCE CENTER, UNITS 3&4	CITY OF RIVERSIDE	RIVERSIDE	RIVERSIDE	99	2011	CITY OF RIVERSIDE	6,819
29	MID RIPON	PACIFIC GAS & ELECTRIC COMPANY AND MODESTO IRRIGATION DISTRICT	SAN JOAQUIN	RIPON	100	2006	MODESTO IRRIGATION DISTRICT	6,806
30	RIVERSIDE ENERGY RESOURCE CENTER, UNITS 1&2	CITY OF RIVERSIDE	RIVERSIDE	RIVERSIDE	96	2006	CITY OF RIVERSIDE	6,806
31	EL SEGUNDO REPOWER	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	EL SEGUNDO	526	2013	NRG/DYNEGY POWER	6,656
32	CALPINE KING CITY COGEN	PACIFIC GAS & ELECTRIC COMPANY	MONTEREY	KING CITY	130	1989	CALPINE	5,758
33	CROCKETT COGEN	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	CROCKETT	247	1996	CREED ENERGY CENTER LLC (CALPINE)	5,233
34	PROCTER & GAMBLE - SMUD	SACRAMENTO MUNICIPAL UTILITY DISTRICT	SACRAMENTO	SACRAMENTO	193	1997	SACRAMENTO MUNICIPAL UTILITY DISTRICT	5,013
35	PITTSBURG	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	PITTSBURG	1370	1954	MIRANT CORP.	4,957
36	AES PLACERITA	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	PLACERITA CYN.	120	1988	AES PLACERITA	4,894
37	ENCINA	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	CARLSBAD	965	1954	NRG ENERGY	4,548
38	ALMOND 2	TURLOCK IRRIGATION DISTRICT	STANISLAUS	CERES	174	2012	TURLOCK IRRIGATION DISTRICT	4,508
39	INLAND EMPIRE ENERGY CENTER	SOUTHERN CALIFORNIA EDISON	RIVERSIDE	ROMOLAND	400	2009	INLAND EMPIRE ENERGY CENTER, LLC	4,204

POPULATION WITHIN 1-MILE OF GAS-FIRED POWER PLANTS IN CALIFORNIA, 50W OR GREATER

RANK	POWER PLANT NAME	SERVICE AREA	COUNTY	CITY	MW	ONLINE YEAR	OPERATING COMPANY	POPULATION
40	ETIWANDA	SOUTHERN CALIFORNIA EDISON	SAN BERNARDINO	ETIWANDA	149	1963	RELIANT ENERGY	4,102
41	EL CENTRO	IMPERIAL IRRIGATION DISTRICT	IMPERIAL	EL CENTRO	279	1952	IMPERIAL IRRIGATION DISTRICT	3,796
42	EL CENTRO UNIT 3- REPOWER	IMPERIAL IRRIGATION DISTRICT	IMPERIAL	EL CENTRO	85	2012	IMPERIAL IRRIGATION DISTRICT	3,796
43	MCCLURE	MODESTO IRRIGATION DISTRICT	STANISLAUS	MODESTO	112	1980	MODESTO IRRIGATION DISTRICT	3,714
44	PALOMAR ESCONDIDO	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	ESCONDIDO	546	2006	SAN DIEGO GAS & ELCECTRIC COMPANY	3,484
45	VALERO UNIT 1	PACIFIC GAS & ELECTRIC COMPANY	SOLANO	BENICIA	51	2002	VALERO REFINING CO.	3,392
46	DONALD VON RAESFELD CC	SILICON VALLEY POWER	SANTA CLARA	SANTA CLARA	147	2005	SILICON VALLEY POWER	3,065
47	TOSCO SFAR CARBON	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	RODEO	51	1984	TOSCO CORP	2,928
48	MOUNTAINVIEW	SOUTHERN CALIFORNIA EDISON	SAN BERNARDINO	REDLANDS	1058	2005	MOUNTAINVIEW POWER COMPANY, LLC	2,486
49	MCCLELLAN	SACRAMENTO MUNICIPAL UTILITY DISTRICT	SACRAMENTO	SACRAMENTO	74	1986	SACRAMENTO POWER AUTHORITY	2,359
50	LOS ESTEROS CRITICAL ENERGY CENTER	PACIFIC GAS & ELECTRIC COMPANY	SANTA CLARA	SAN JOSE	192	2003	CALPINE	2,193
51	SYCAMORE COGEN	PACIFIC GAS & ELECTRIC COMPANY	KERN	BAKERSFIELD	300	1988	SYCAMORE COGENERATION CO	2,070
52	HUMBOLDT BAY GEN STATION	PACIFIC GAS & ELECTRIC COMPANY	HUMBOLDT	EUREKA	163	2010	PACIFIC GAS AND ELECTRIC COMPANY	1,863
53	KEARNY	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	SAN DIEGO	138	1969	NRG/DYNEGY POWER	1,723
54	ROSEVILLE ENERGY PARK	ROSEVILLE ELECTRIC	PLACER	ROSEVILLE	200	2007	PLACER COUNTY & CITY OF ROSEVILLE	1,540
55	DELTA ENERGY CENTER	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	PITTSBURG	860	2002	CALPINE/BECHTEL	1,468
56	METCALF ENERGY CENTER	PACIFIC GAS & ELECTRIC COMPANY	SANTA CLARA	SAN JOSE	566	2005	CALPINE/BECHTEL	1,236
57	KINGS RIVER CONSERVATION DIST. PEAKER	PACIFIC GAS & ELECTRIC COMPANY	FRESNO	FRESNO	98	2005	KINGS RIVER CONSERVATION DISTRICT	1,200
58	MANDALAY	SOUTHERN CALIFORNIA EDISON	VENTURA	OXNARD	573	1959	RELIANT ENERGY	886
59	MARSH LANDING	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	ANTIOCH	828	2013	NRG MARSH LANDING LLC	821
60	NILAND	IMPERIAL IRRIGATION DISTRICT	IMPERIAL	NILAND	93	2008	IMPERIAL IRRIGATION DISTRICT	652
61	GATEWAY GEN. STATION	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	ANTIOCH	530	2009	PACIFIC GAS AND ELECTRIC COMPANY	627
62	WILDFLOWER - INDIGO	SOUTHERN CALIFORNIA EDISON	RIVERSIDE	NORTH PALM SPRINGS	135	2001	INTERGEN	476
63	HARBOR COGEN	LOS ANGELES DEPARTMENT OF WATER & POWER	LOS ANGELES	WILMINGTON	107	1988	HARBOR COGENERATION CO.	406
64	CALPINE GILROY PEAKER	PACIFIC GAS & ELECTRIC COMPANY	SANTA CLARA	GILROY	142	2002	CALPINE	382
65	CALPINE GILROY COGEN	PACIFIC GAS & ELECTRIC COMPANY	SANTA CLARA	GILROY	123	1987	CALPINE	381
66	WALNUT ENERGY CENTER	TURLOCK IRRIGATION DISTRICT	STANISLAUS	TURLOCK	250	2006	TURLOCK IRRIGATION DISTRICT	347
67	OTAY MESA ENERGY CENTER	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	OTAY MESA	590	2009	CALPINE	273
68	CARSON COGEN	SACRAMENTO MUNICIPAL UTILITY DISTRICT	SACRAMENTO	SACRAMENTO	126	1995	CENTRAL VALLEY FINANCING AUTHORITY	265
69	MOSS LANDING	PACIFIC GAS & ELECTRIC COMPANY	MONTEREY	MOSS LANDING	2484	2002	DYNERGY POWER AND NRG ENERGY, INC.	136
70	KERN RIVER COGEN	PACIFIC GAS & ELECTRIC COMPANY	KERN	BAKERSFIELD	300	1985	KERN RIVER COGEN	126
71	REDDING POWER	PACIFIC GAS & ELECTRIC COMPANY	SHASTA	REDDING	141	1991	REDDING ELECTRIC UTILITY	117
72	TRACY	PACIFIC GAS & ELECTRIC COMPANY	SAN JOAQUIN	TRACY	355	2012	STAR WEST	110
73	RUSSELL CITY AMENDMENT	PACIFIC GAS & ELECTRIC COMPANY	ALAMEDA	HAYWARD	195	2013	CALPINE	103
74	FOSTER-WHEELER MARTINEZ COGEN L.P.	PACIFIC GAS & ELECTRIC COMPANY	CONTRA COSTA	MARTINEZ	127	1987	FOSTER WHEELER POWER SYSTEMS, INC.	102
75	WATSON COGEN	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	CARSON	398	1986	WATSON COGENERATION	87
76	MIRAMAR	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	SAN DIEGO	95	2005	SAN DIEGO GAS & ELCECTRIC COMPANY	72
77	HANFORD ENERGY PARK PEAKER	PACIFIC GAS & ELECTRIC COMPANY	KINGS	HANFORD	92	2001	KINGS COUNTY WM AUTHORITY	60
78	FRESNO COGEN	PACIFIC GAS & ELECTRIC COMPANY	FRESNO	SAN JOAQUIN	58	1989	FRESNO COGENERATION PARTNERS	56
79	SMUD COSUMNES RIVER PHASE 1	SACRAMENTO MUNICIPAL UTILITY DISTRICT	SACRAMENTO	HERALD	500	2006	WOOD GROUP POWER OPERATIONS, INC.	53
80	ORANGE GROVE PEAKER	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	PALA	96	2010	J POWER USA	48
81	SENTINEL ENERGY	SOUTHERN CALIFORNIA EDISON	RIVERSIDE	PALM SPRINGS	850	2013	COMPETITIVE POWER VENTURES	47

POPULATION WITHIN 1-MILE OF GAS-FIRED POWER PLANTS IN CALIFORNIA, 50W OR GREATER

RANK	POWER PLANT NAME	SERVICE AREA	COUNTY	CITY	MW	ONLINE YEAR	OPERATING COMPANY	POPULATION
82	SUTTER POWER PROJECT	PACIFIC GAS & ELECTRIC COMPANY	SUTTER	YUBA CITY	578	2001	CALPINE	45
83	LONG BEACH PEAKER	SOUTHERN CALIFORNIA EDISON	LOS ANGELES	LONG BEACH	260	2007	NRG ENERGY	39
84	COOL	SOUTHERN CALIFORNIA EDISON	SAN BERNARDINO	DAGGETT	727	1961	RELIANT ENERGY	28
85	MARIPOSA ENERGY PROJECT	PACIFIC GAS & ELECTRIC COMPANY	ALAMEDA	TRACY	200	2012	MARIPOSA ENERGY LLC	27
86	HIGH DESERT	VICTORVILLE MUNICIPAL UTILITIES SERVICES	SAN BERNARDINO	VICTORVILLE	855	2003	TENASKA INC.	23
87	ORMOND BEACH	SOUTHERN CALIFORNIA EDISON	VENTURA	OXNARD	1613	1971	RELIANT ENERGY	17
88	STARWOOD MIDWAY	PACIFIC GAS & ELECTRIC COMPANY	FRESNO	LOS BANOS	120	2009	STARWOOD POWER-MIDWAY LLC	16
89	PANOCH ENERGY CENTER	PACIFIC GAS & ELECTRIC COMPANY	FRESNO	PANOCH HILLS	400	2009	ENERGY INVESTORS FUND	14
90	LODI ENERGY CENTER	PACIFIC GAS & ELECTRIC COMPANY	SAN JOAQUIN	LODI	255	2012	NORTHERN CALIFORNIA POWER AGENCY	14
91	MIDWAY-SUNSET COGEN	PACIFIC GAS & ELECTRIC COMPANY	KERN	FELLOWS	234	1989	MIDWAY-SUNSET COGENERATION CO.	13
92	NCPA STIG	PACIFIC GAS & ELECTRIC COMPANY	SAN JOAQUIN	LODI	50	1996	NORTHERN CALIFORNIA POWER AGENCY	12
93	WILDFLOWER - LARKSPUR	SAN DIEGO GAS & ELECTRIC	SAN DIEGO	SAN DIEGO	90	2001	INTERGEN	8
94	BLYTHE COMBINED CYCLE	SOUTHERN CALIFORNIA EDISON	RIVERSIDE	BLYTHE	520	2003	FPL ENERGY	7
95	LA PALOMA GENERATING PROJECT	PACIFIC GAS & ELECTRIC COMPANY	KERN	MCKITTRICK	1200	2003	LA PALOMA GENERATING COMPANY	2
96	COLUSA GEN. STATION	PACIFIC GAS & ELECTRIC COMPANY	COLUSA	MAXWELL	660	2010	PACIFIC GAS AND ELECTRIC COMPANY	0
97	ELK HILLS	PACIFIC GAS & ELECTRIC COMPANY	KERN	TAFT	567	2003	SEMPRA ENERGY RESOURCES	0
98	GWF HENRIETTA	PACIFIC GAS & ELECTRIC COMPANY	KINGS	HANFORD	98	2002	GWF ENERGY, LLC	0
99	MOJAVE COGEN	SOUTHERN CALIFORNIA EDISON	KERN	EDWARDS	55	1990	MOJAVE COGEN CO.	0
100	PASTORIA ENERGY FACILITY	PACIFIC GAS & ELECTRIC COMPANY	KERN	MCKITTRICK	750	2005	CALPINE	0
101	SOUTH BELRIDGE COGEN	PACIFIC GAS & ELECTRIC COMPANY	KERN	MCKITTRICK	60	1985	AERA ENERGY LLC	0
102	SUNRISE	PACIFIC GAS & ELECTRIC COMPANY	KERN	FELLOWS	572	2001	EDISON MISSION ENERGY	0

Power plant data: Energy Commission website

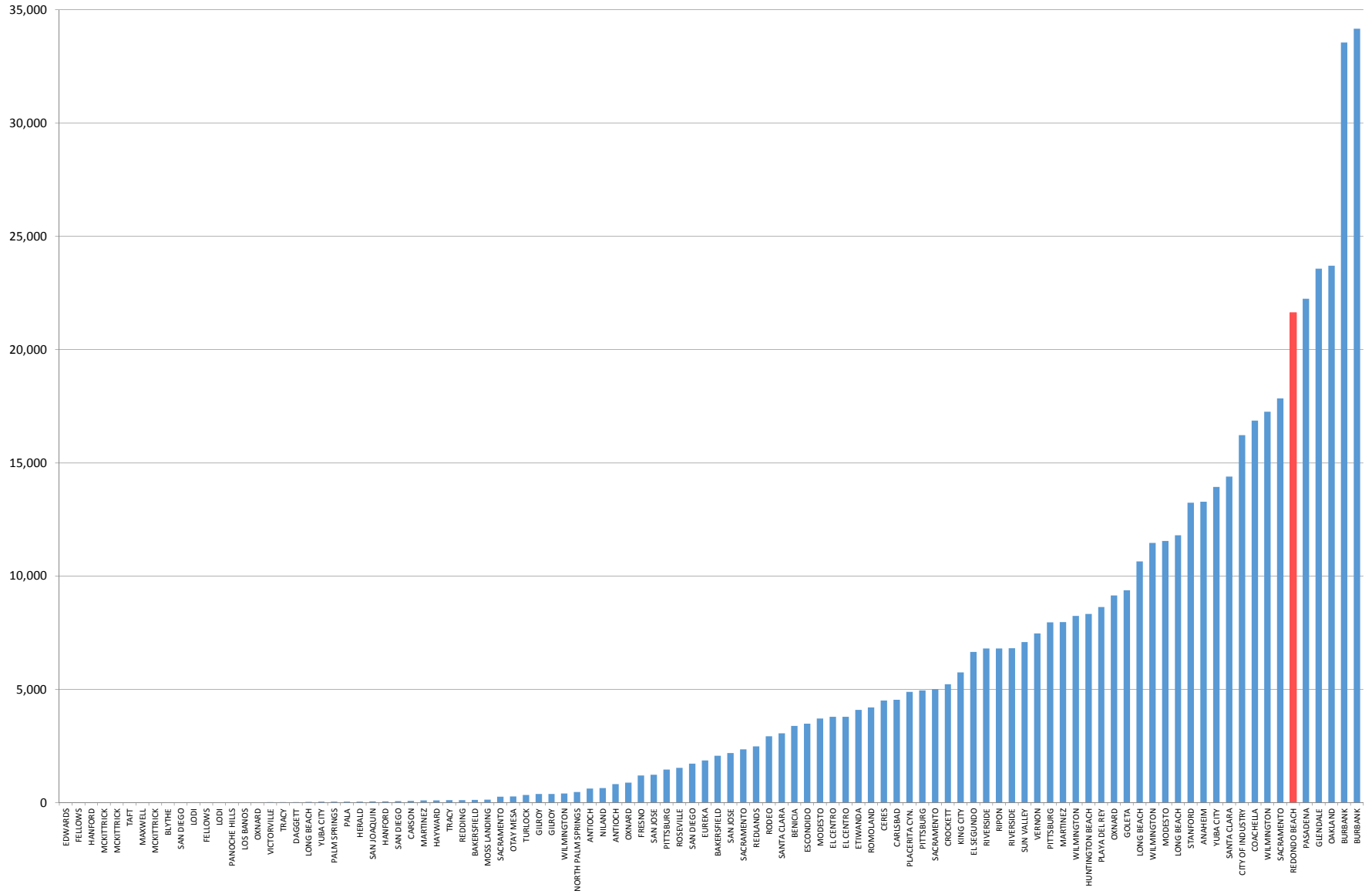
Population data: 2010 U.S. Census

Area data: 2010 U.S. Census blocks

EXHIBIT B

Population Within One Mile of Gas-Fired Power Plants in California, 50MW or Greater

Number of
Residents

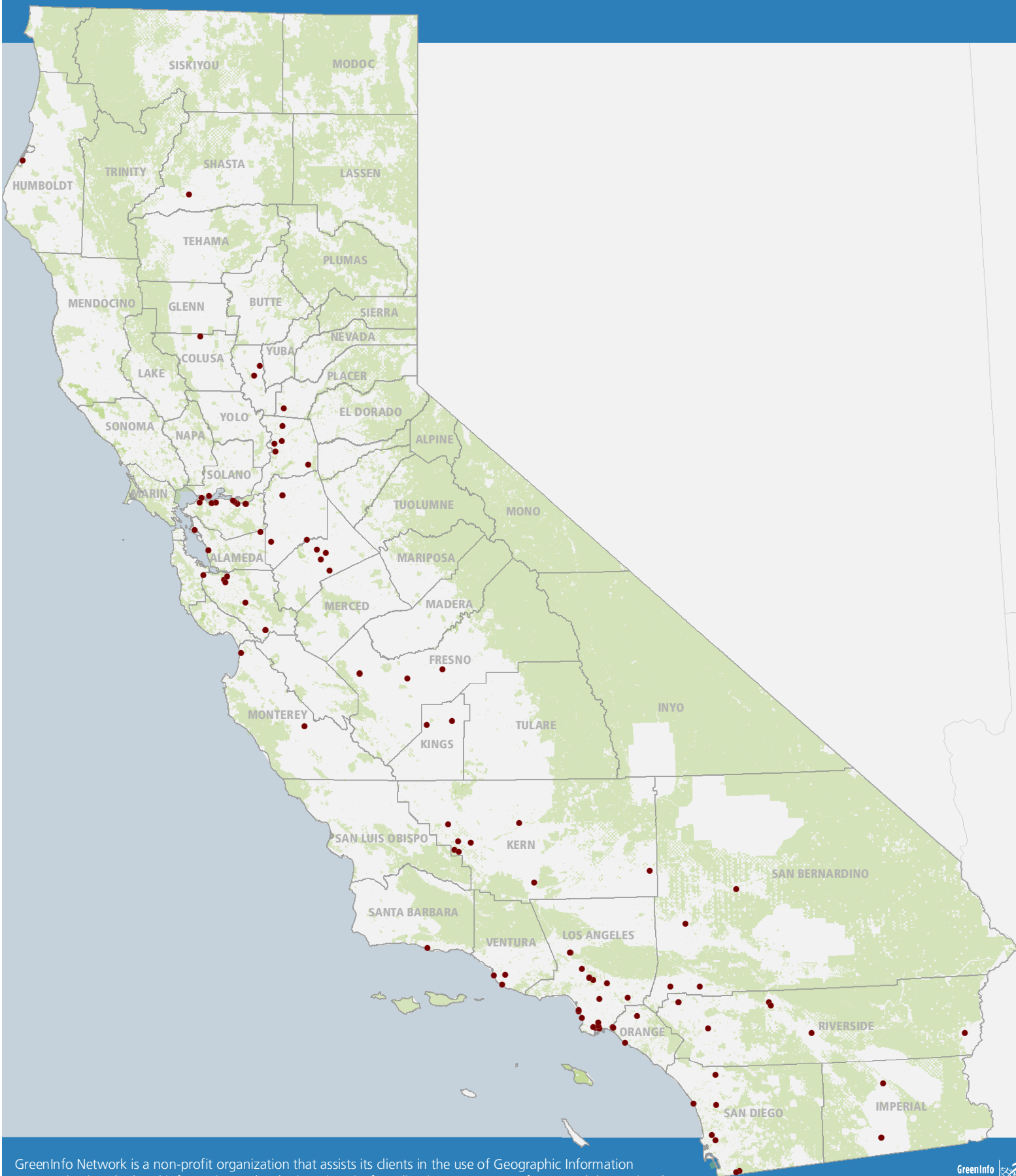


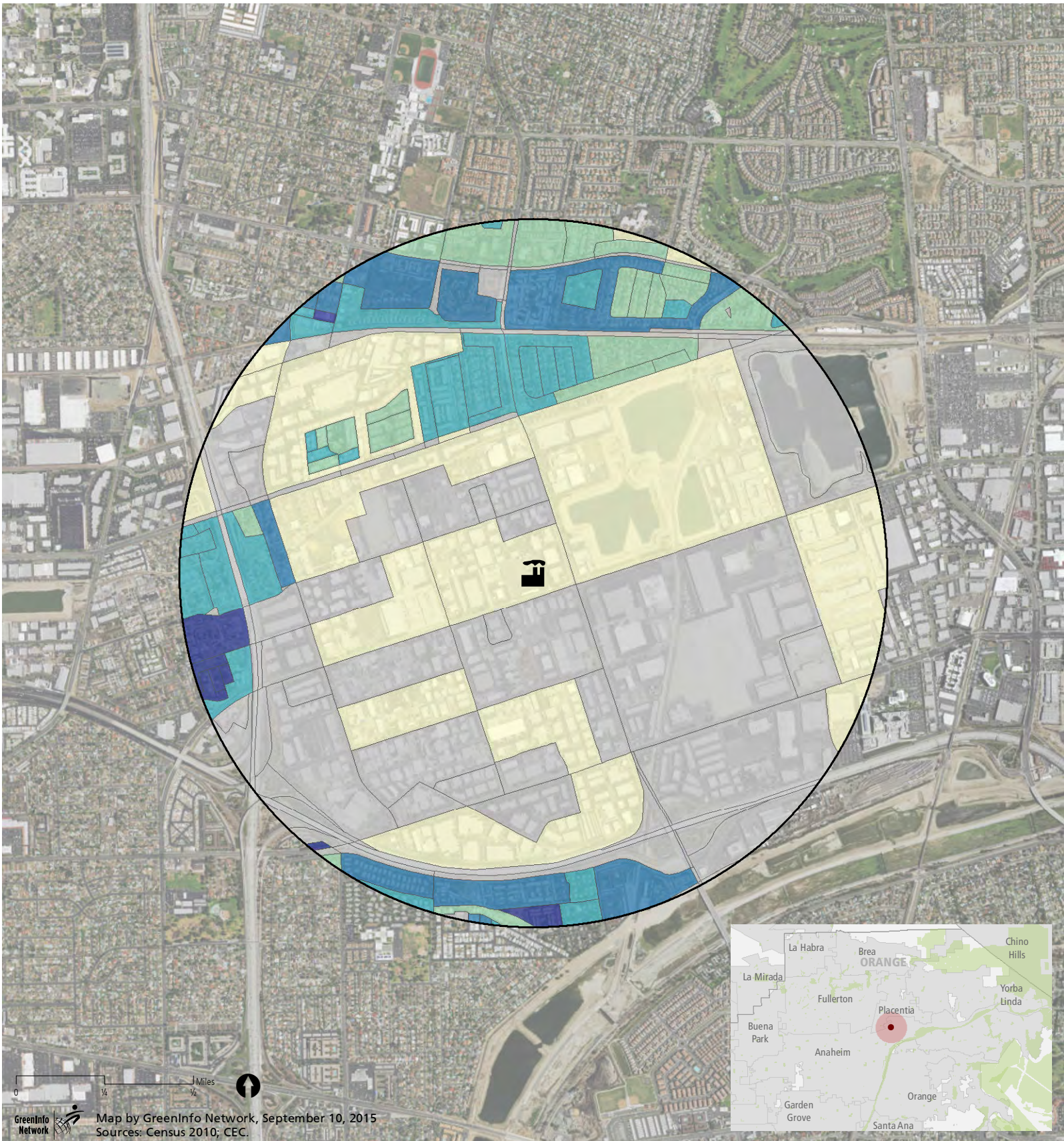
Location of Power Plant

EXHIBIT C

Study of Population Within 1-Mile Radius of Gas-Fired Power Plants in California, 50 MW or Greater

Study conducted on behalf of the City of Redondo Beach





ANAHEIM

CANYON
100 MW

Number of residents
within 1 mile: **13,291**



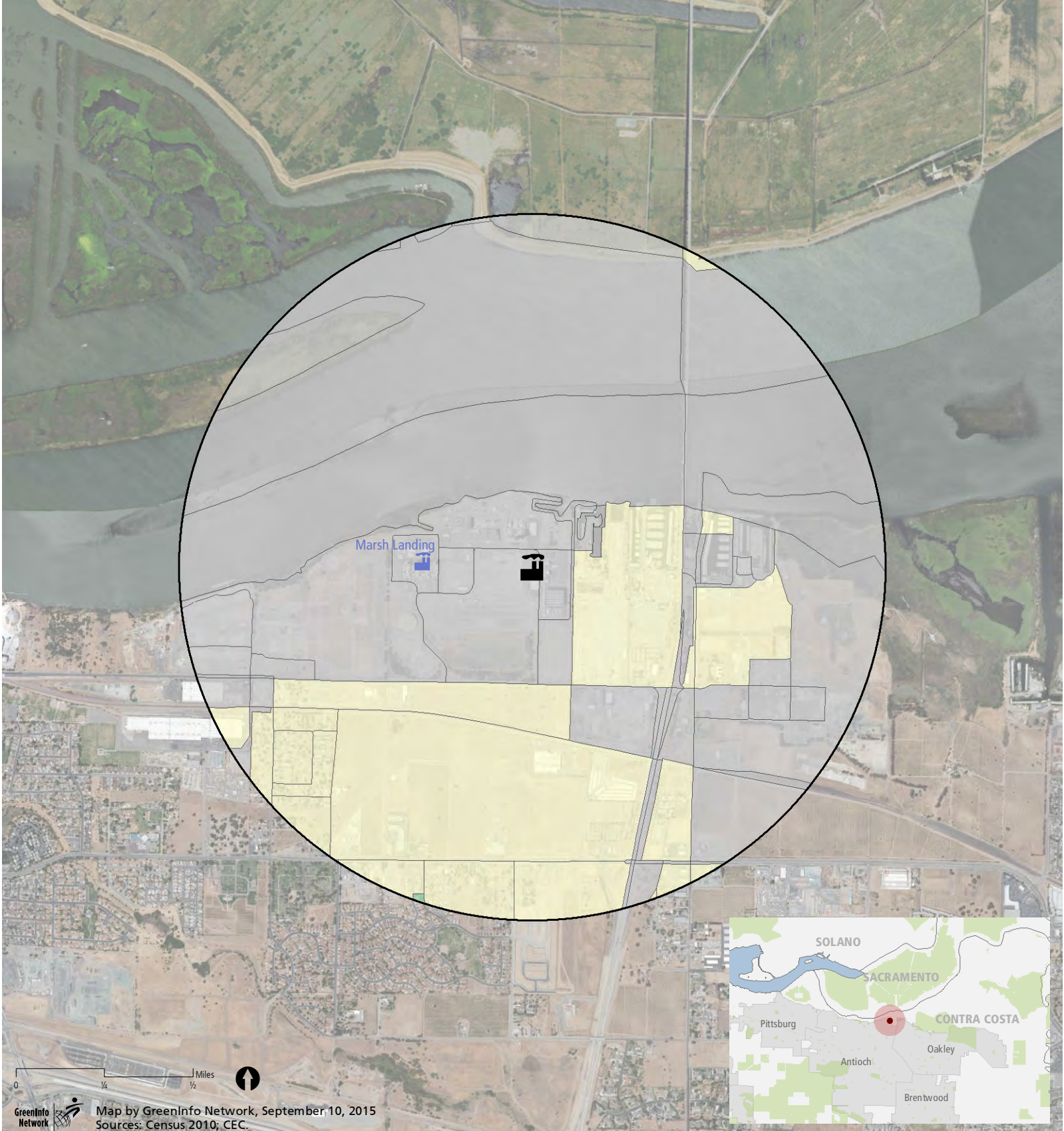
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



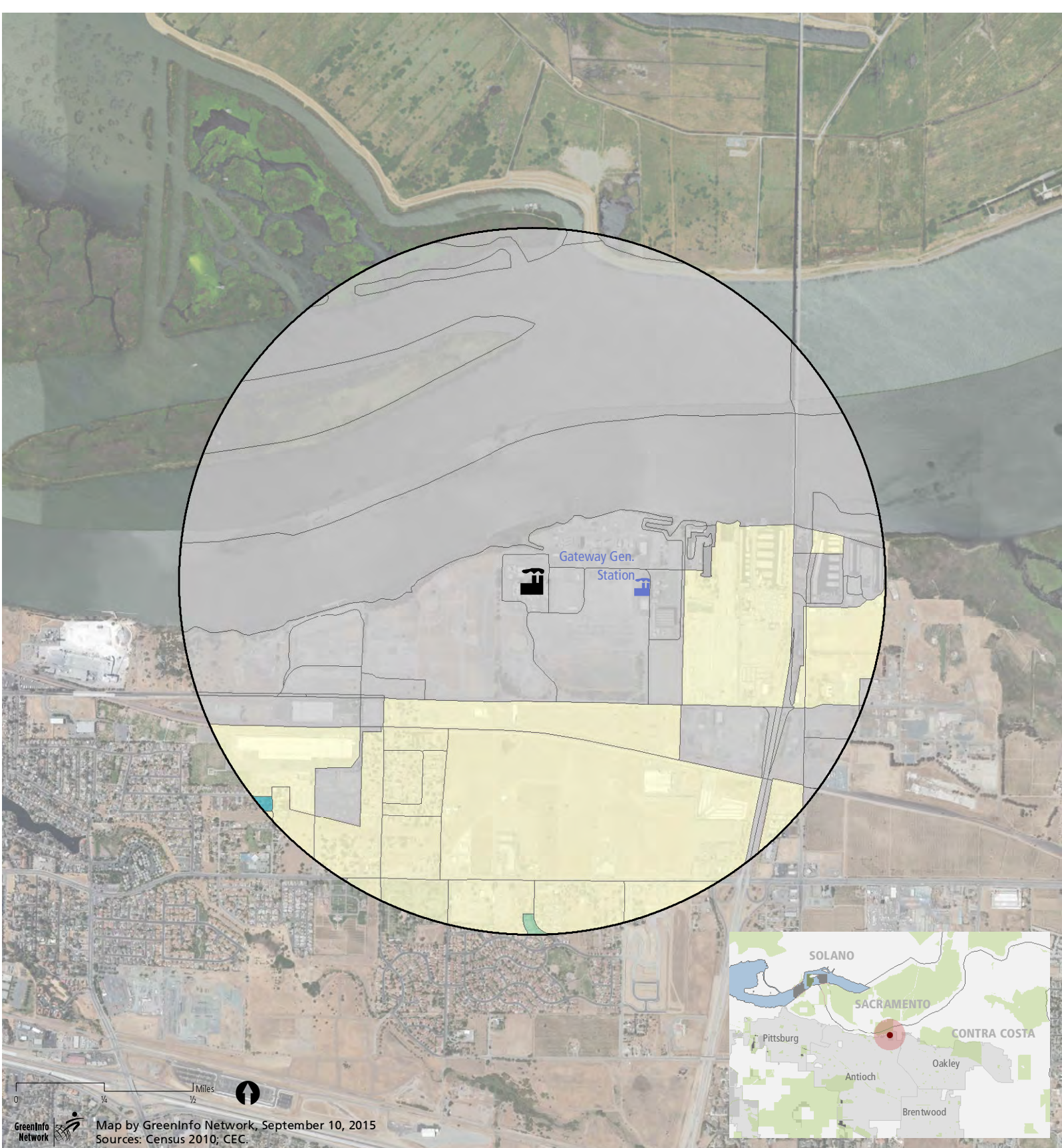
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC

ANTIOCH
GATEWAY GEN. STATION
530 MW

Number of residents
within 1 mile: **627**




- Featured gas-fired power plant
- Nearby plant
- 1-mile radius







Population density (residents per square mile)	
Census block	
	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+

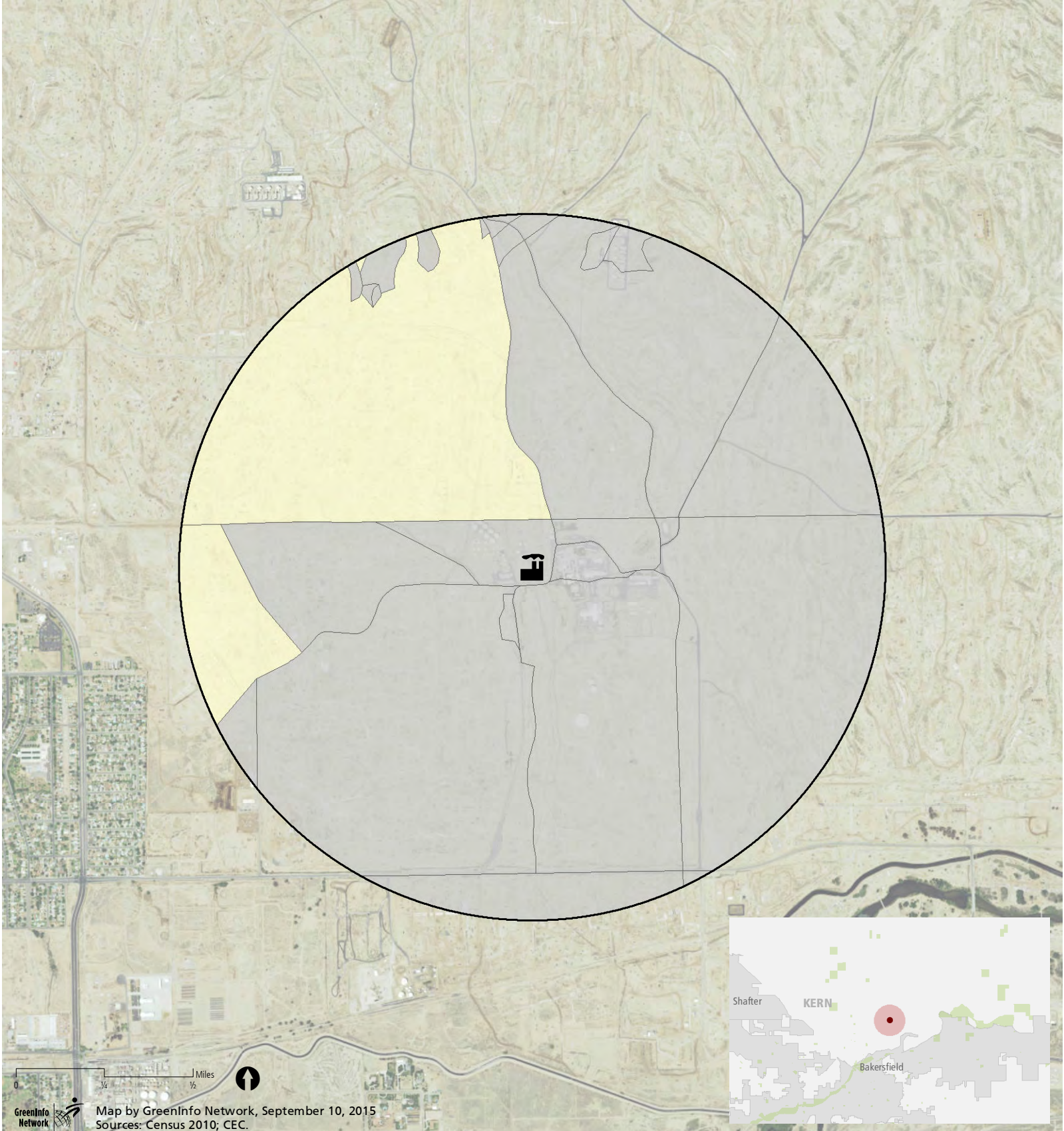


ANTIOCH
MARSH LANDING
828 MW

Number of residents
within 1 mile: **821**



-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

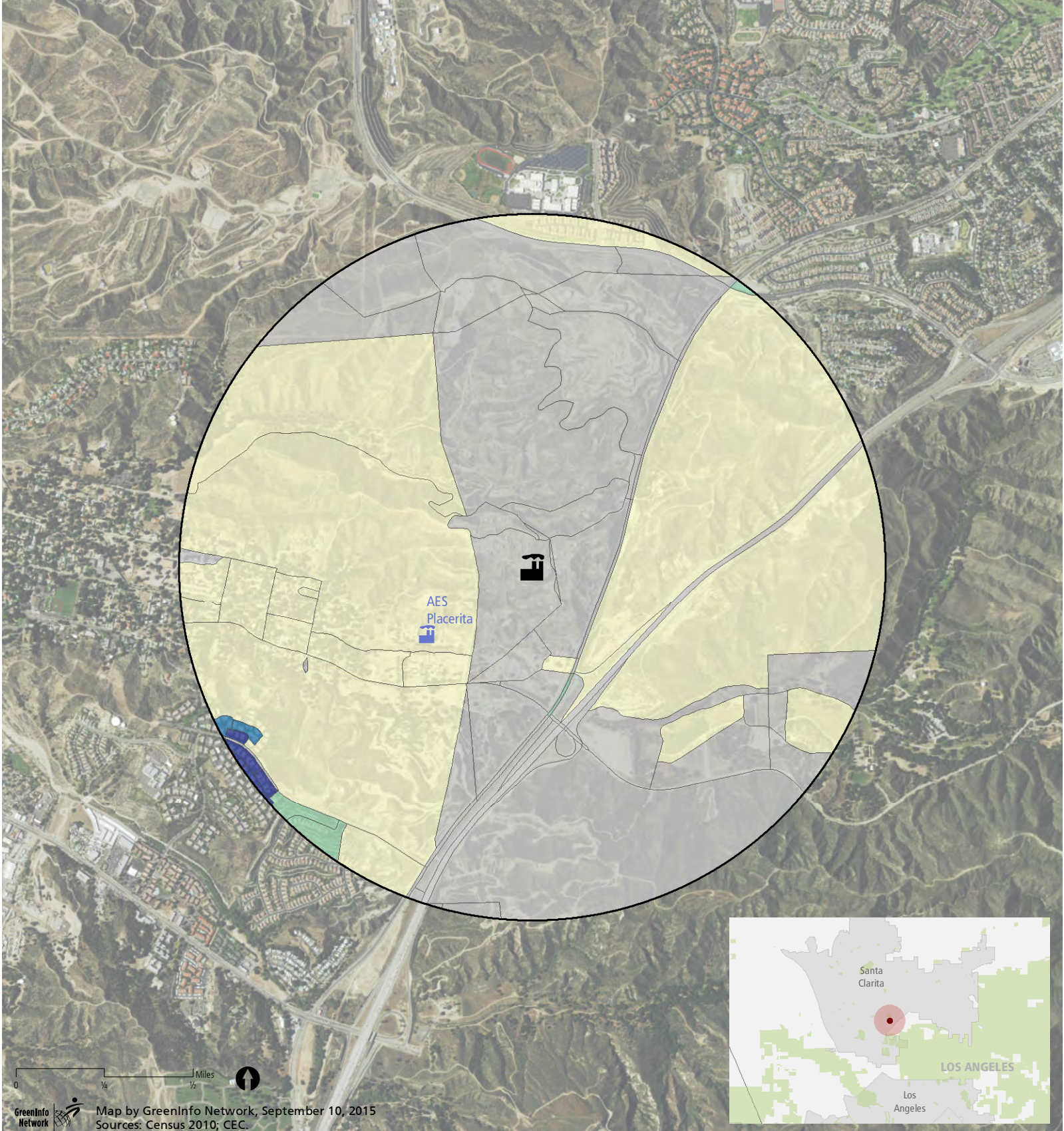


BAKERSFIELD
 KERN RIVER COGEN
 300 MW

Number of residents
 within 1 mile: **126**




-  Featured gas-fired power plant
-  1-mile radius







- Population density
 (residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

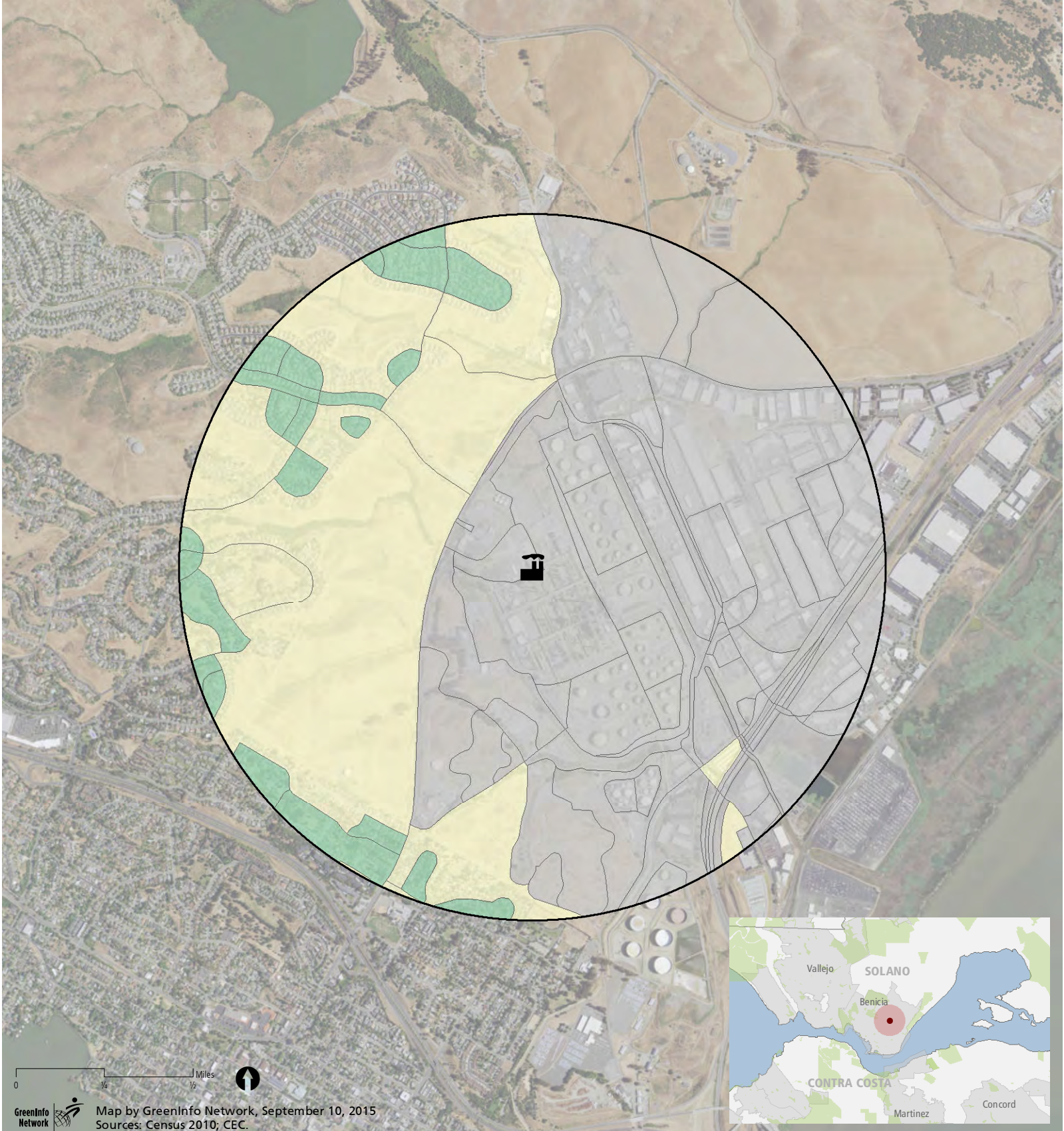


BAKERSFIELD
SYCAMORE COGEN
300 MW

Number of residents
within 1 mile: **2,070**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius



- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+









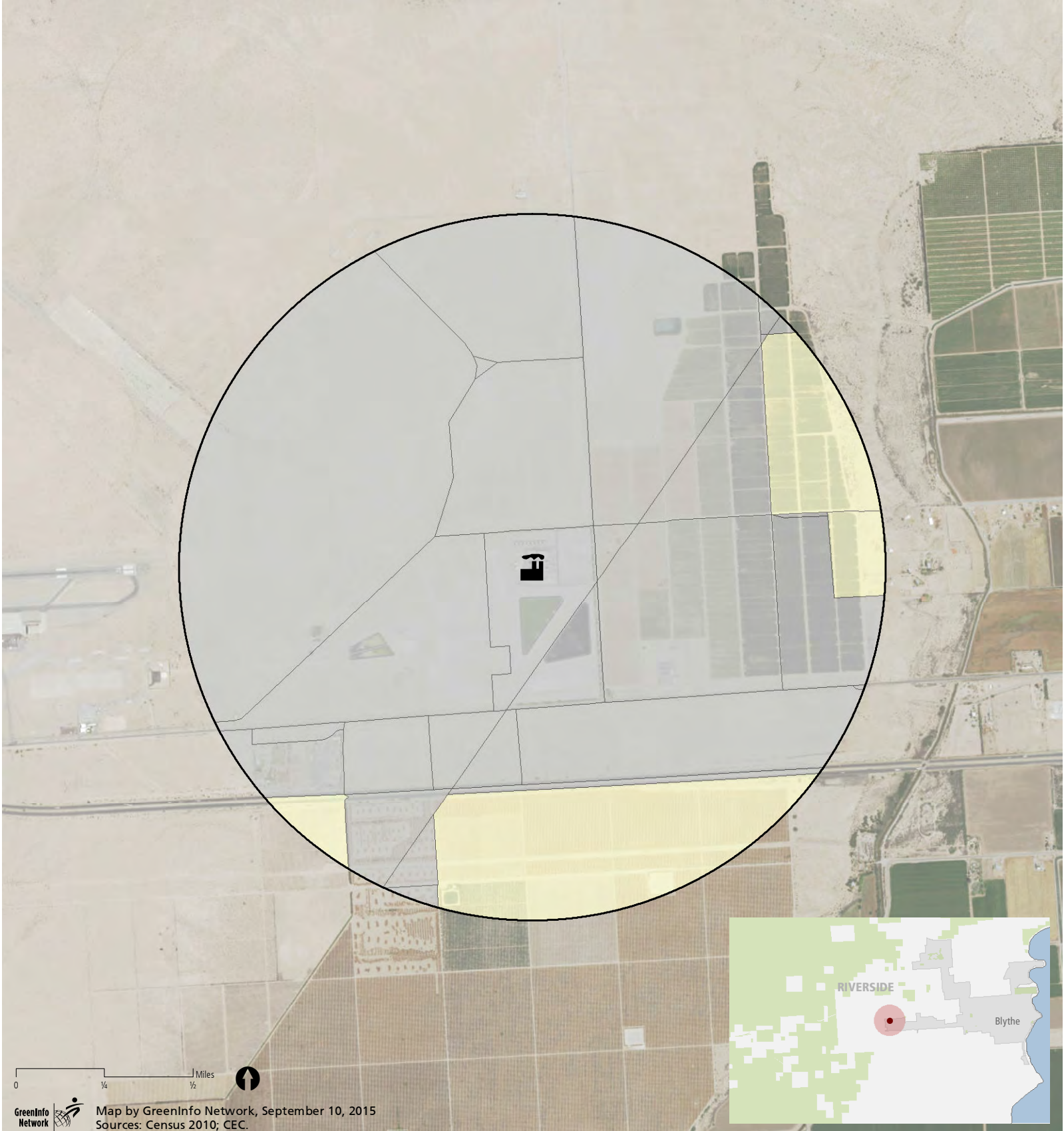
GreenInfo Network
 Map by GreenInfo Network, September 10, 2015
 Sources: Census 2010; CEC.

BENICIA
 VALERO UNIT 1
 51 MW

Number of residents
 within 1 mile: **3,392**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
 (residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



BLYTHE
BLYTHE COMBINED CYCLE
520 MW

Number of residents
within 1 mile: **7**



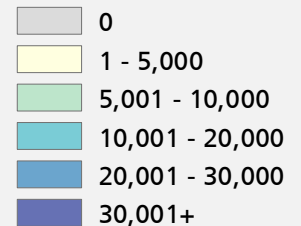
Featured gas-fired power plant

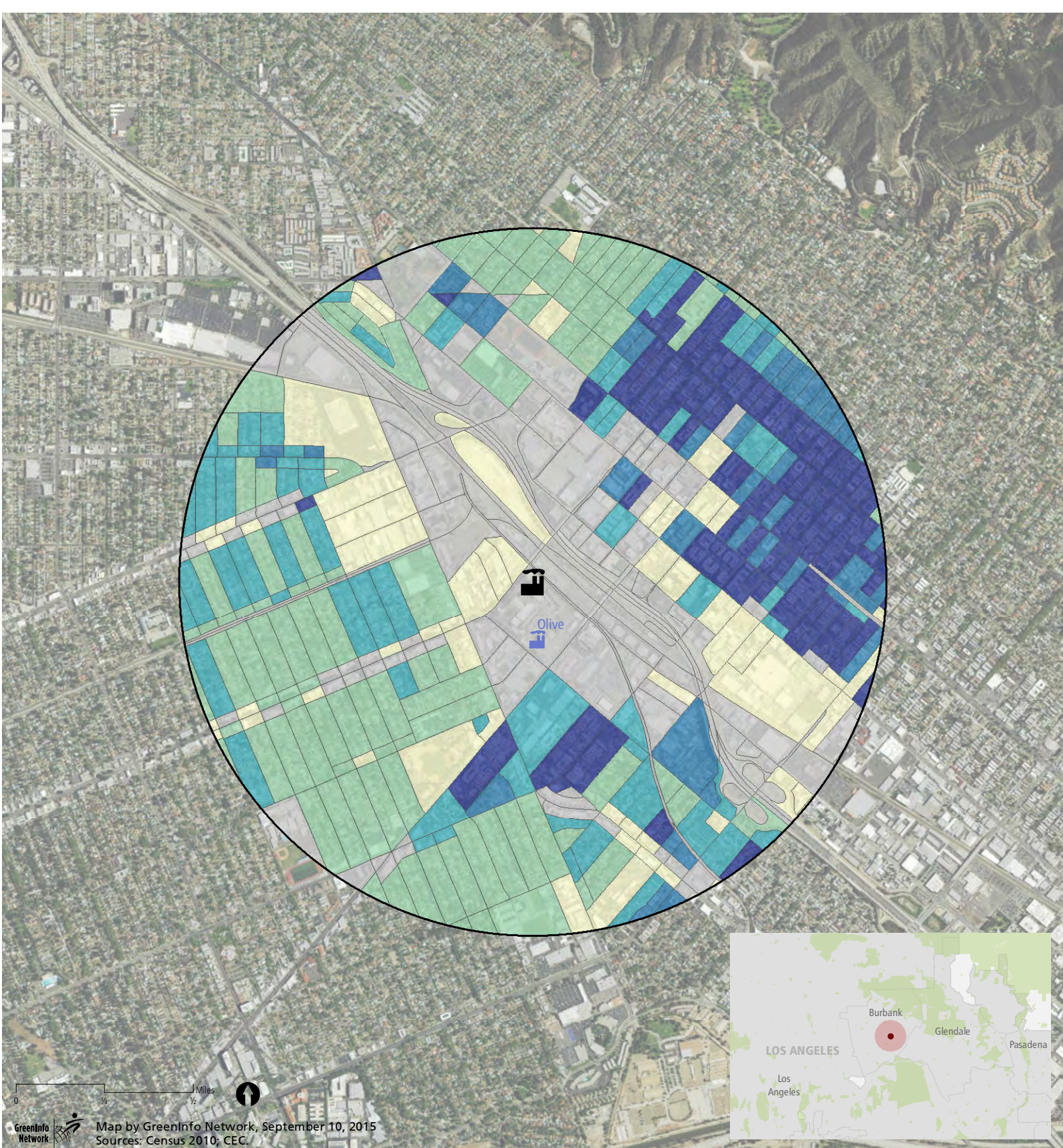


1-mile radius

Population density
(residents per square mile)

Census block





BURBANK
MAGNOLIA
328 MW

Number of residents
within 1 mile: **34,169**



Featured gas-fired power plant



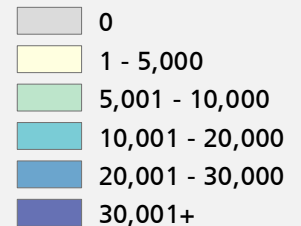
Nearby plant

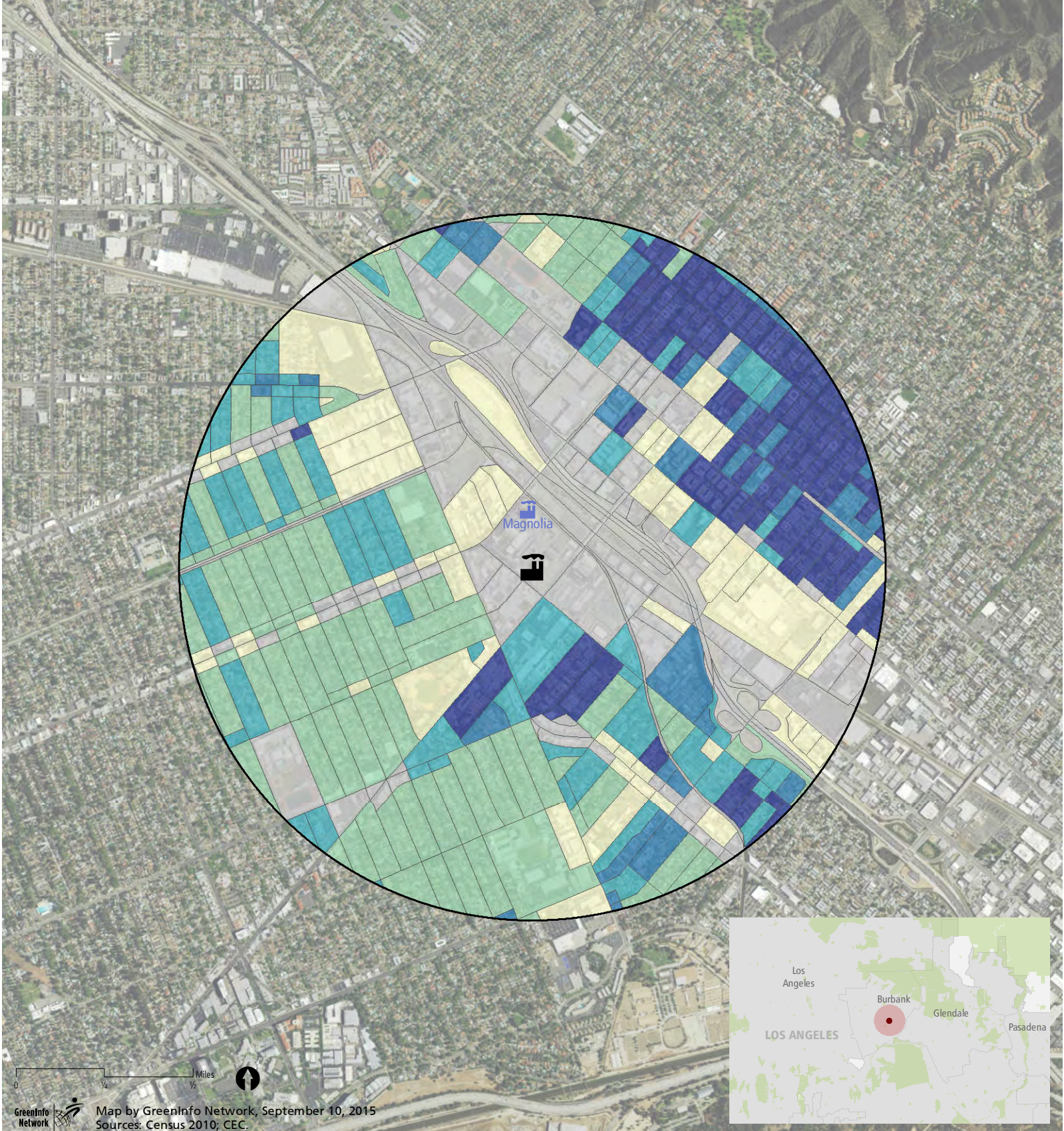


1-mile radius

Population density
(residents per square mile)

Census block





BURBANK

OLIVE
92 MW

Number of residents
within 1 mile: **33,554**



Featured gas-fired power plant



Nearby plant

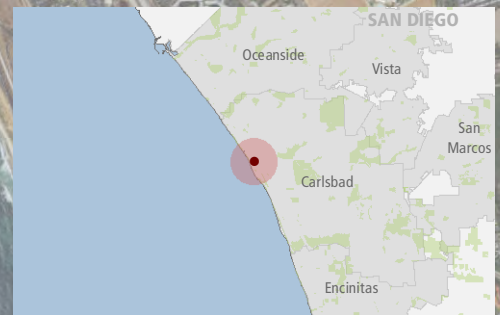


1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



0 1/4 1/2 Miles



GreenInfo Network Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

CARLSBAD

ENCINA
965 MW

Number of residents
within 1 mile: **4,548**



Featured gas-fired power plant

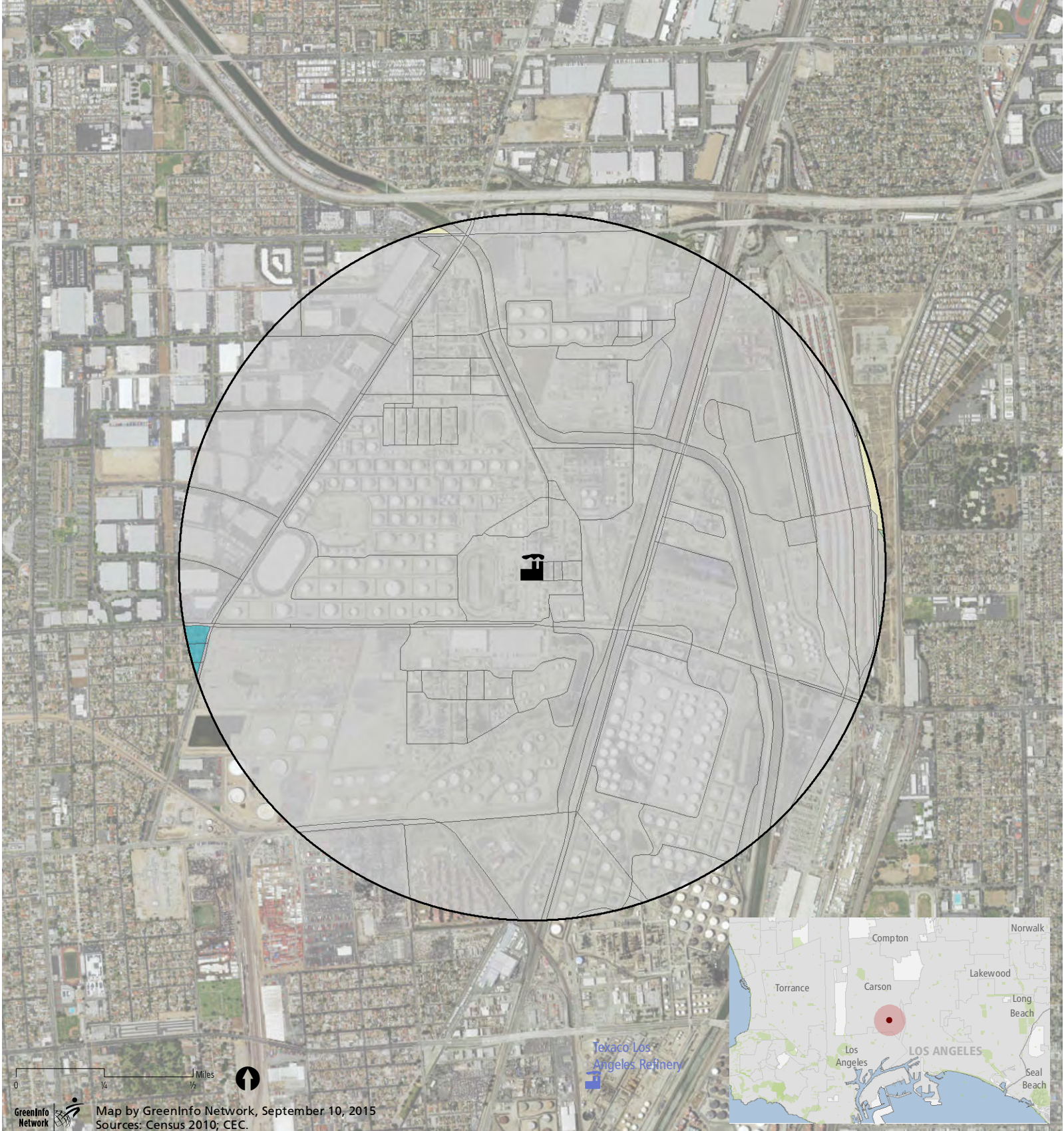


1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



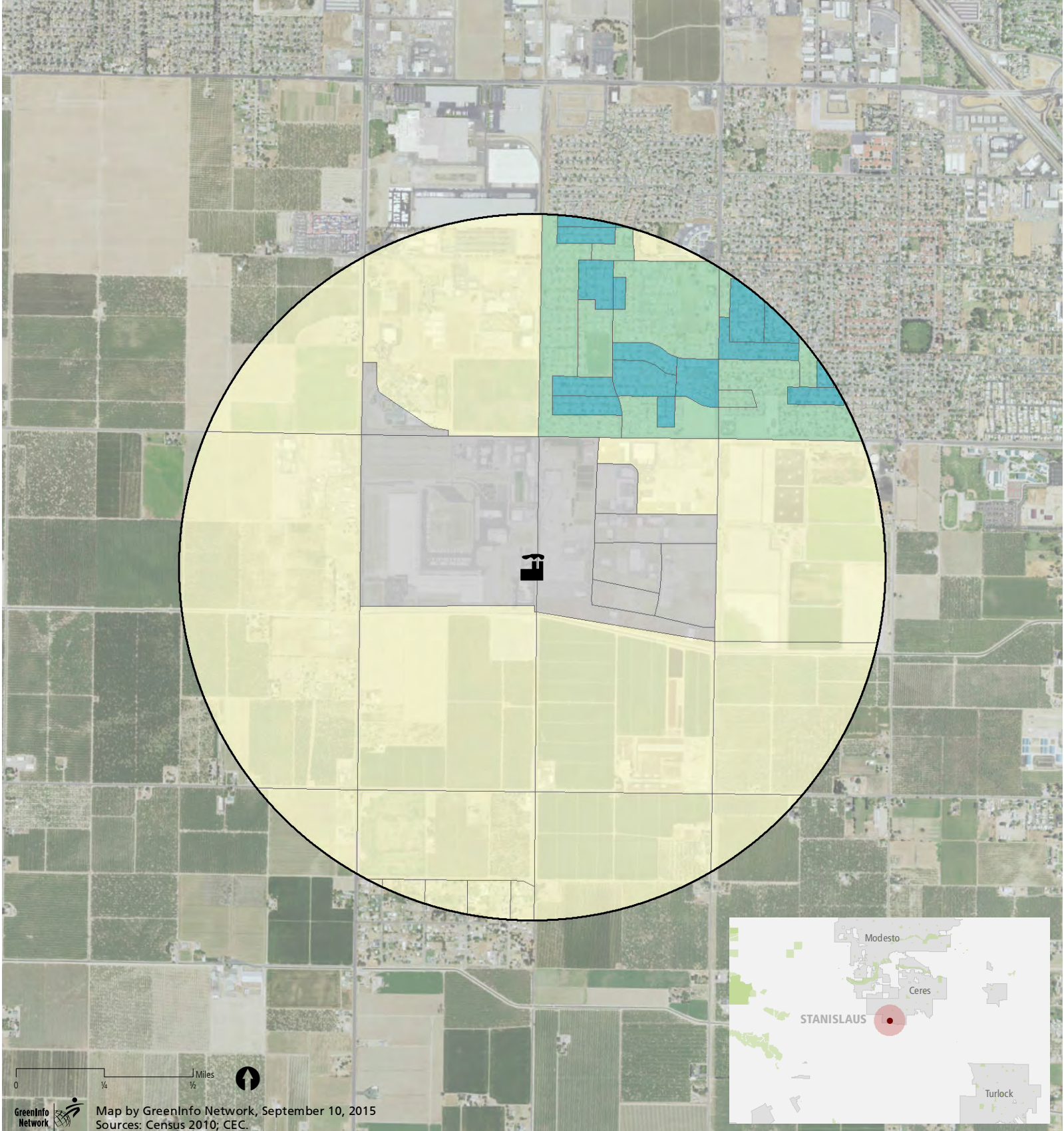
GreenInfo Network
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

CARSON
WATSON COGEN
398 MW

Number of residents
within 1 mile: **87**



- Featured gas-fired power plant
- Nearby plant
- 1-mile radius







- Population density
(residents per square mile)
- Census block
- 0
 - 1 - 5,000
 - 5,001 - 10,000
 - 10,001 - 20,000
 - 20,001 - 30,000
 - 30,001+

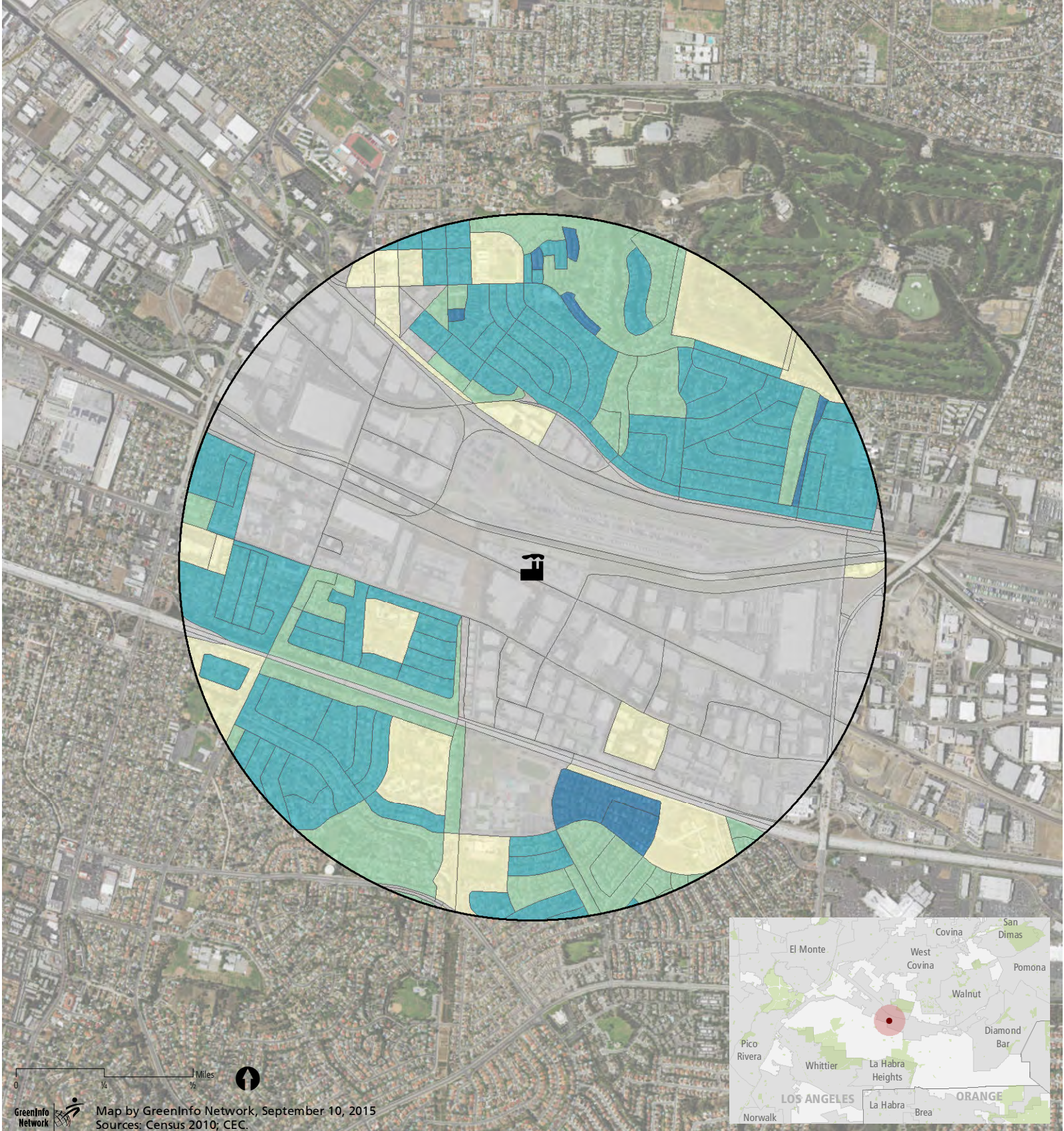


CERES
ALMOND 2
174 MW

Number of residents
within 1 mile: **4,508**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)**
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+





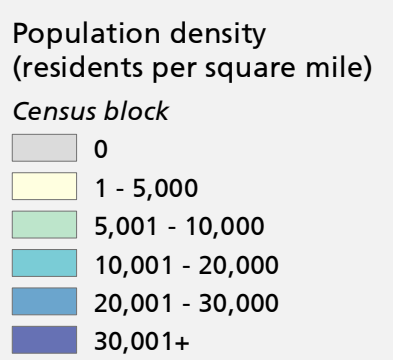
CITY OF INDUSTRY

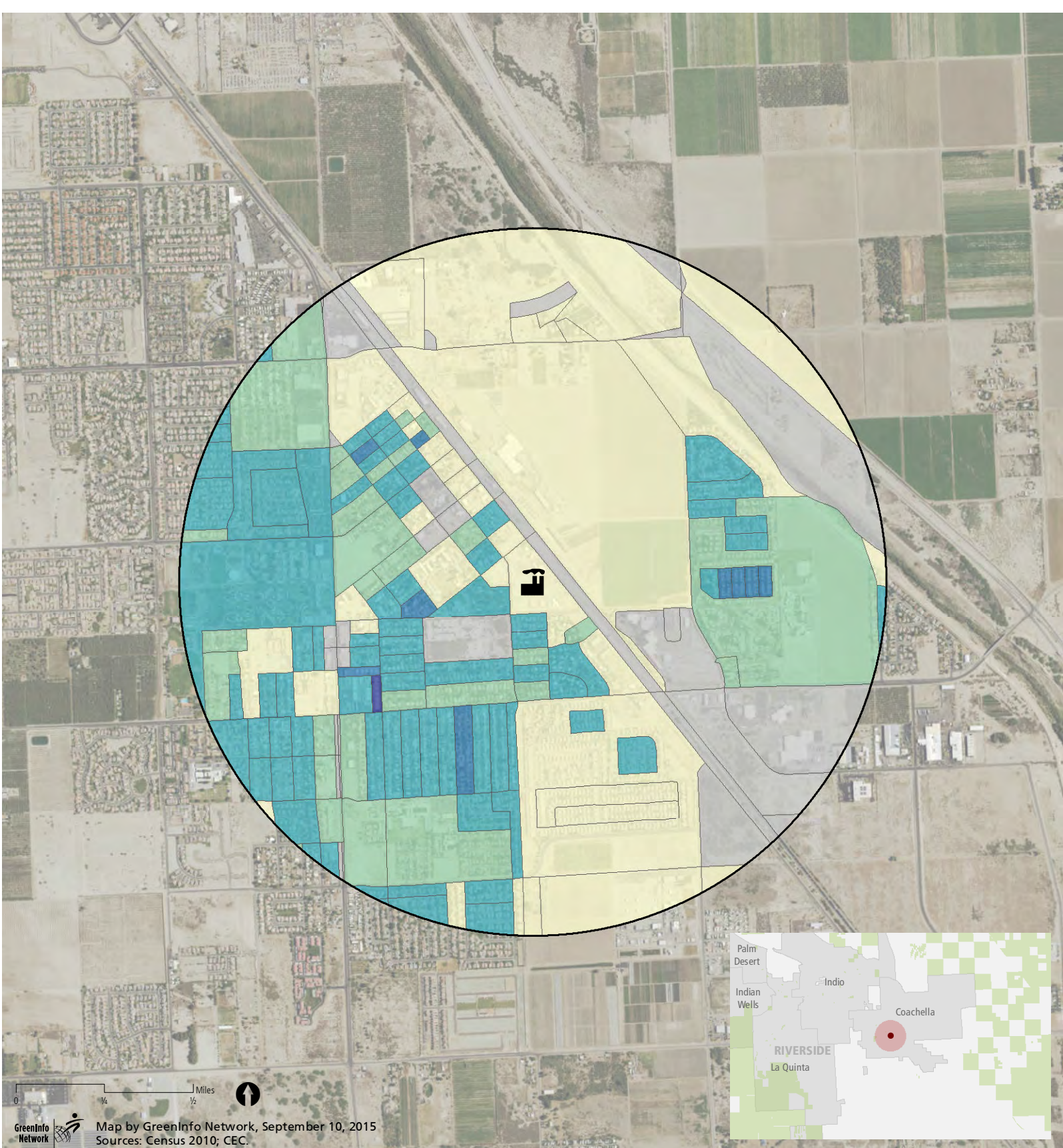
WALNUT CREEK ENERGY PARK

500 MW

Number of residents
within 1 mile: **16,221**

-  Featured gas-fired power plant
-  1-mile radius





COACHELLA

COACHELLA
92 MW

Number of residents
within 1 mile: **16,873**

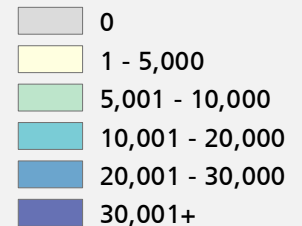


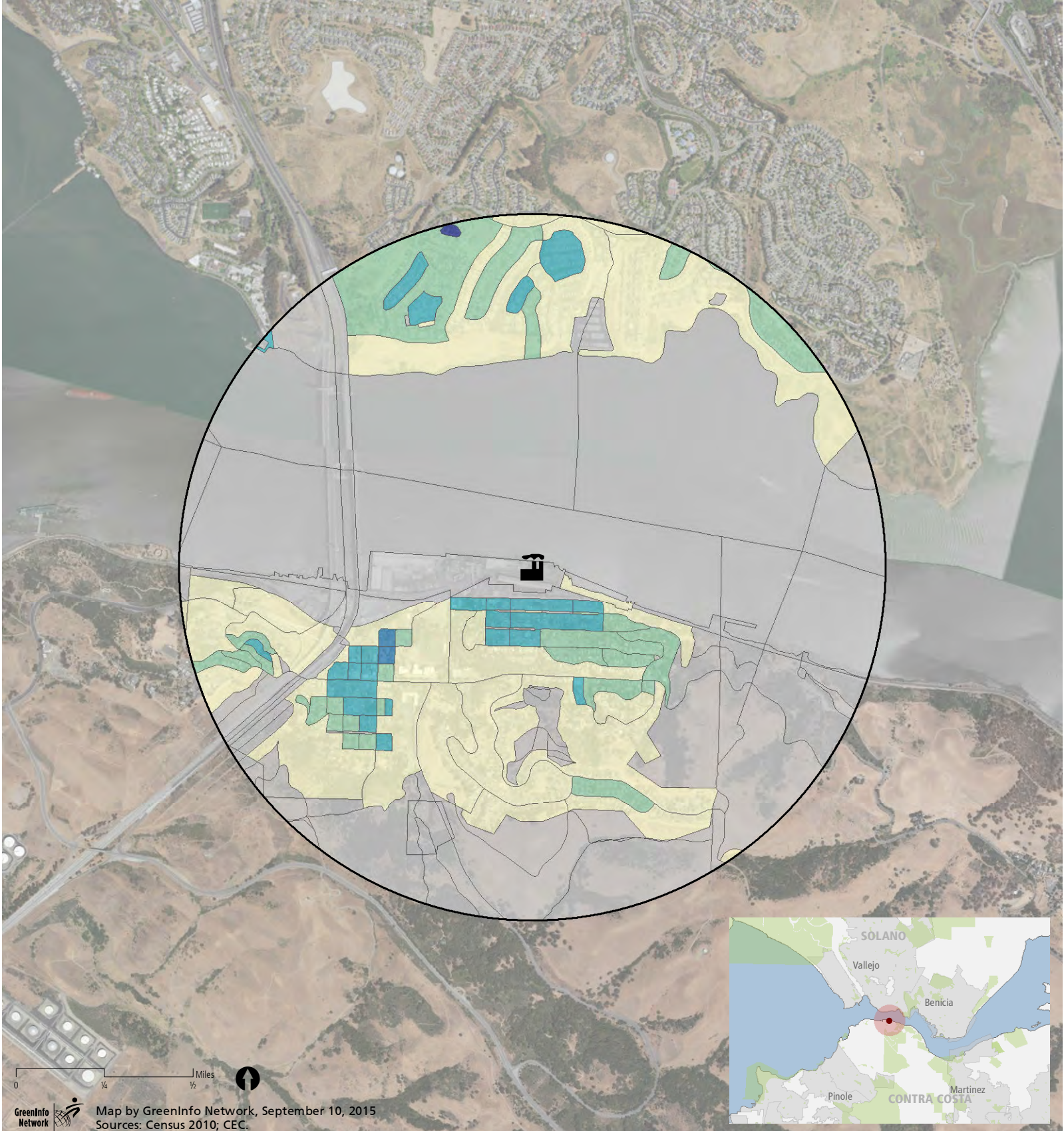
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)



Census block









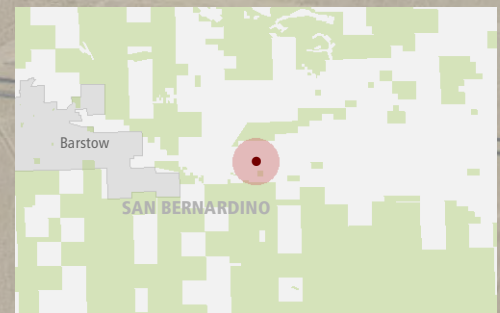
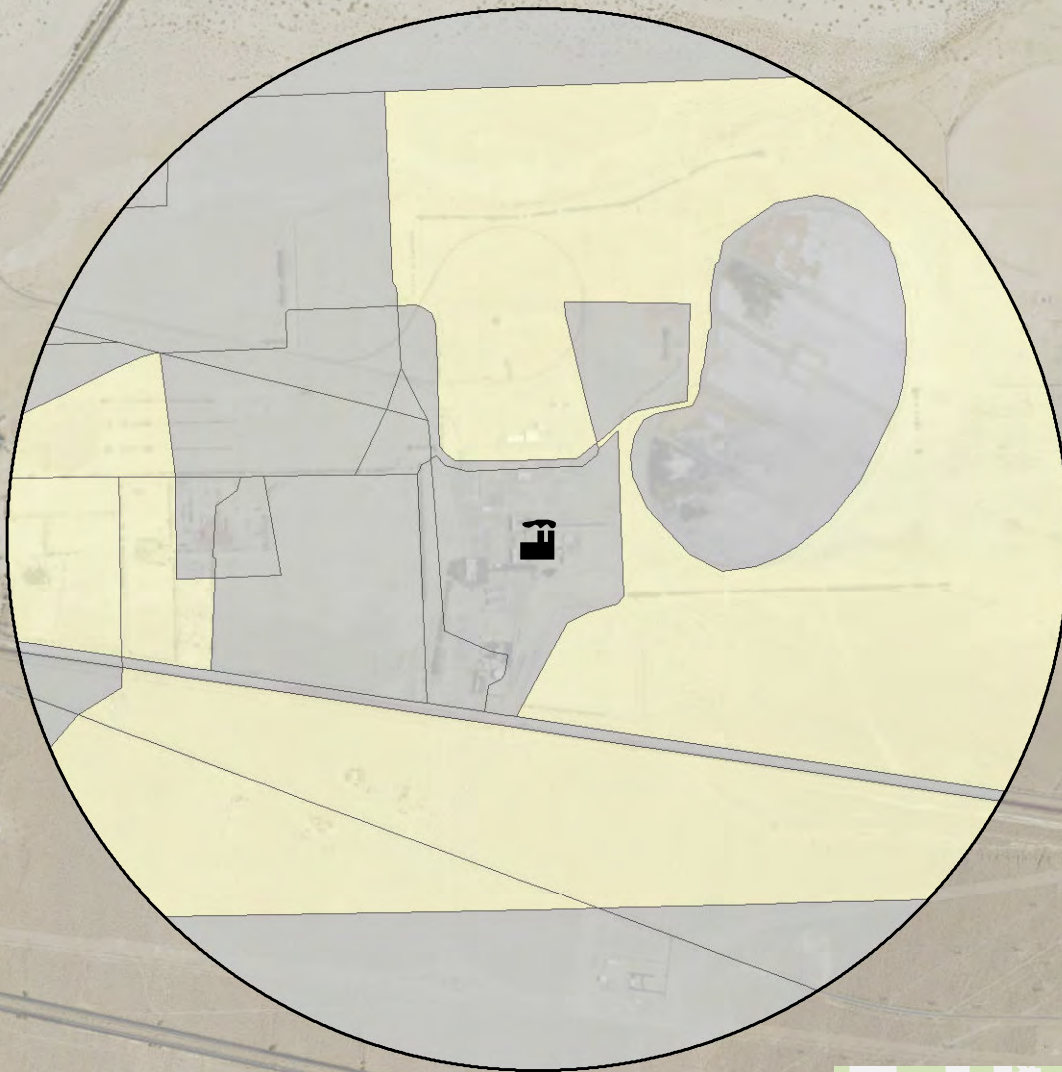


CROCKETT
CROCKETT COGEN
247 MW

Number of residents
within 1 mile: **5,233**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



0 1/4 1/2 Miles



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

DAGGETT

COOL
727 MW



Featured gas-fired power plant



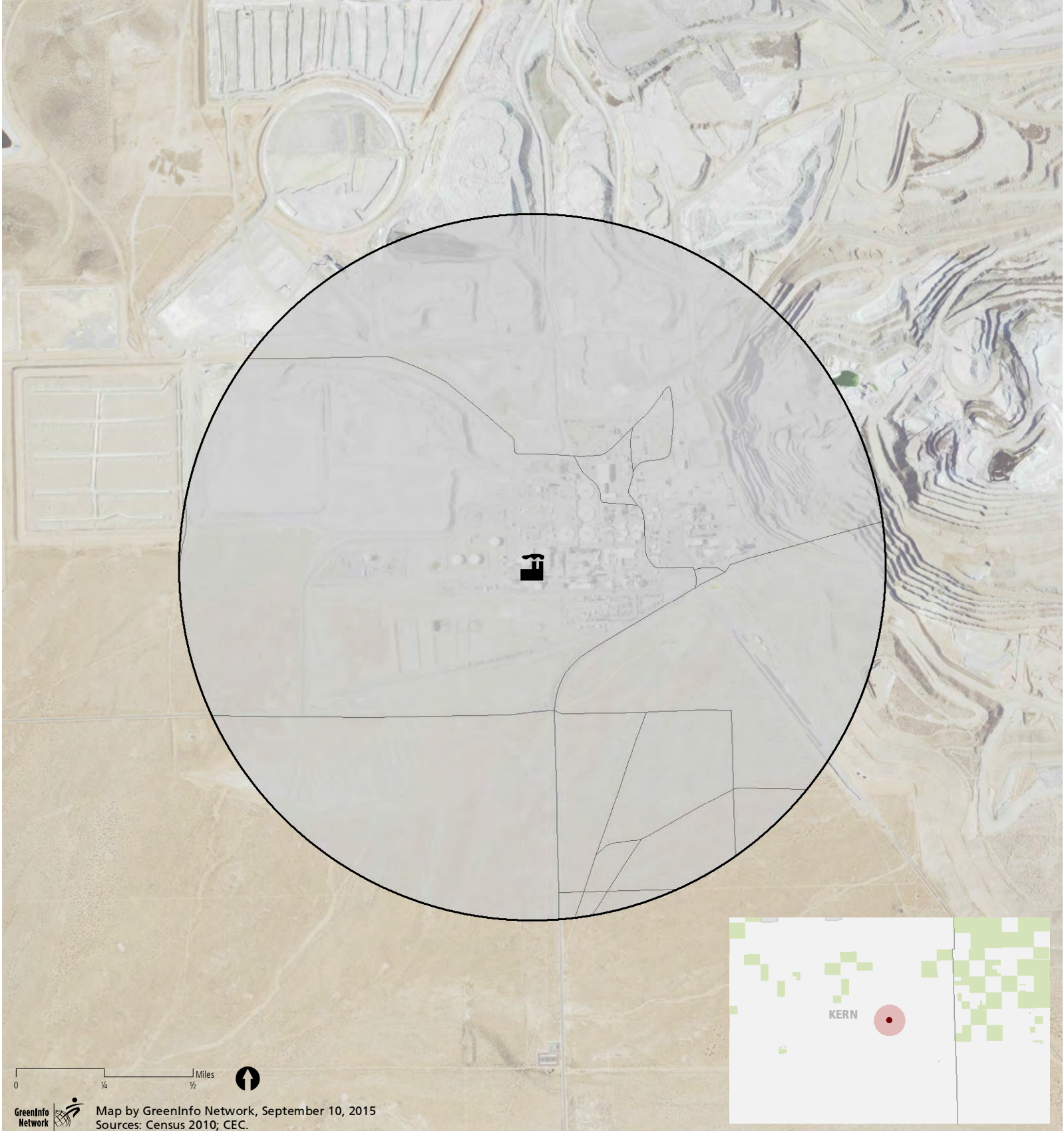
1-mile radius

Population density
(residents per square mile)

Census block



- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+







Number of residents
within 1 mile: **28**



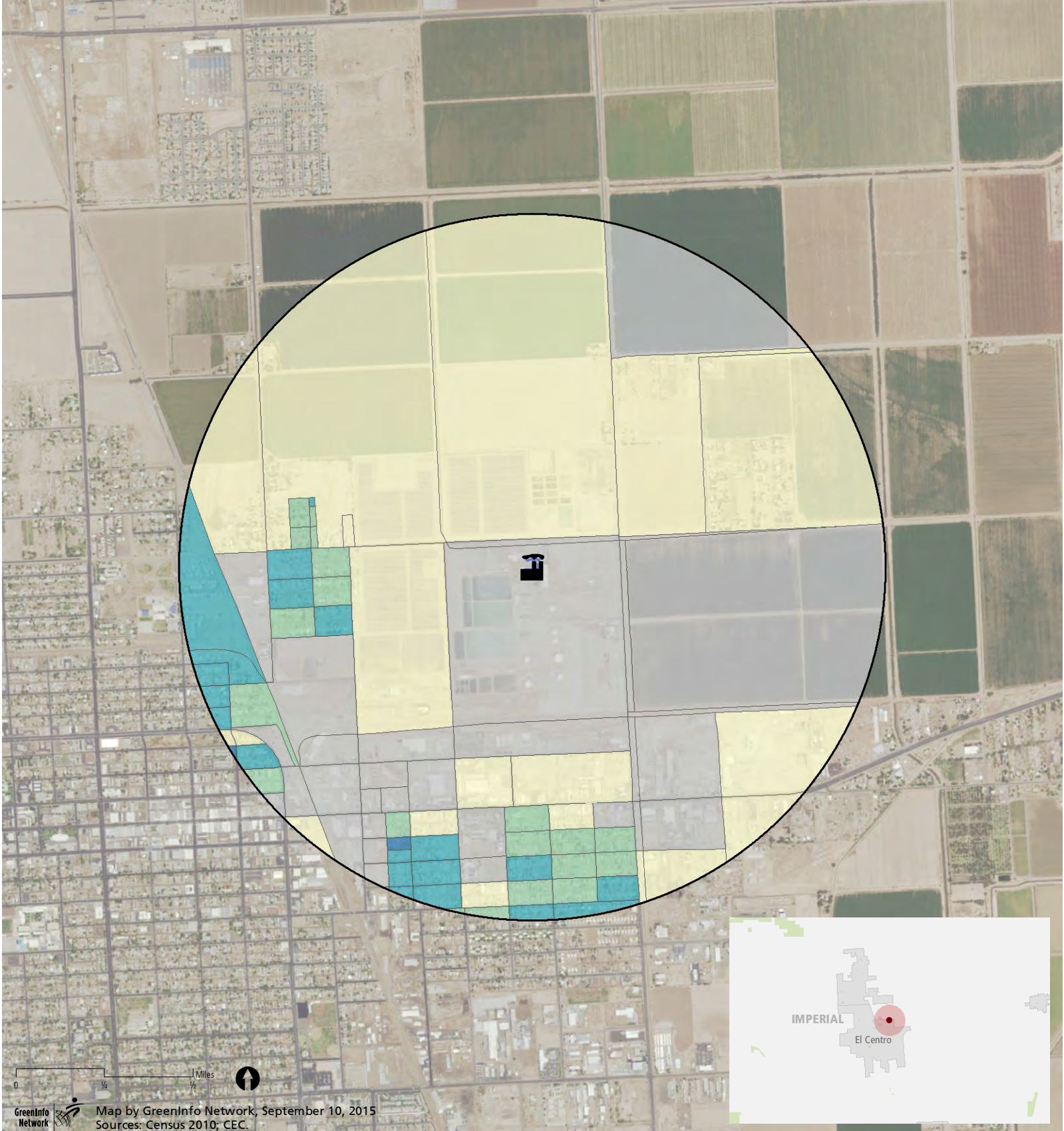
GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.

EDWARDS
MOJAVE COGEN
55 MW

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

Number of residents
within 1 mile: **0**






0 1/4 1/2 Miles







GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.

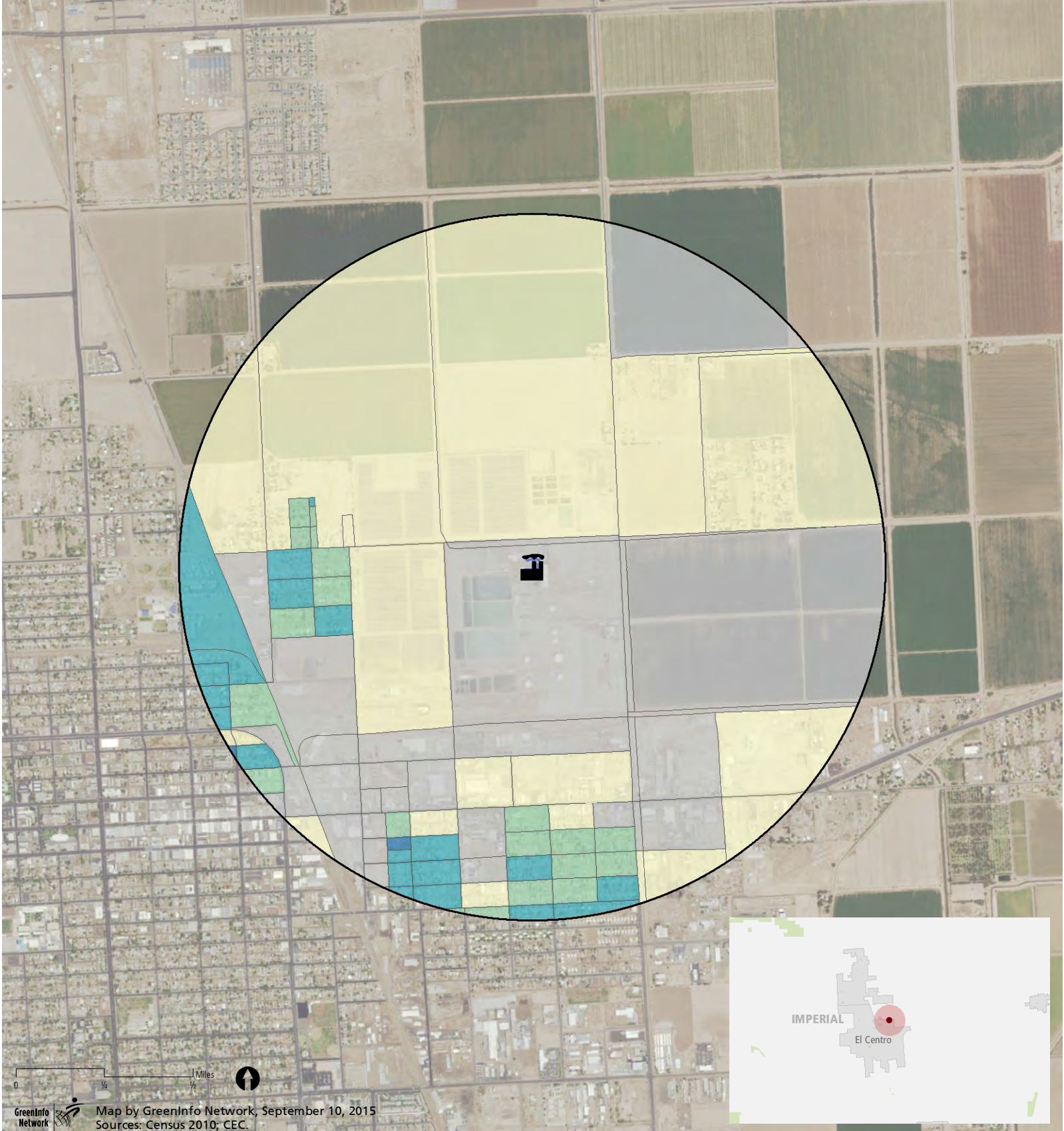
EL CENTRO

EL CENTRO
279 MW

Number of residents
within 1 mile: **3,796**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

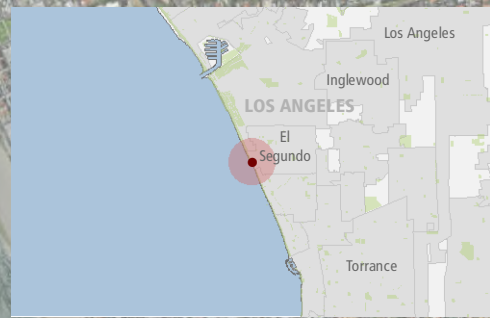
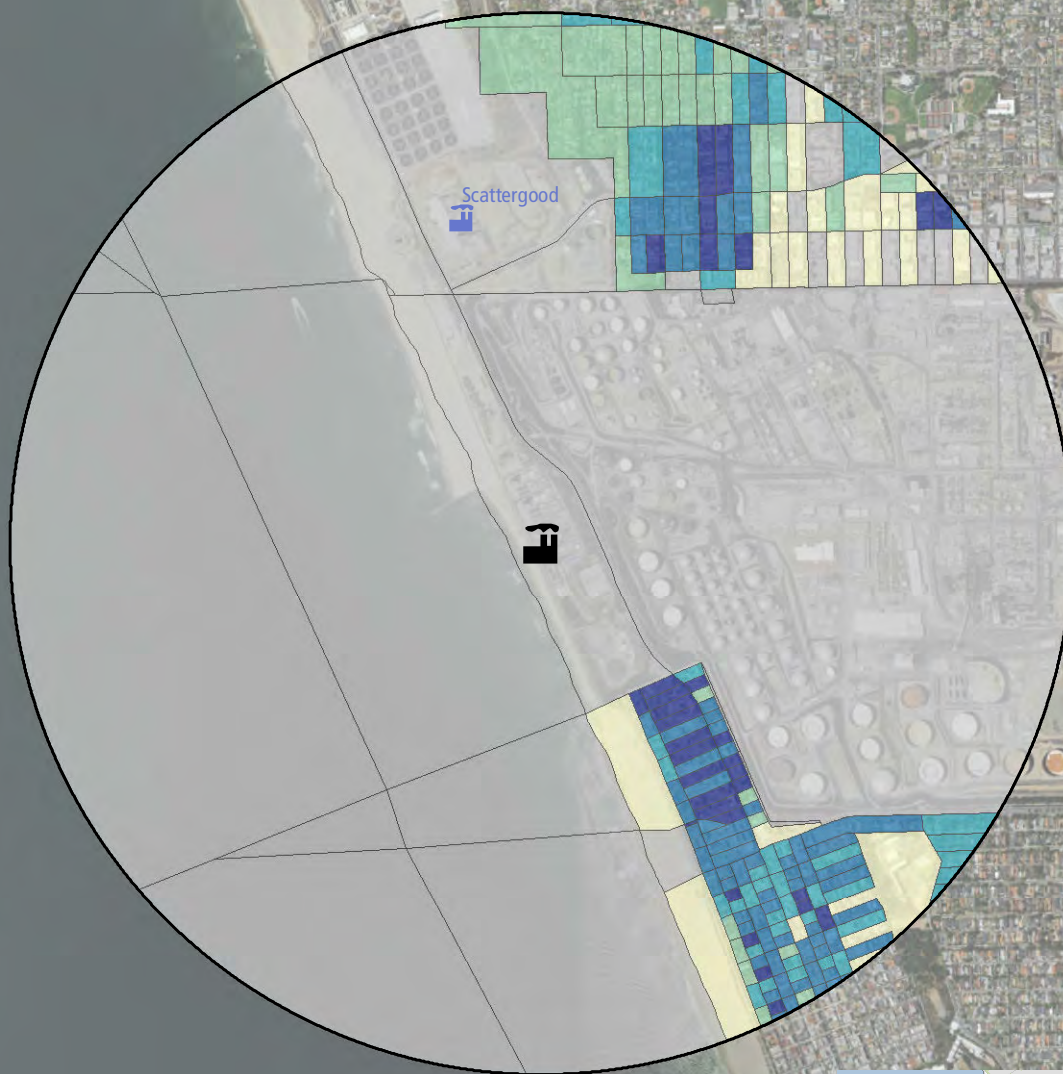


EL CENTRO
 EL CENTRO UNIT 3- REPOWER
 85 MW

Number of residents
 within 1 mile: **3,796**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

- Population density
 (residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



0 1/4 1/2 Miles



GreenInfo
Network



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

EL SEGUNDO
EL SEGUNDO REPOWER
526 MW



Featured gas-fired power plant



Nearby plant



1-mile radius

Population density
(residents per square mile)

Census block

0

1 - 5,000

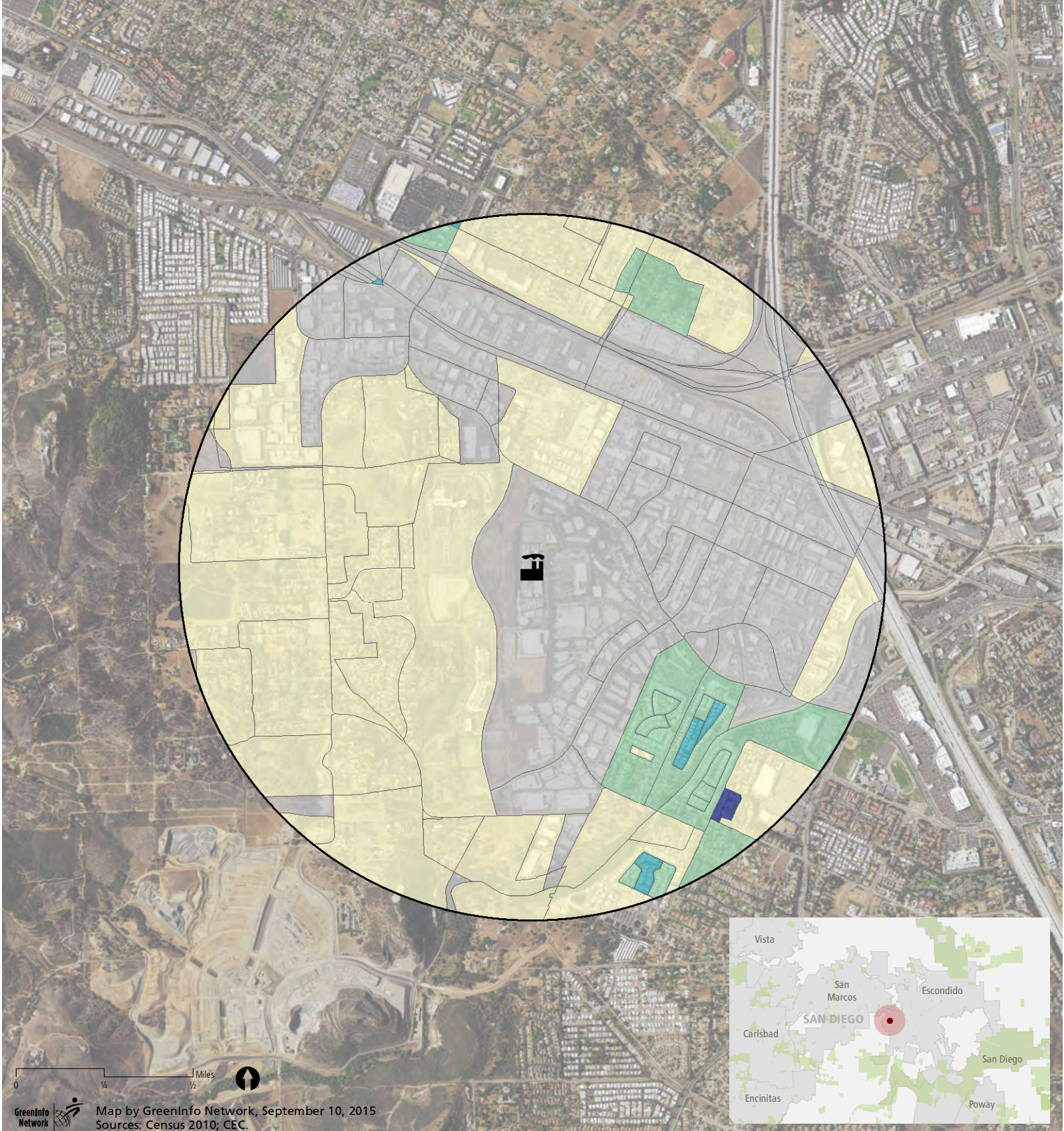
5,001 - 10,000

10,001 - 20,000

20,001 - 30,000

30,001+



Number of residents
within 1 mile: **6,656**



GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.







ESCONDIDO
PALOMAR ESCONDIDO
546 MW

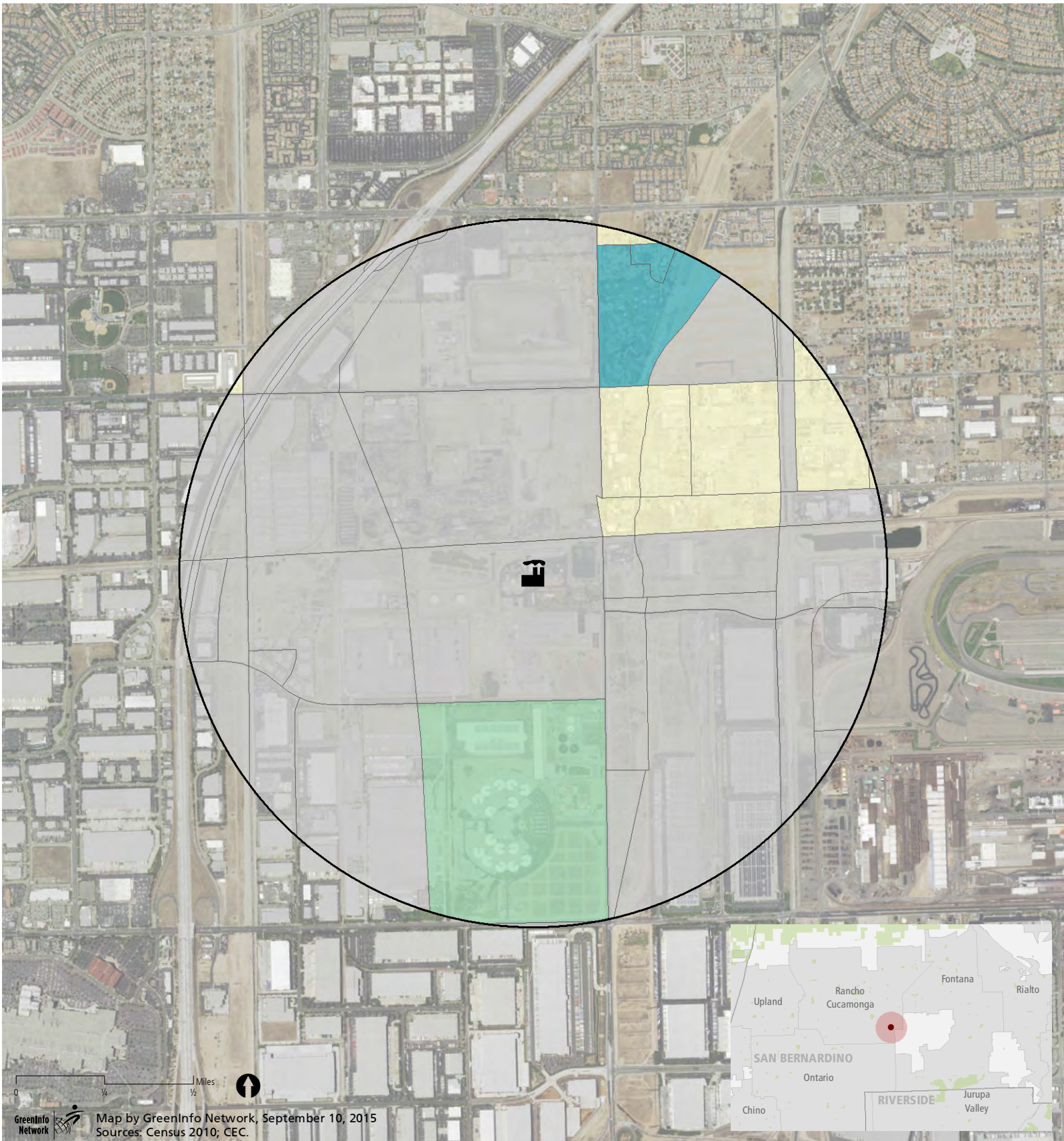
Number of residents
within 1 mile: **3,484**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



ETIWANDA

ETIWANDA
149 MW

Number of residents
within 1 mile: **4,102**



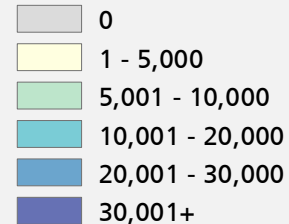
Featured gas-fired power plant

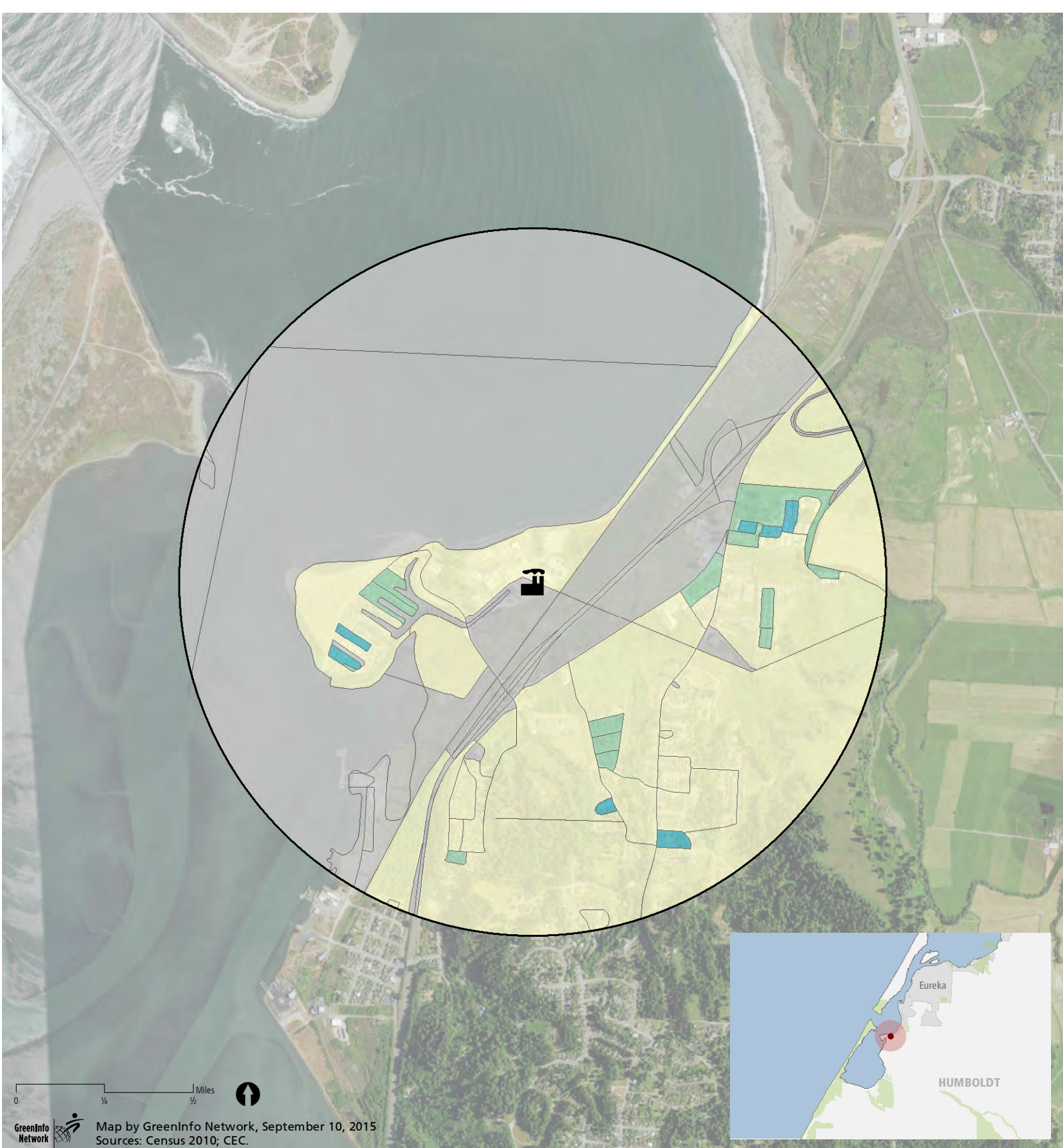


1-mile radius

Population density
(residents per square mile)



Census block









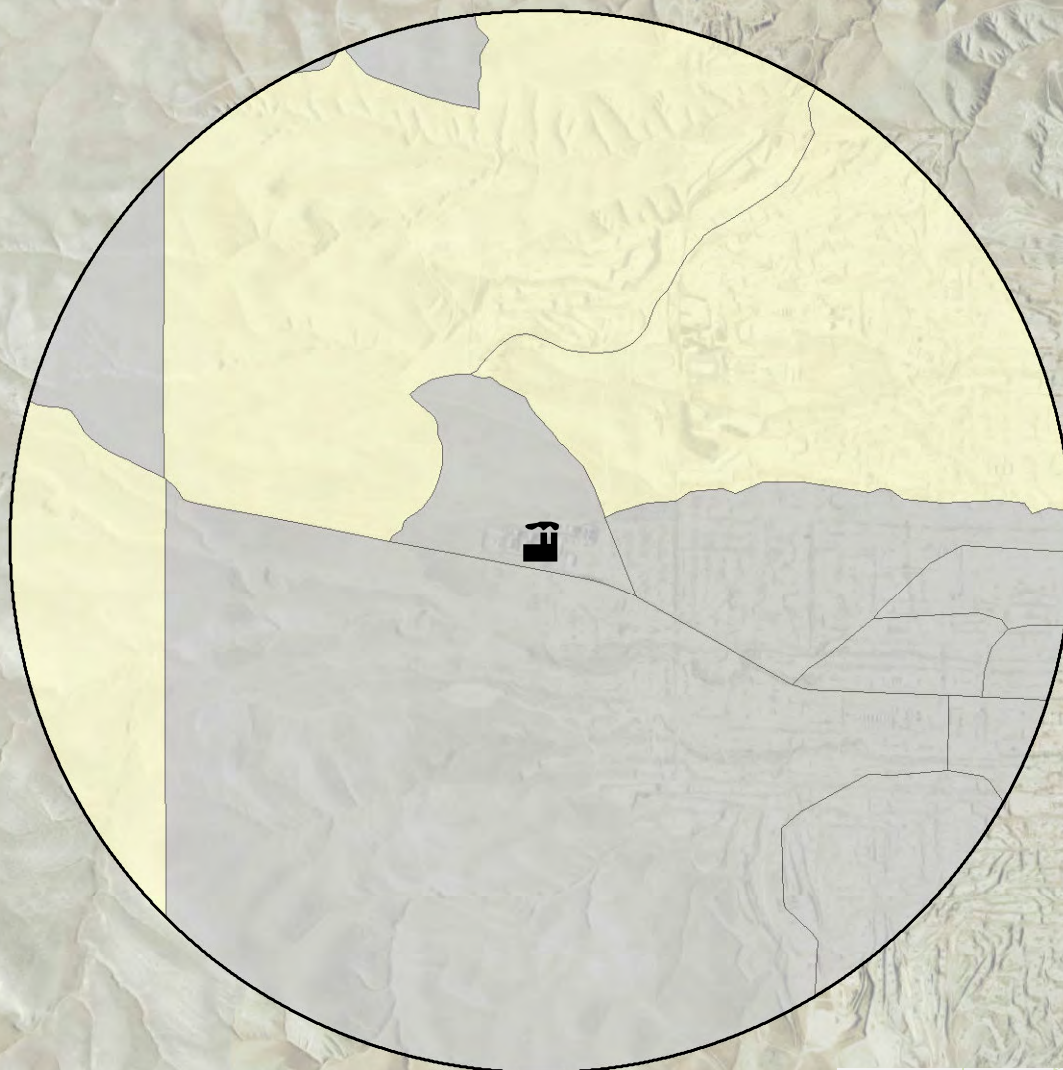


EUREKA
HUMBOLDT BAY GEN STATION
163 MW

Number of residents
within 1 mile: **1,863**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



0 1/4 1/2 Miles



GreenInfo
Network



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

FELLOWS
MIDWAY-SUNSET COGEN
234 MW



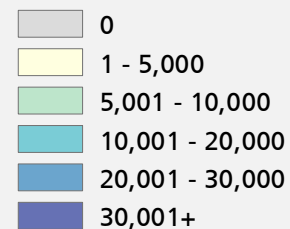
Featured gas-fired power plant



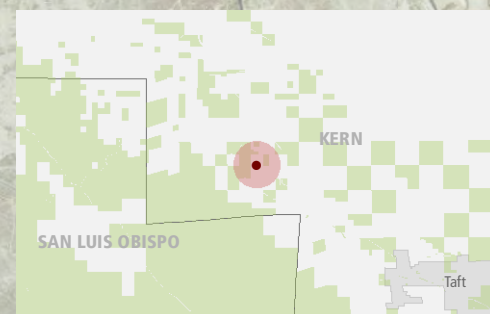
1-mile radius

Population density
(residents per square mile)

Census block



Number of residents
within 1 mile: **13**



0 1/4 1/2 Miles



GreenInfo
Network

Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

FELLOWS

SUNRISE
572 MW



Featured gas-fired power plant



1-mile radius

Population density
(residents per square mile)

Census block

0

1 - 5,000

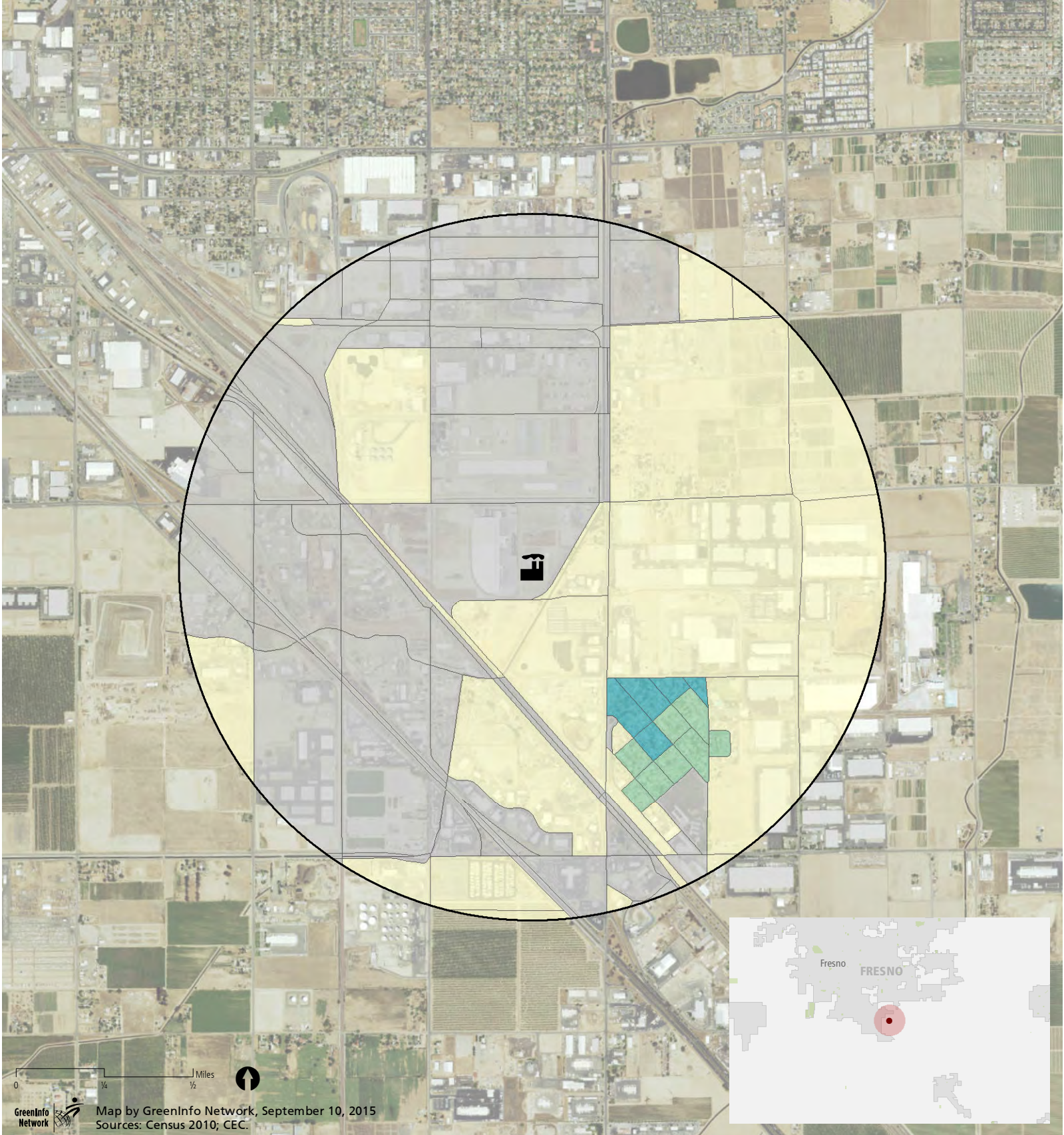
5,001 - 10,000

10,001 - 20,000

20,001 - 30,000



30,001+







Number of residents
within 1 mile: **0**

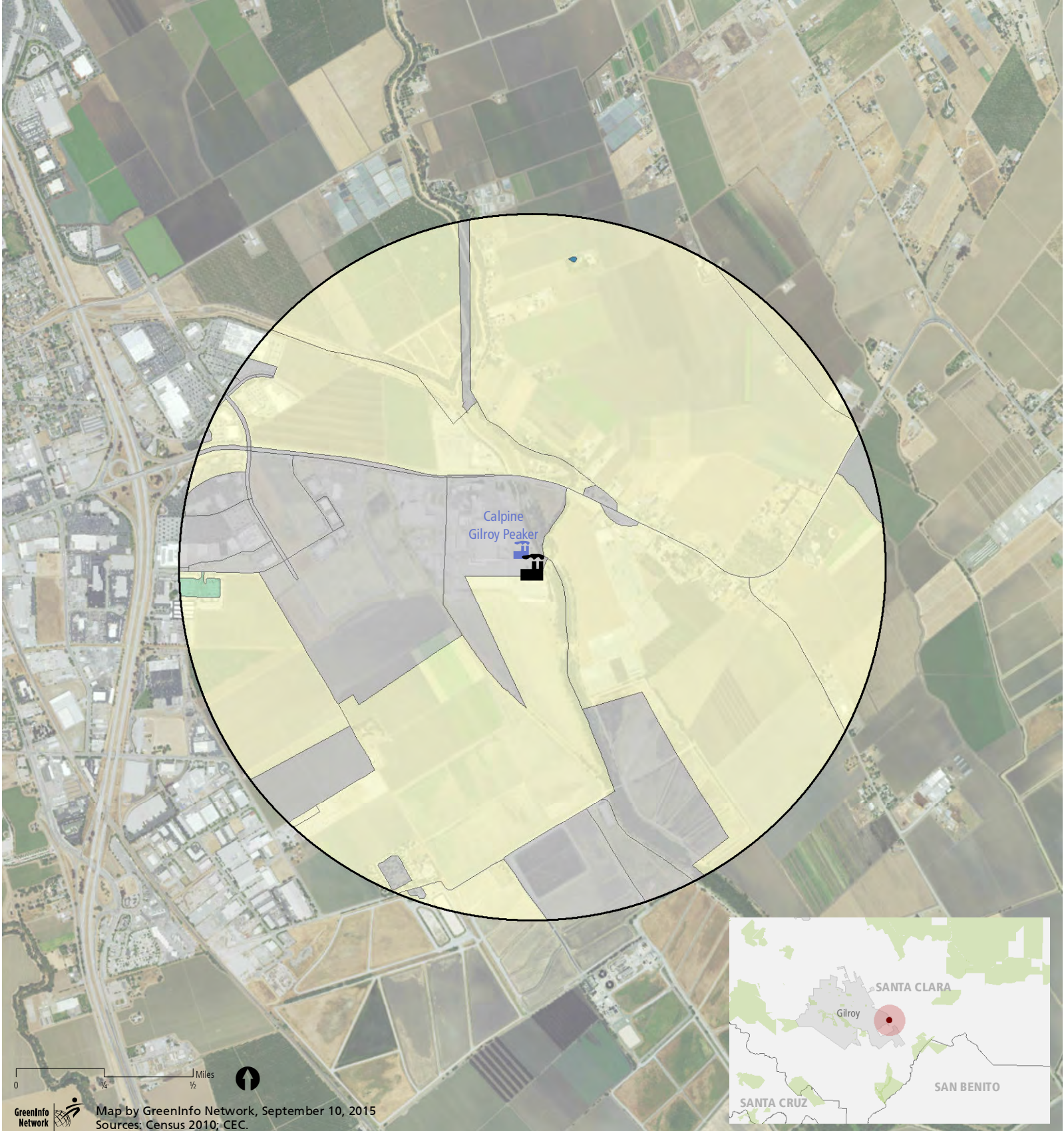


FRESNO
 KINGS RIVER CONSERVATION DIST. PEAKER
 98 MW

Number of residents
 within 1 mile: **1,200**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
 (residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



GILROY
CALPINE GILROY COGEN
 123 MW

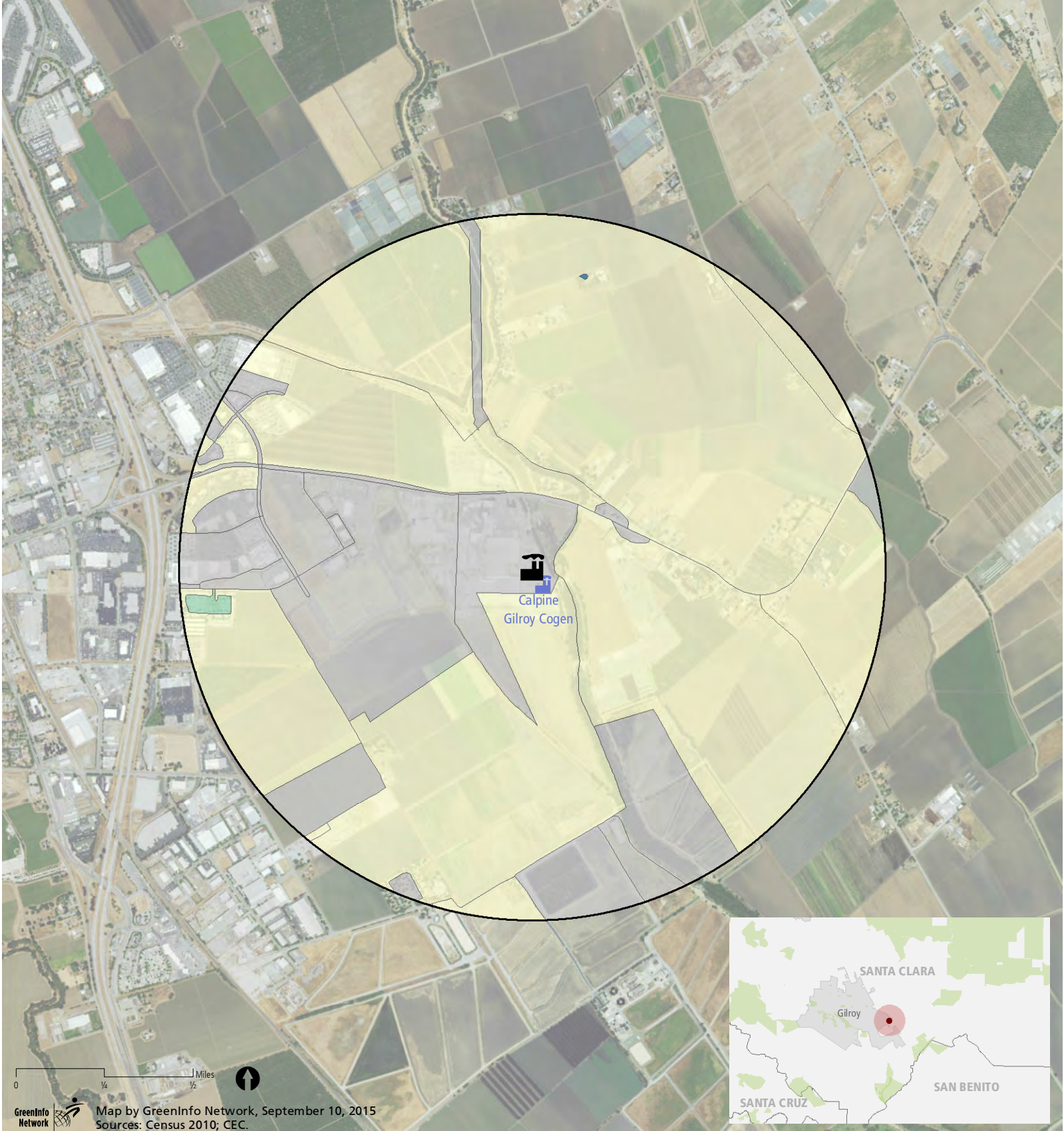
Number of residents
 within 1 mile: **381**

- Featured gas-fired power plant
- Nearby plant
- 1-mile radius

Population density
 (residents per square mile)

Census block




	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+









GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.

GILROY
CALPINE GILROY PEAKER
142 MW

Number of residents
within 1 mile: **382**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius



Population density (residents per square mile)	
Census block	
	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+









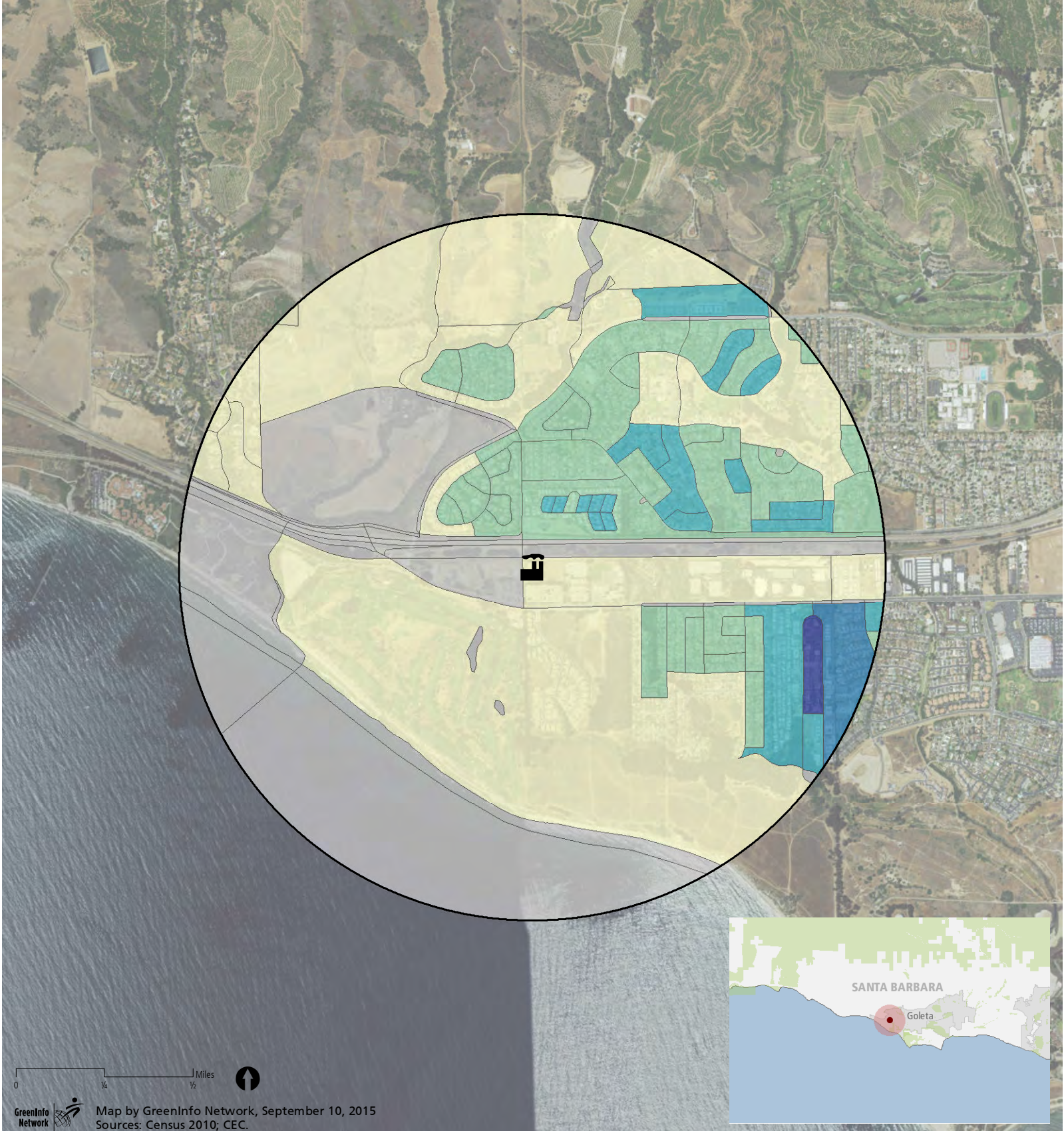
GreenInfo Network
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

GLENDALE
GRAYSON
288 MW

Number of residents
within 1 mile: **23,573**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+











0 1/4 1/2 Miles

GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.

GOLETA
ELLWOOD
57 MW

Number of residents
within 1 mile: **9,375**



-  Featured gas-fired power plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

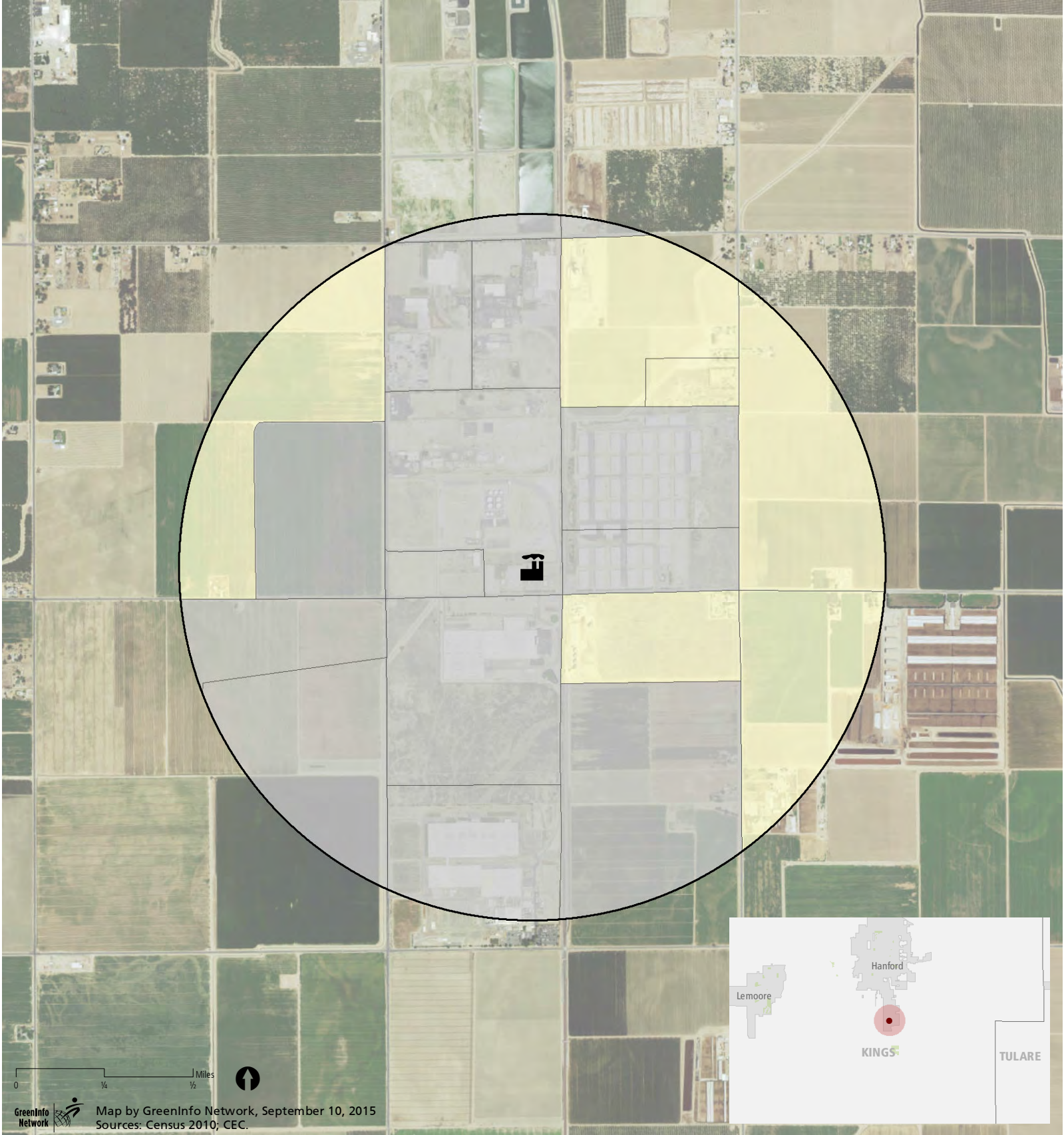


HANFORD
 GWF HENRIETTA
 98 MW

Number of residents
 within 1 mile: **0**

-  Featured gas-fired power plant
-  1-mile radius



- Population density
 (residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+









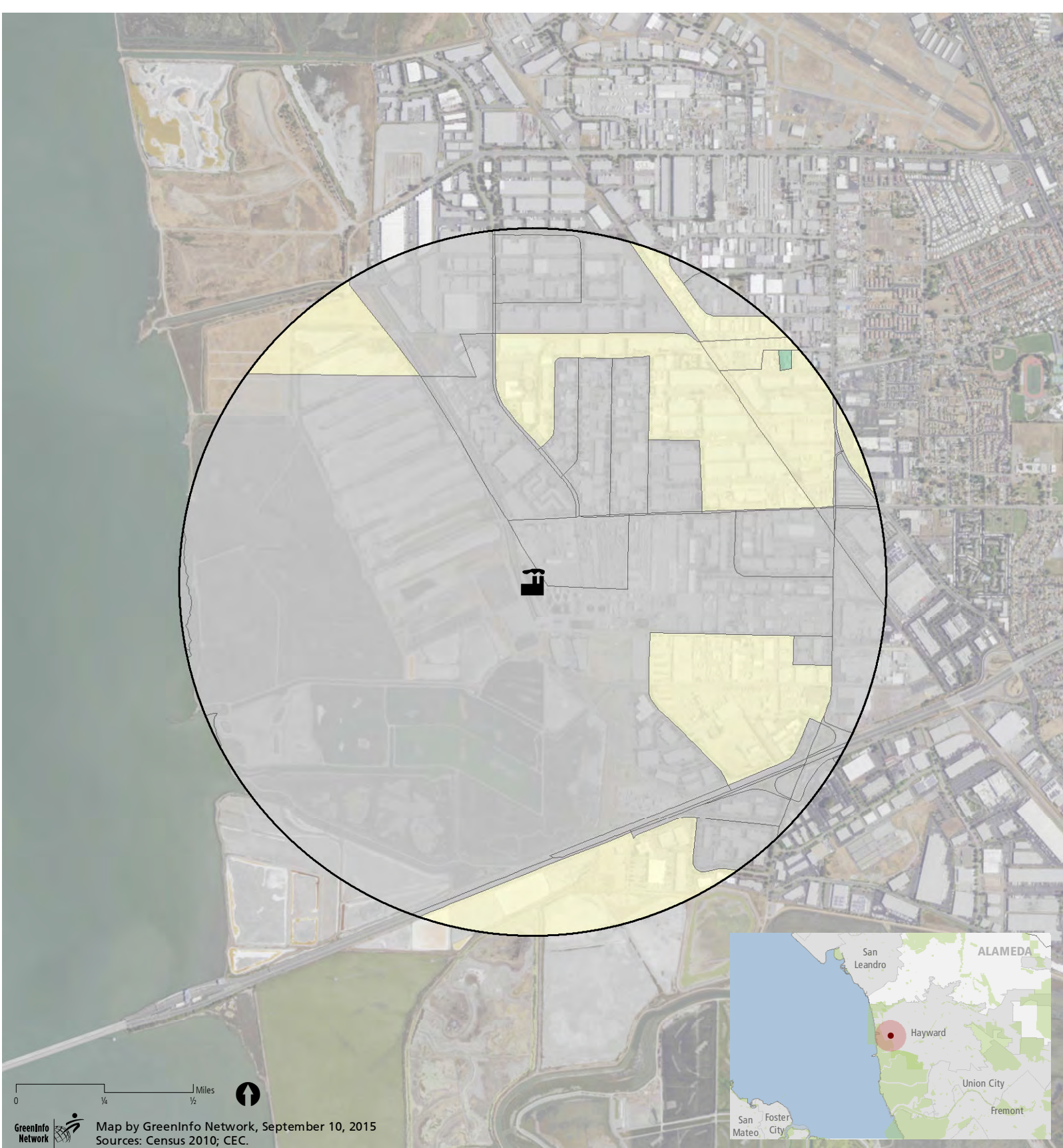
GreenInfo Network Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

HANFORD
HANFORD ENERGY PARK PEAKER
92 MW

Number of residents
within 1 mile: **60**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



Number of residents within 1 mile: **103**



Featured gas-fired power plant

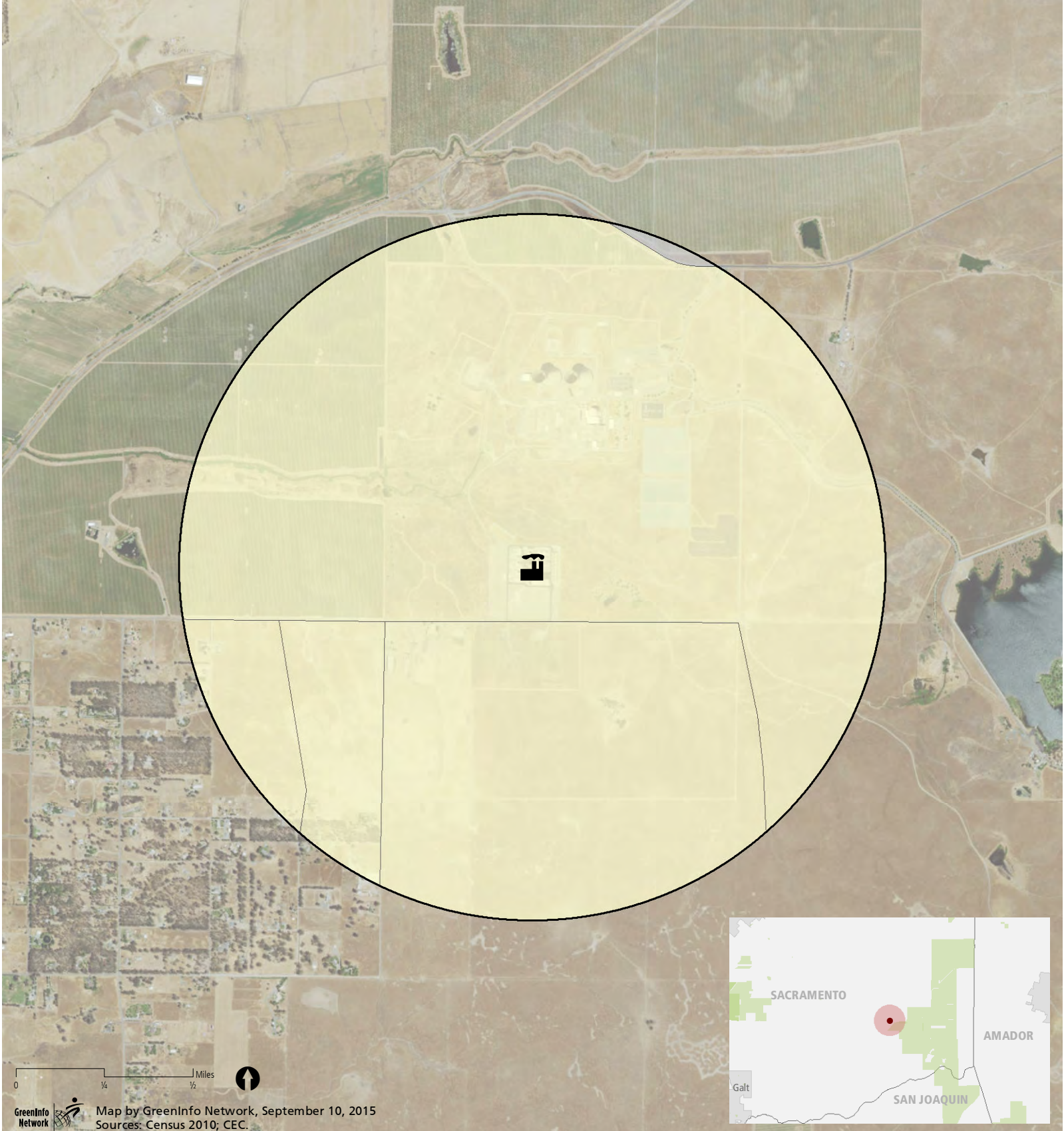


1-mile radius

Population density (residents per square mile)

Census block



- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



GreenInfo Network Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC







HERALD
SMUD COSUMNES RIVER PHASE 1
500 MW

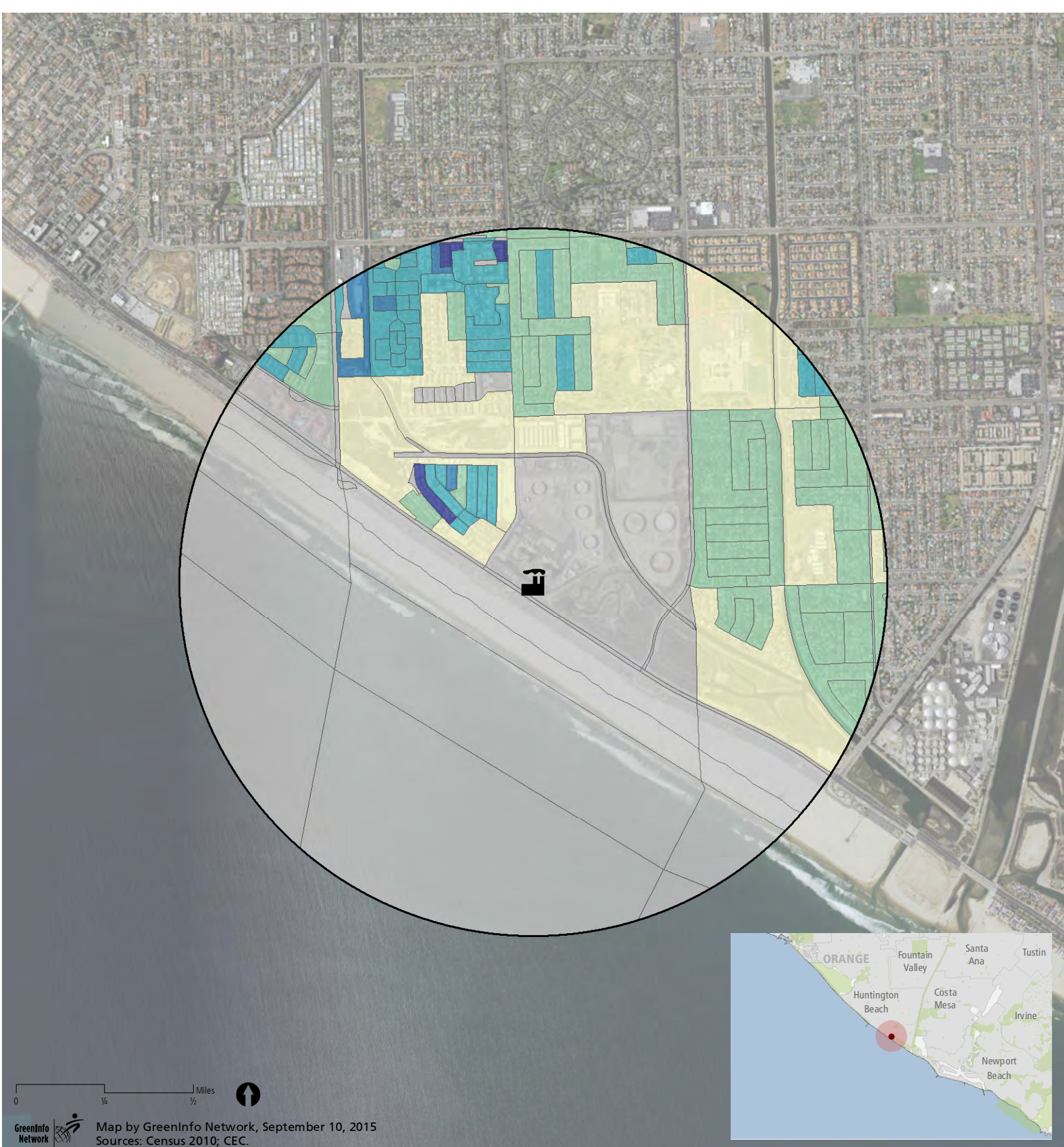
Number of residents
within 1 mile: **53**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



HUNTINGTON BEACH

HUNTINGTON BEACH
904 MW

Number of residents
within 1 mile: **8,336**



Featured gas-fired power plant

1-mile radius

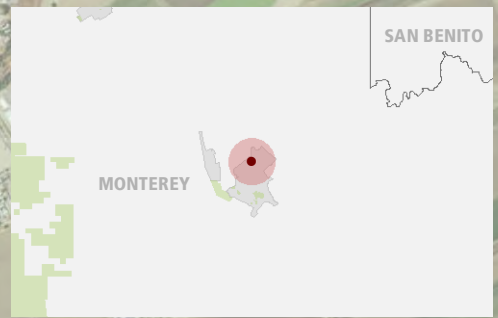
Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+











GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.

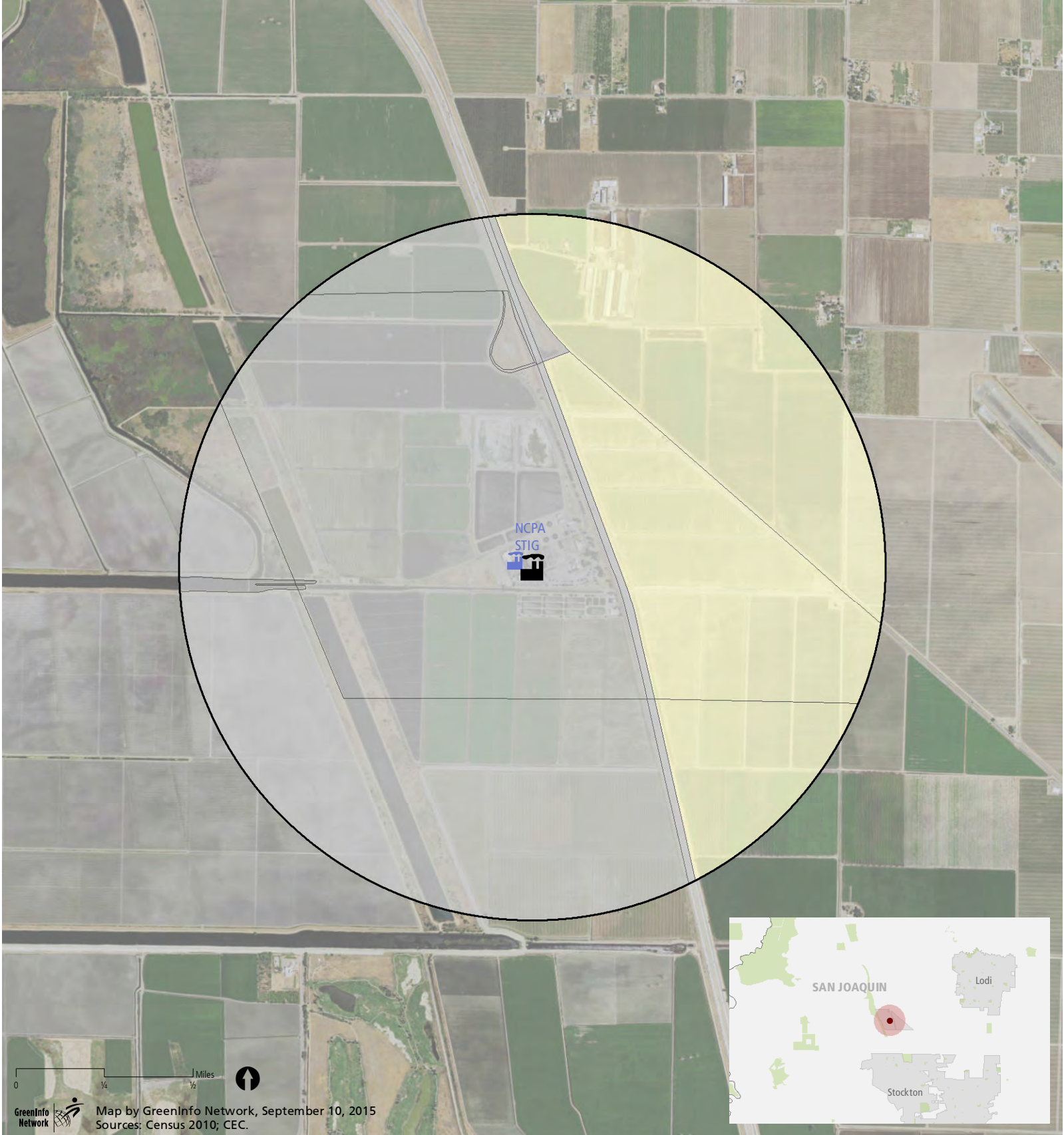


KING CITY
CALPINE KING CITY COGEN
130 MW

Number of residents
within 1 mile: **5,758**




-  Featured gas-fired power plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

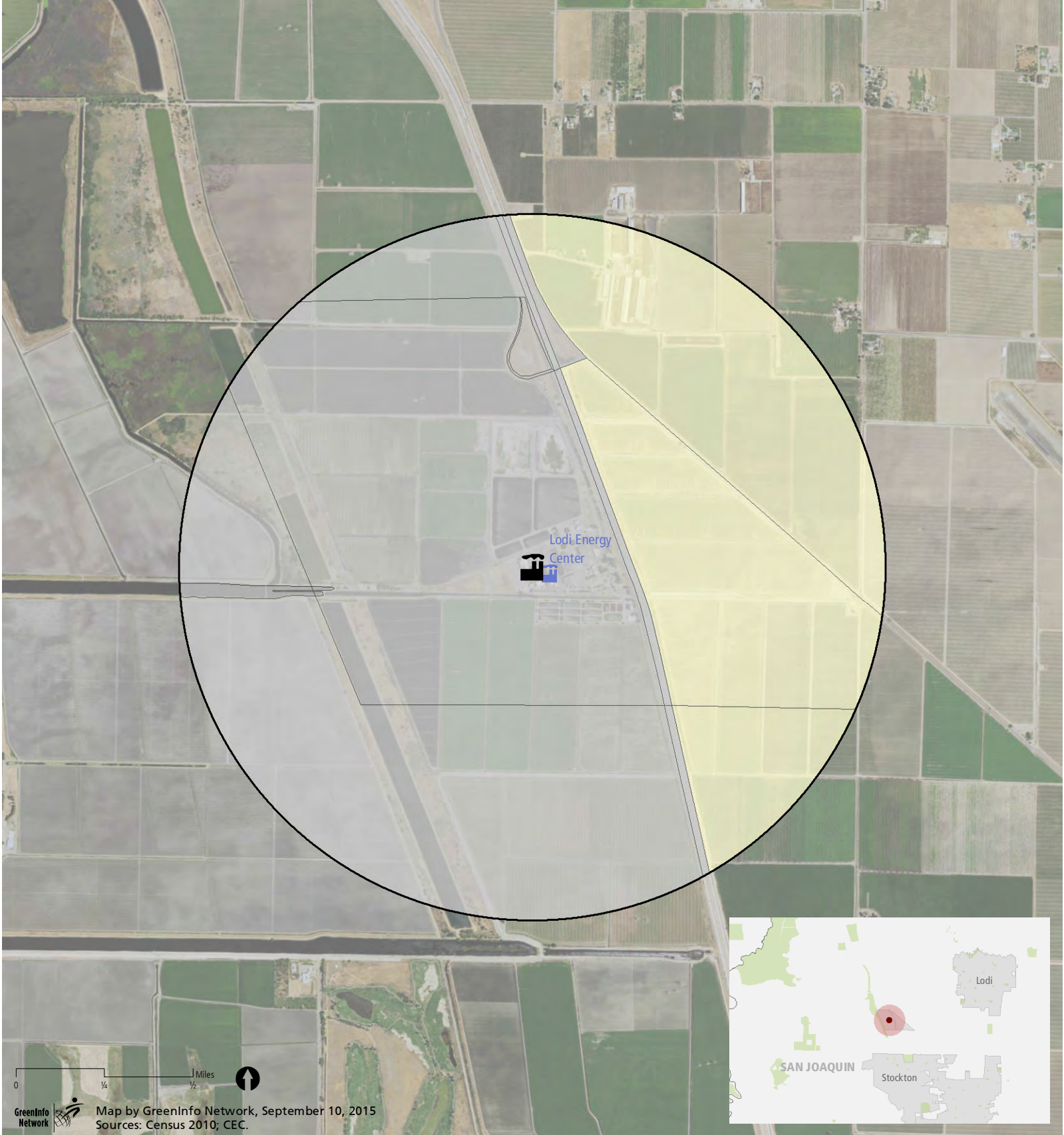


LODI
 LODI ENERGY CENTER
 255 MW

Number of residents
 within 1 mile: **14**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







- Population density
 (residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

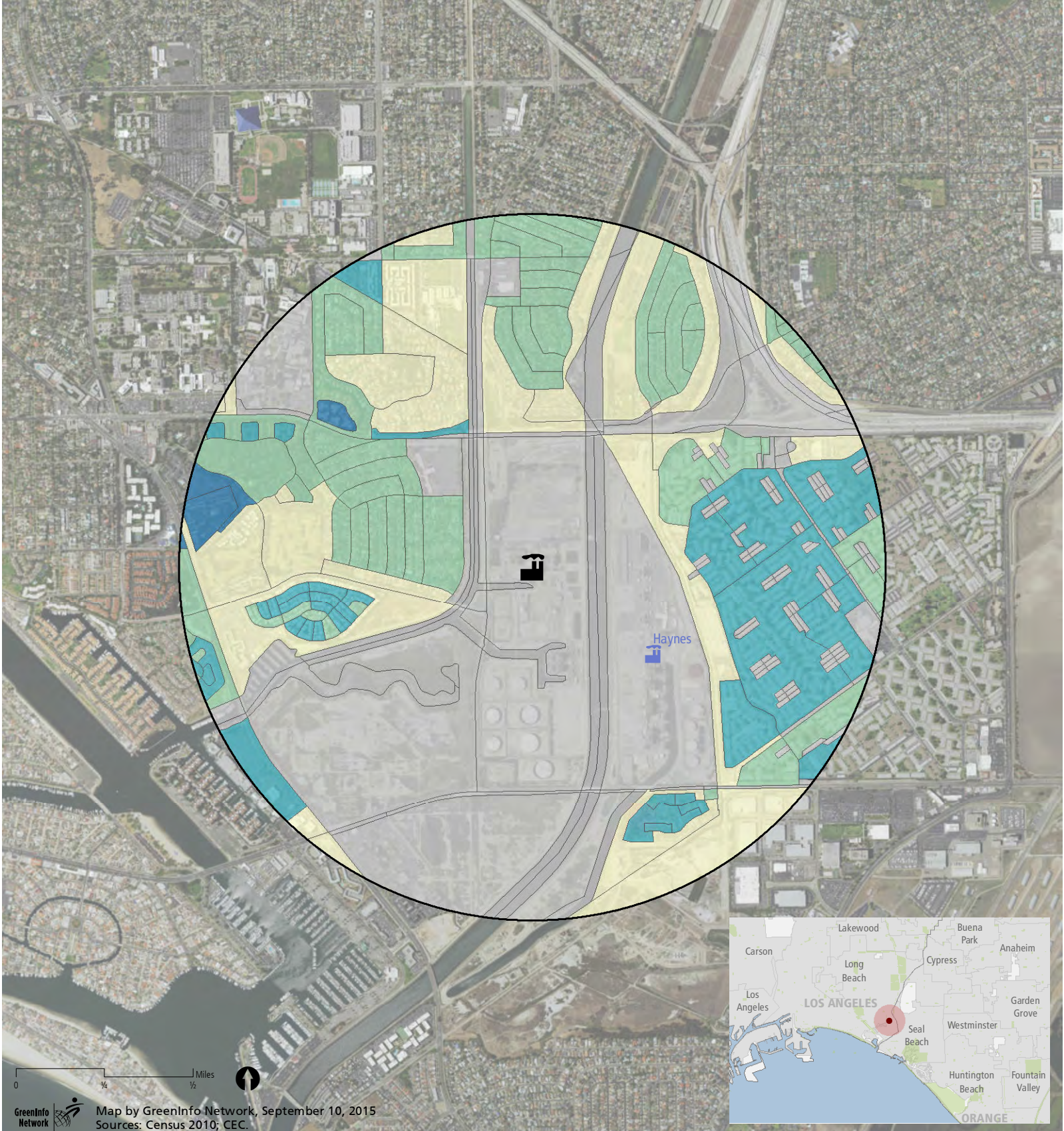


LODI
NCPA STIG
50 MW

Number of residents
within 1 mile: **12**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

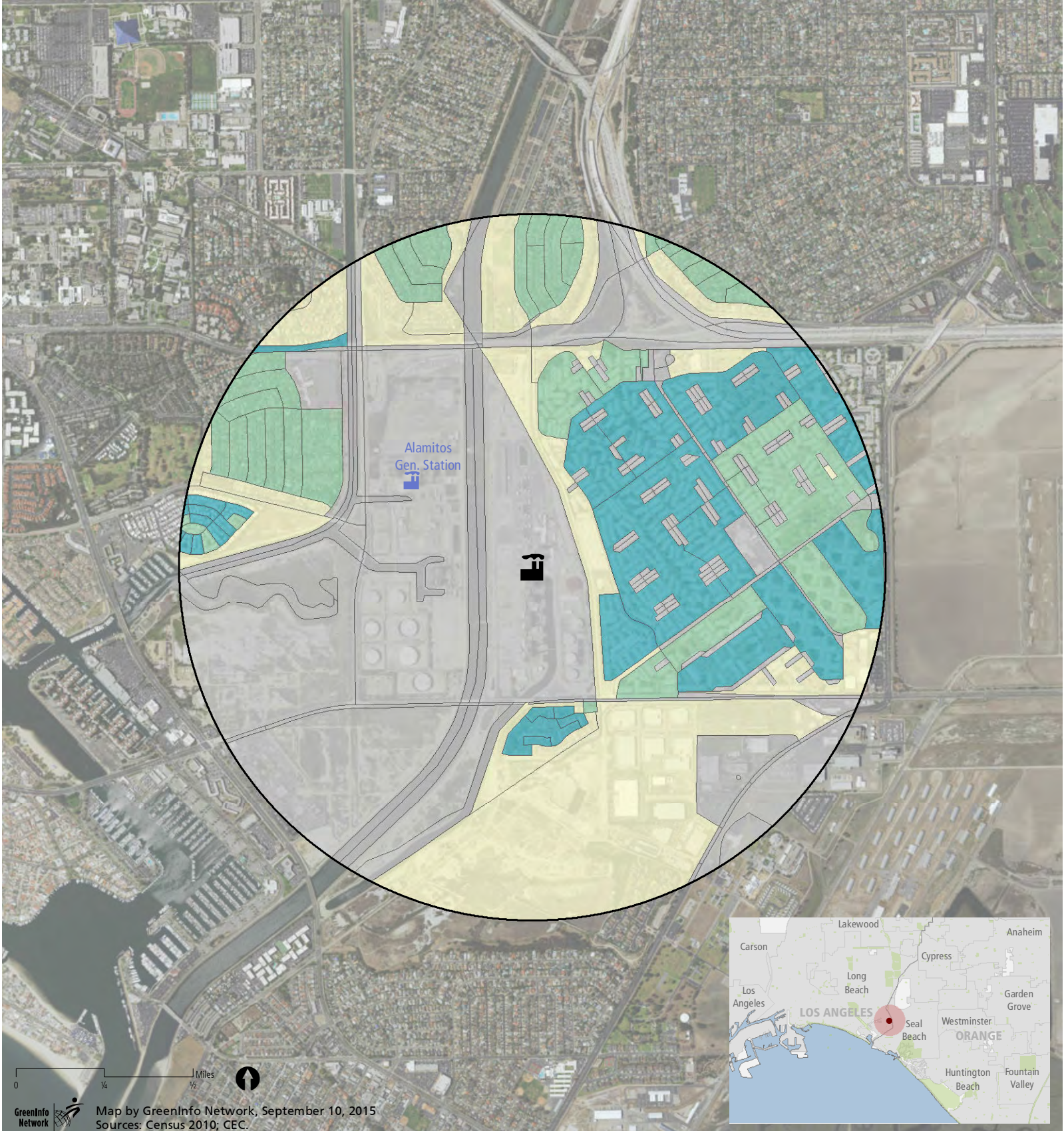


LONG BEACH
 ALAMITOS GEN. STATION
 1,970 MW

Number of residents
 within 1 mile: **11,811**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius




- Population density
 (residents per square mile)**
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



LONG BEACH







HAYNES
1,724 MW

Number of residents
within 1 mile: **10,651**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

Population density
(residents per square mile)

Census block




	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+









Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

LONG BEACH
LONG BEACH PEAKER
260 MW

Number of residents
within 1 mile: **39**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius






- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

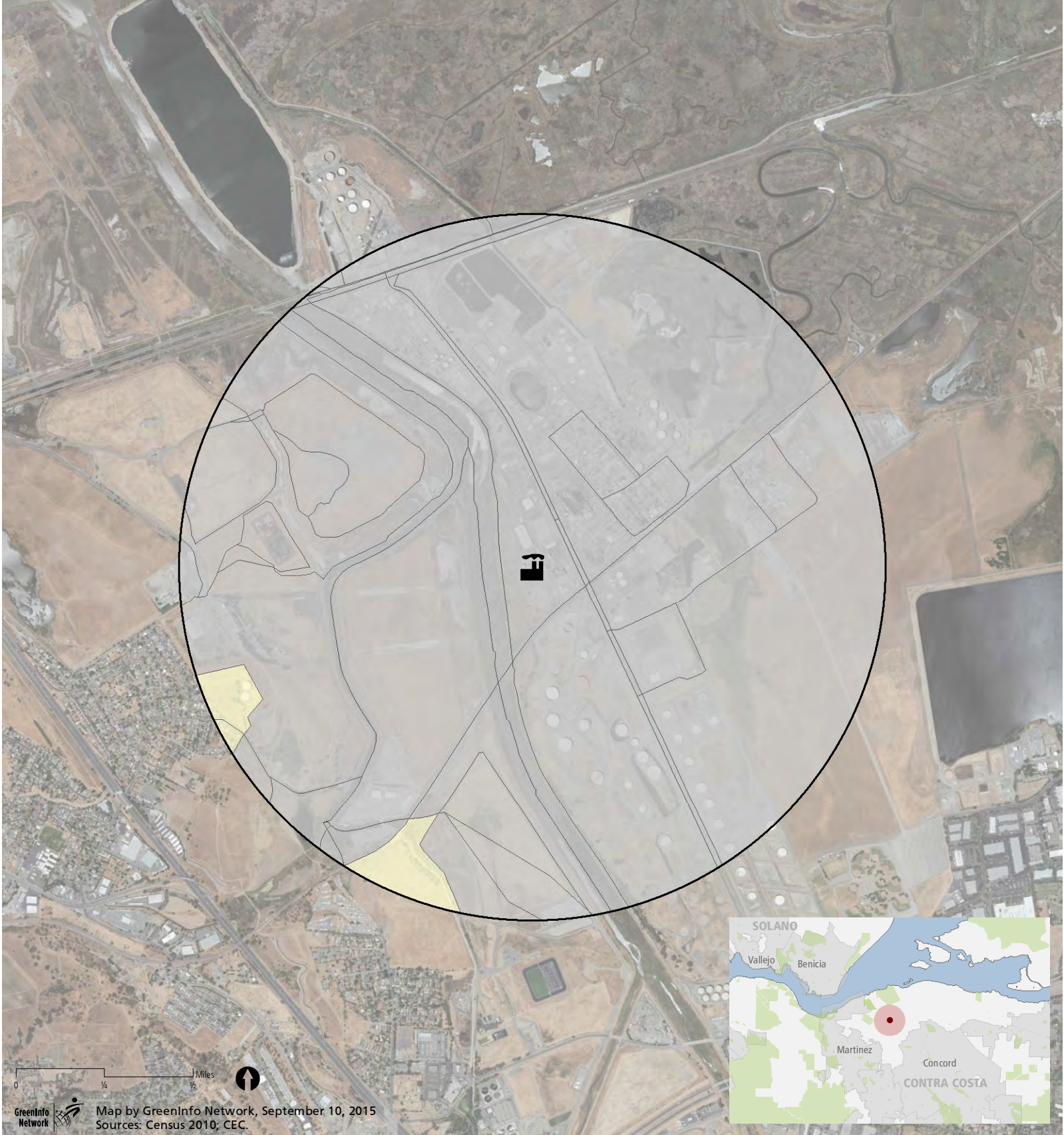


LOS BANOS
STARWOOD MIDWAY
120 MW

Number of residents
within 1 mile: **16**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 - 30,001+



MARTINEZ

FOSTER-WHEELER MARTINEZ COGEN L.P.
127 MW

Number of residents
within 1 mile: **102**



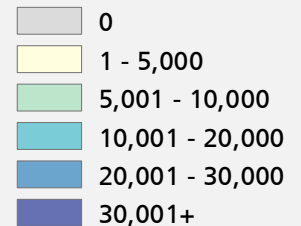
Featured gas-fired power plant

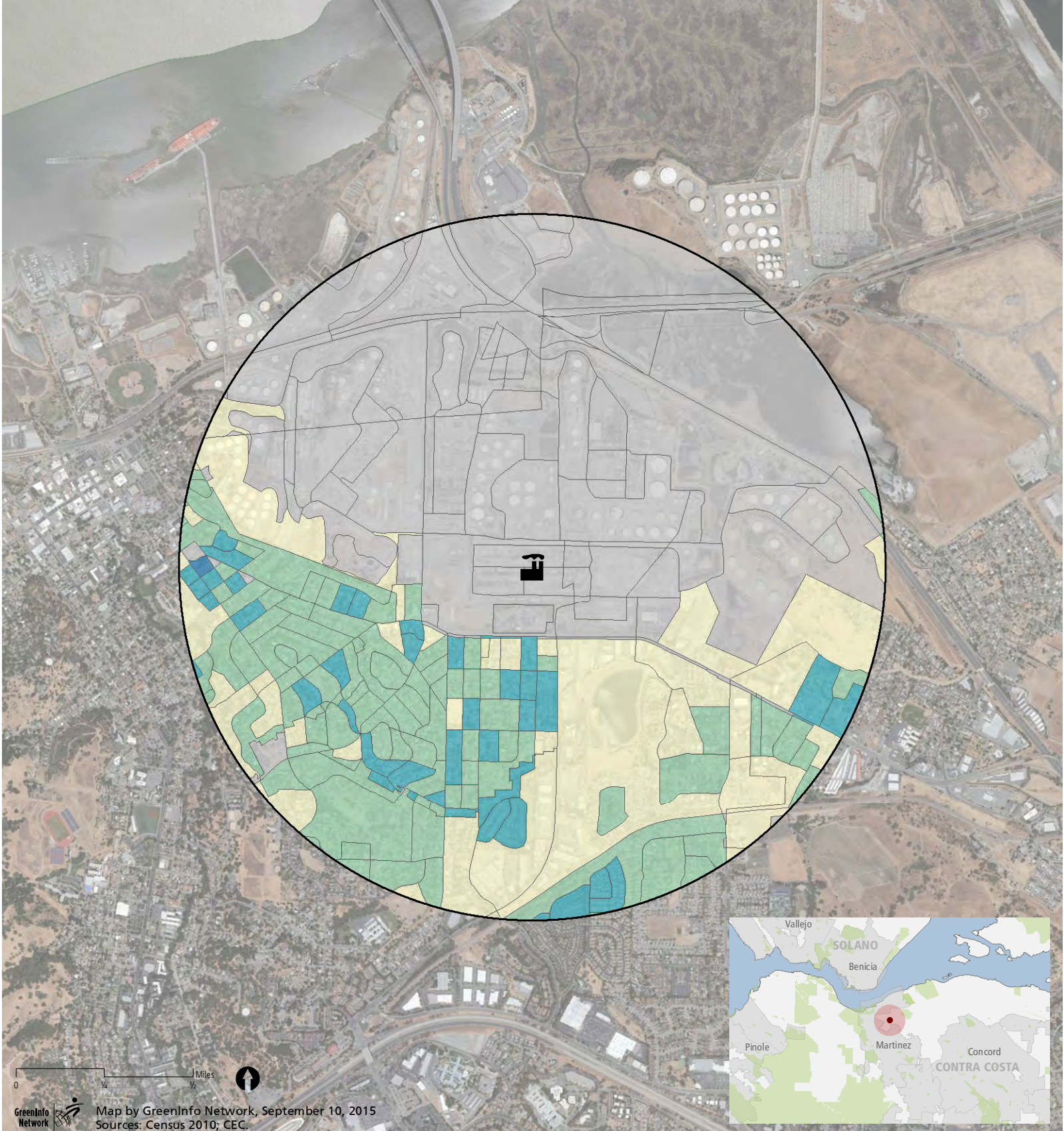



1-mile radius

Population density
(residents per square mile)

Census block













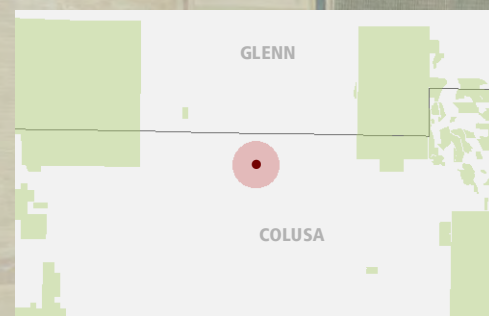
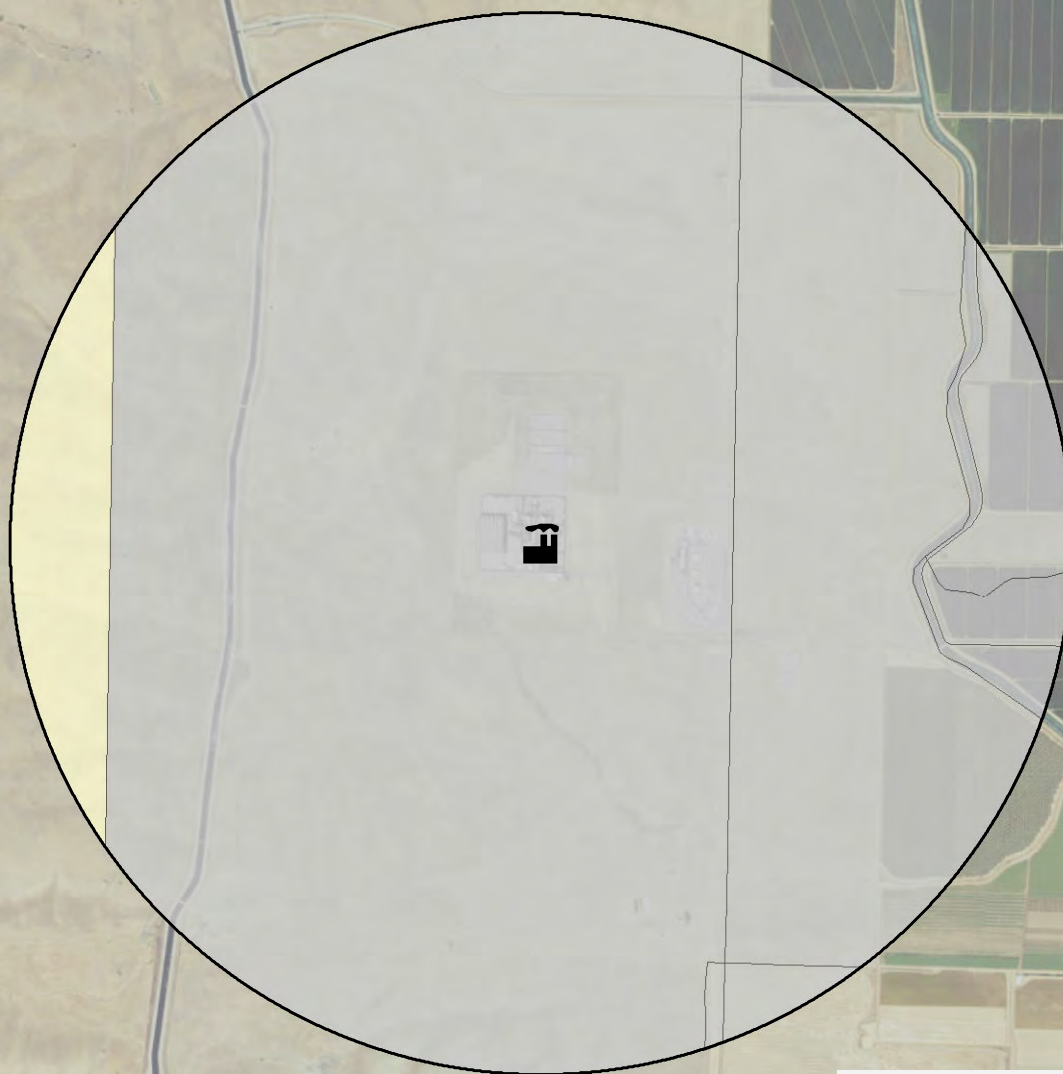

 Map by GreenInfo Network, September 10, 2015
 Sources: Census 2010; CEC.

MARTINEZ
 MARTINEZ REFINING CO.
 100 MW

Number of residents
 within 1 mile: **7,971**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



0 1/4 1/2 Miles



GreenInfo
Network

Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

MAXWELL
COLUSA GEN. STATION
660 MW



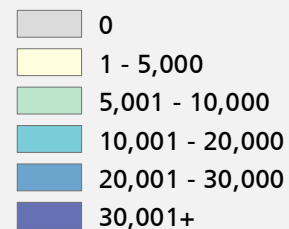
Featured gas-fired power plant



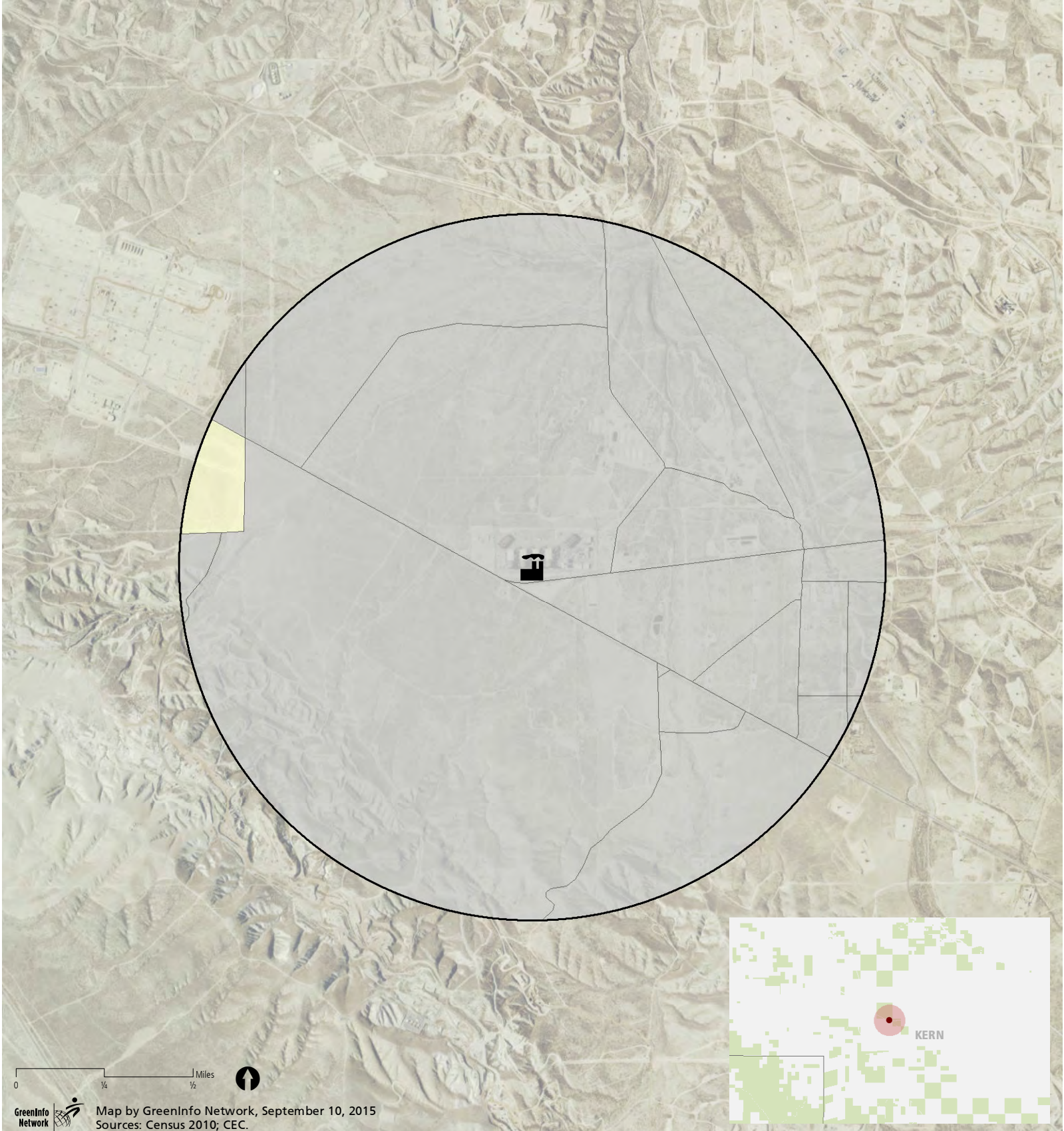
1-mile radius

Population density
(residents per square mile)

Census block





Number of residents
within 1 mile: **0**









MCKITTRICK
LA PALOMA GENERATING PROJECT
1,200 MW

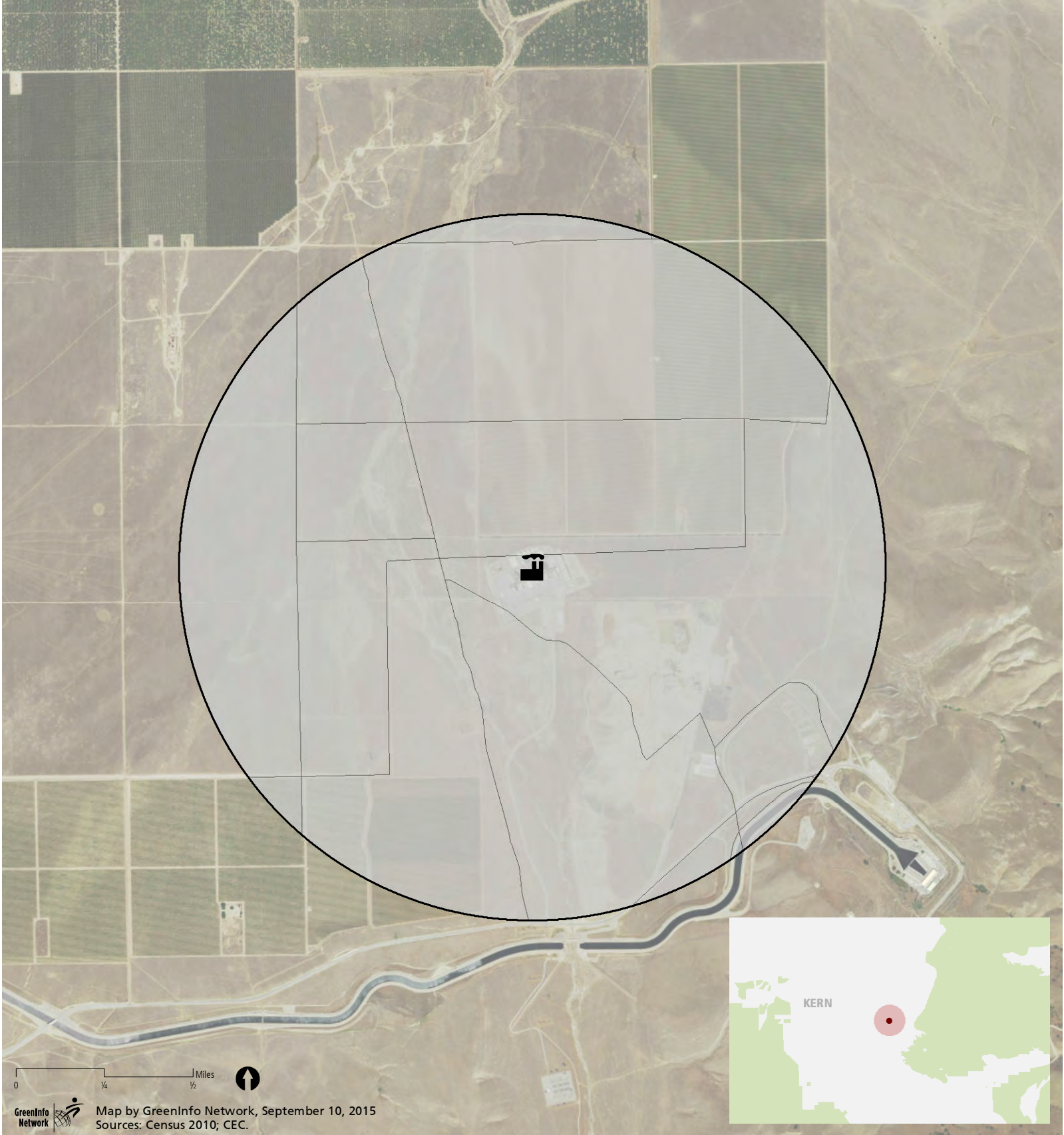
Number of residents
within 1 mile: **2**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block



	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+









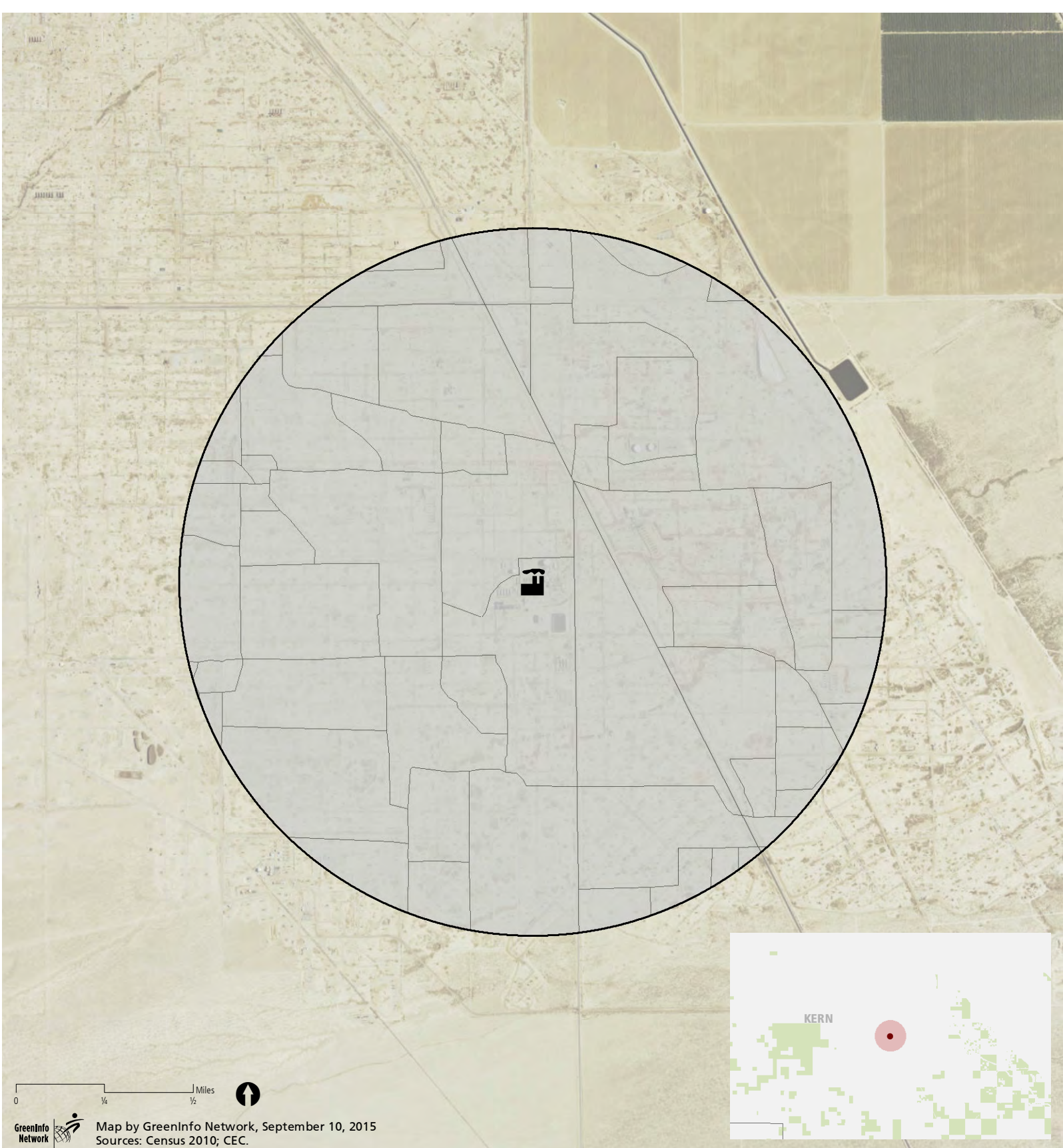
GreenInfo Network Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

MCKITTRICK
PASTORIA ENERGY FACILITY
750 MW

Number of residents
within 1 mile: **0**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



MCKITTRICK SOUTH BELRIDGE COGEN 60 MW

Number of residents
within 1 mile: **0**



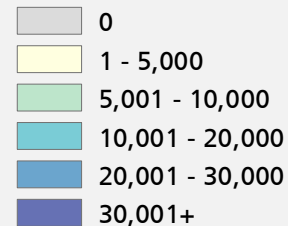
Featured gas-fired power plant

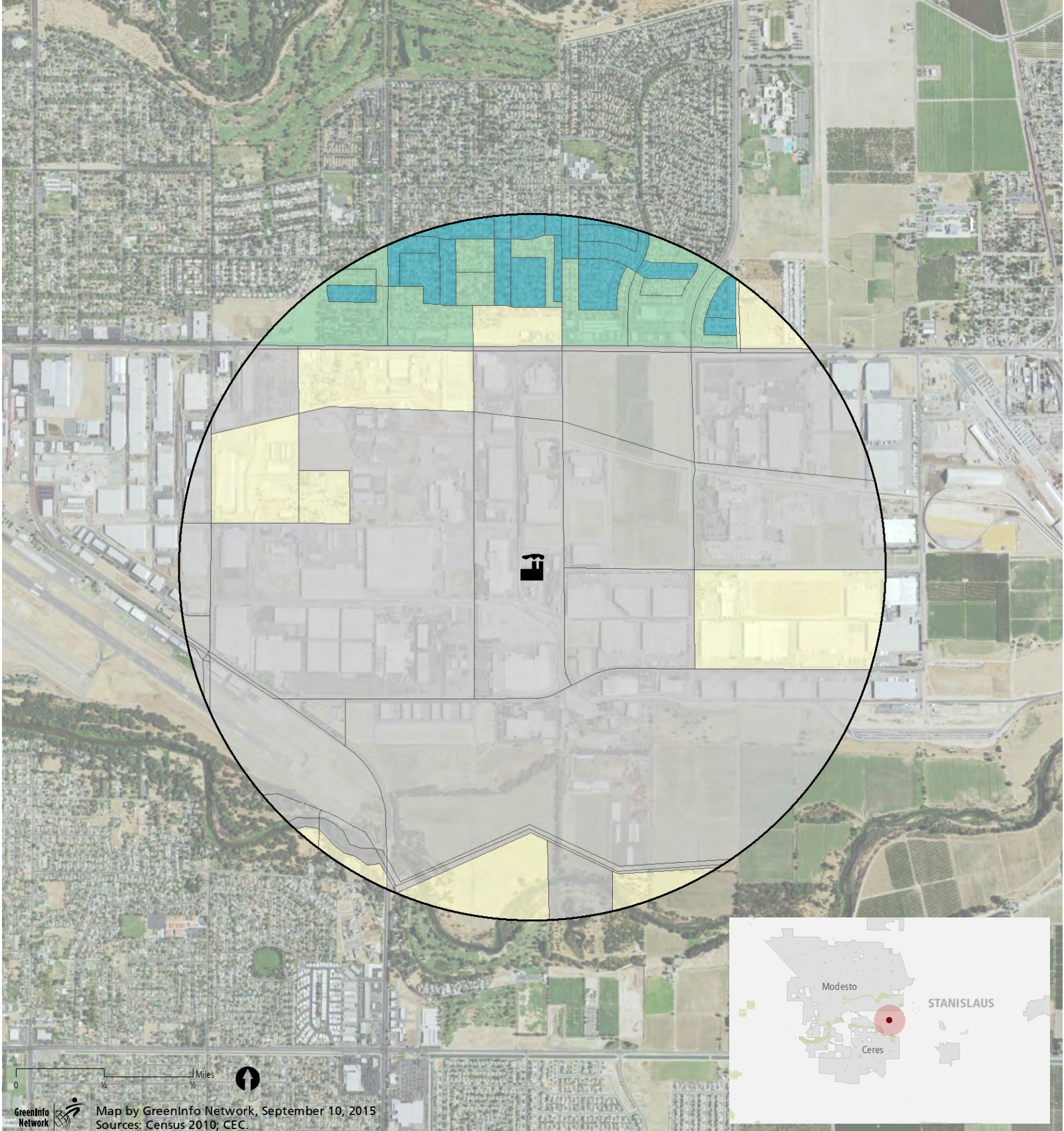


1-mile radius

Population density
(residents per square mile)

Census block













GreenInfo Network
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

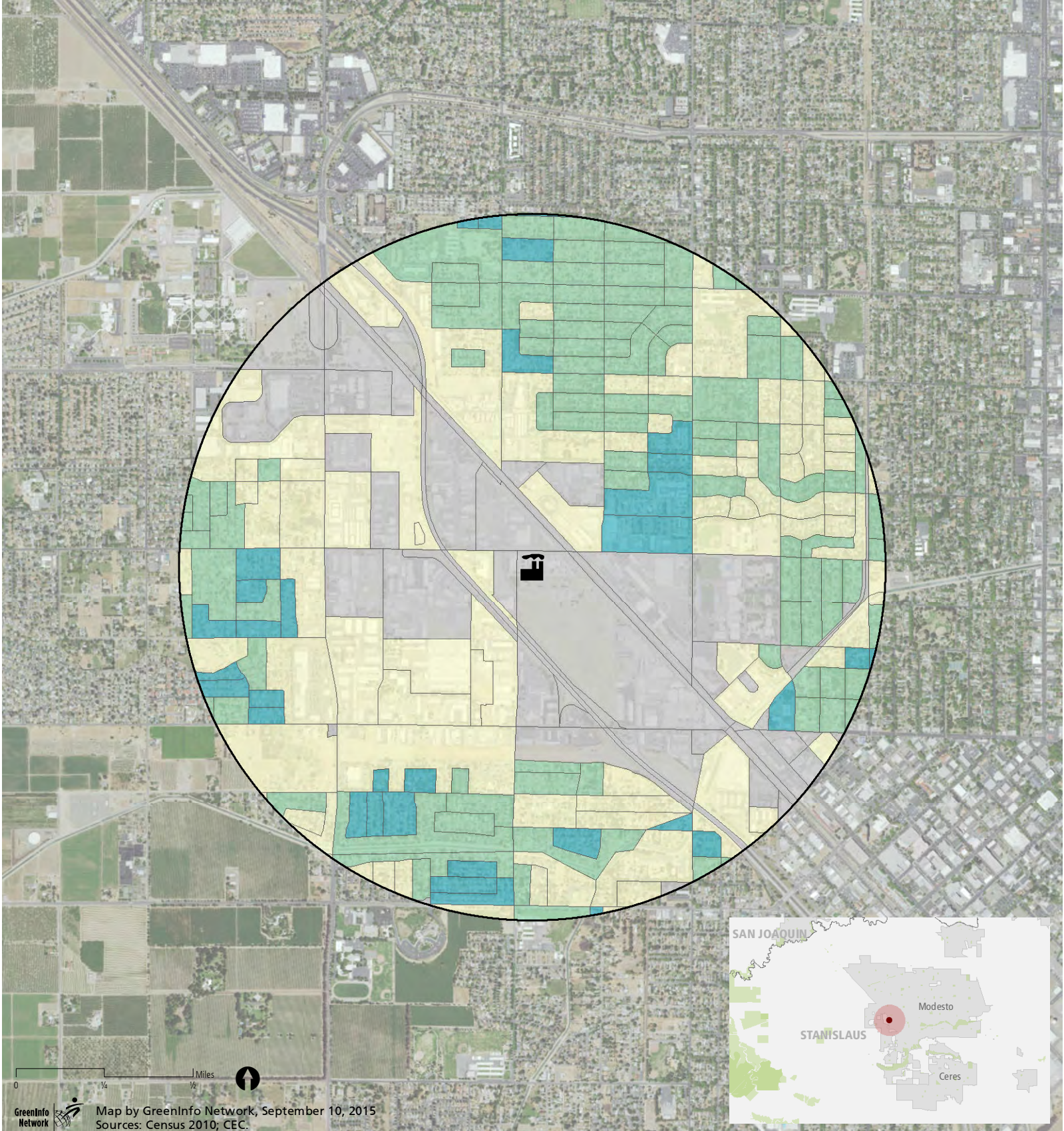
MODESTO

MCCLURE
112 MW

Number of residents
within 1 mile: **3,714**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

MODESTO
MID WOODLAND I & II
129 MW

Number of residents
within 1 mile: **11,553**



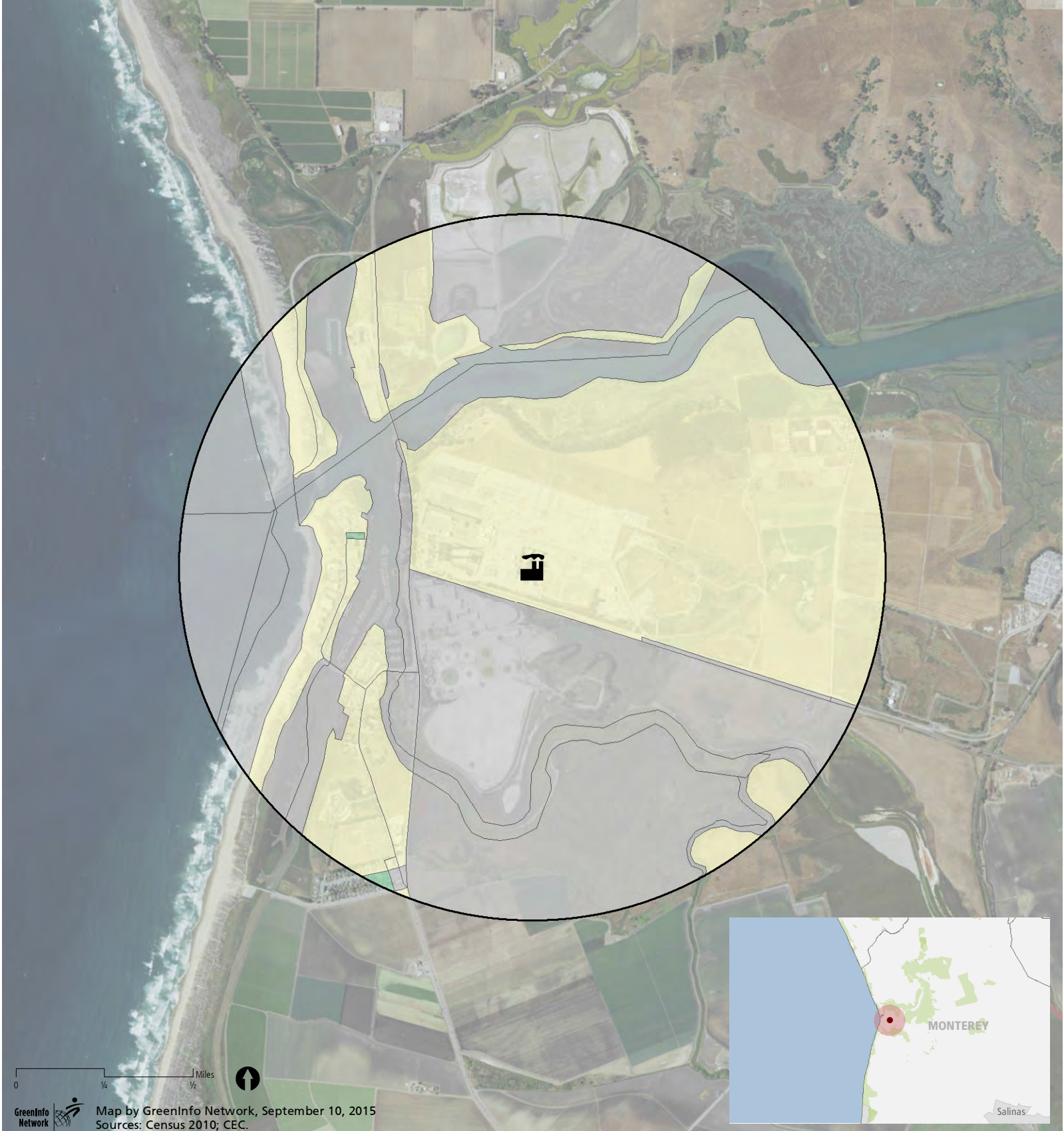
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



0 1/4 1/2 Miles



GreenInfo Network Map by GreenInfo Network, September 10, 2015 Sources: Census 2010; CEC.

MOSS LANDING

MOSS LANDING
2,484 MW

Number of residents
within 1 mile: **136**

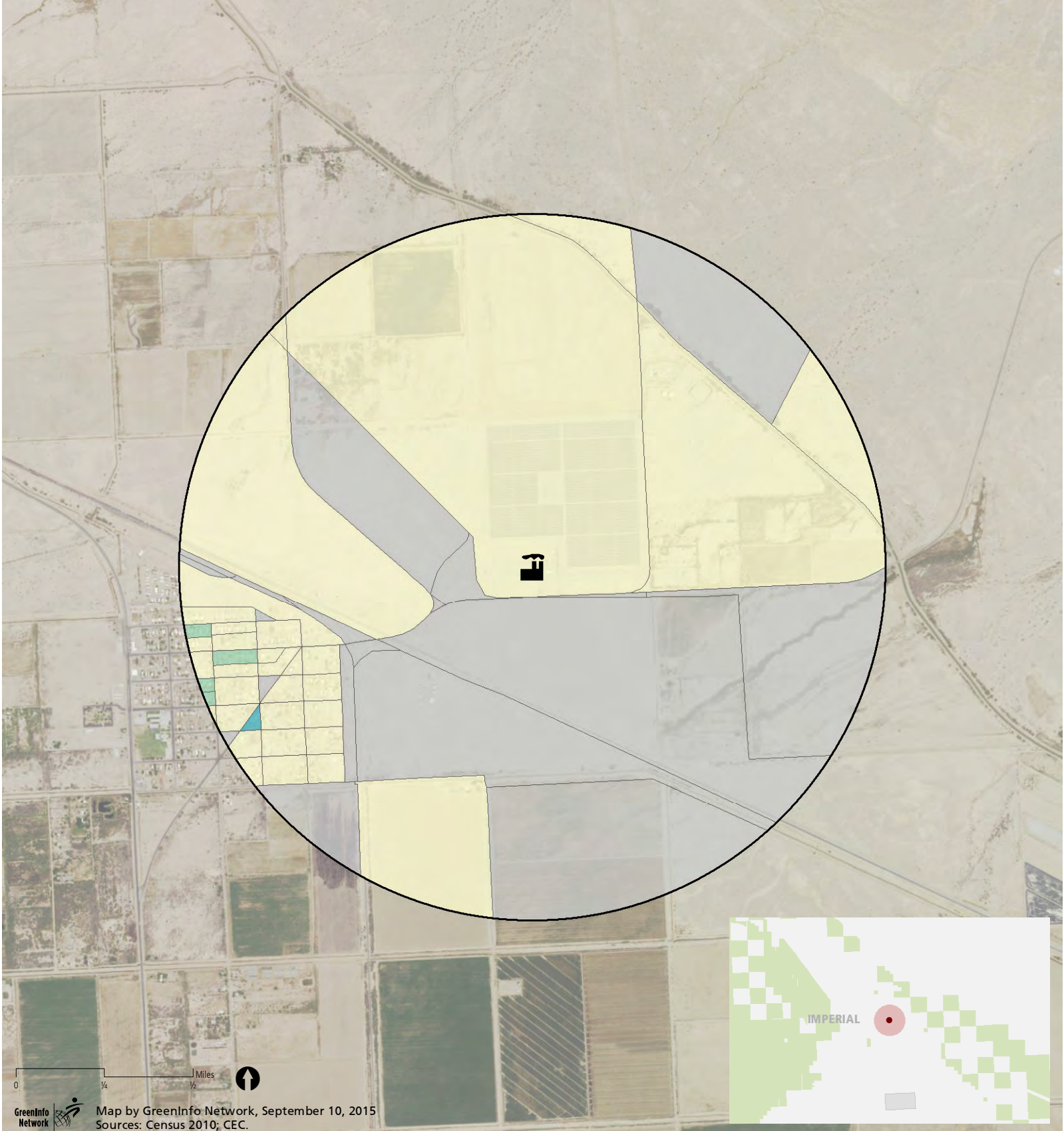


Featured gas-fired power plant
1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



NILAND

NILAND
93 MW

Number of residents
within 1 mile: **652**



Featured gas-fired power plant



1-mile radius

Population density
(residents per square mile)

Census block

0

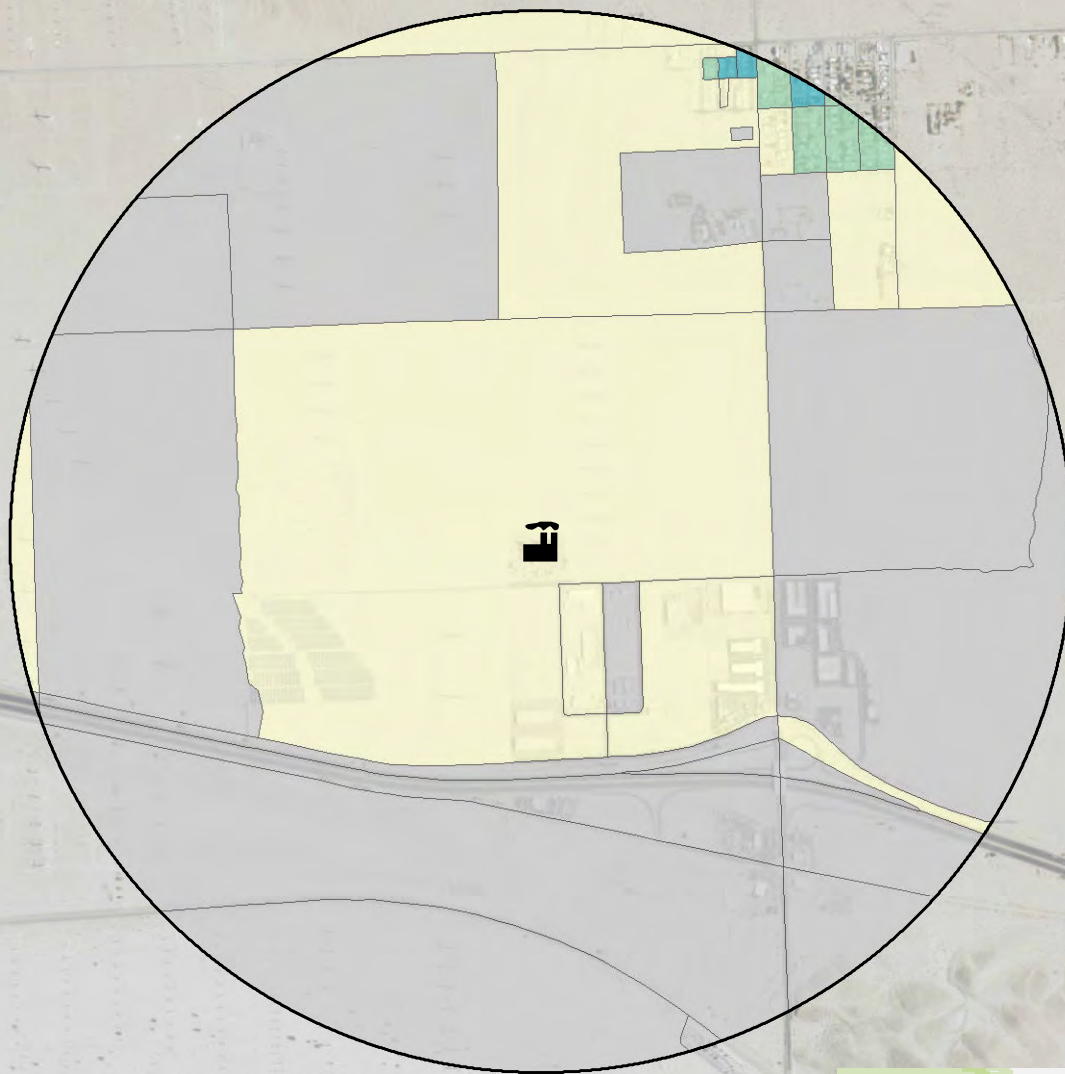
1 - 5,000

5,001 - 10,000

10,001 - 20,000

20,001 - 30,000

30,001+



0 1/4 1/2 Miles



GreenInfo
Network



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

NORTH PALM SPRINGS

WILDFLOWER - INDIGO

135 MW

Number of residents
within 1 mile: **476**



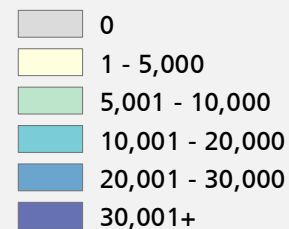
Featured gas-fired power plant

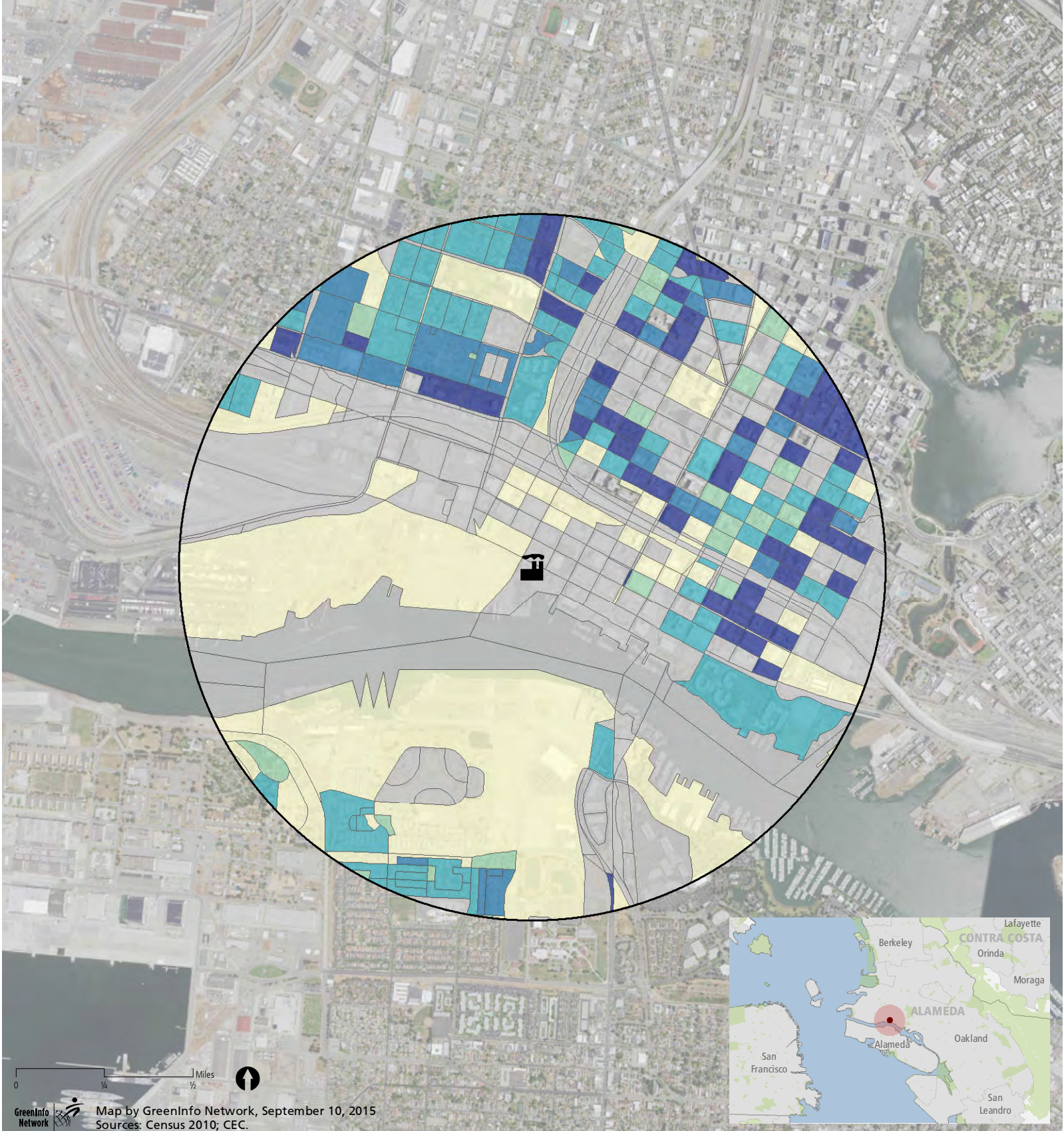


1-mile radius

Population density
(residents per square mile)

Census block





OAKLAND
OAKLAND
224 MW

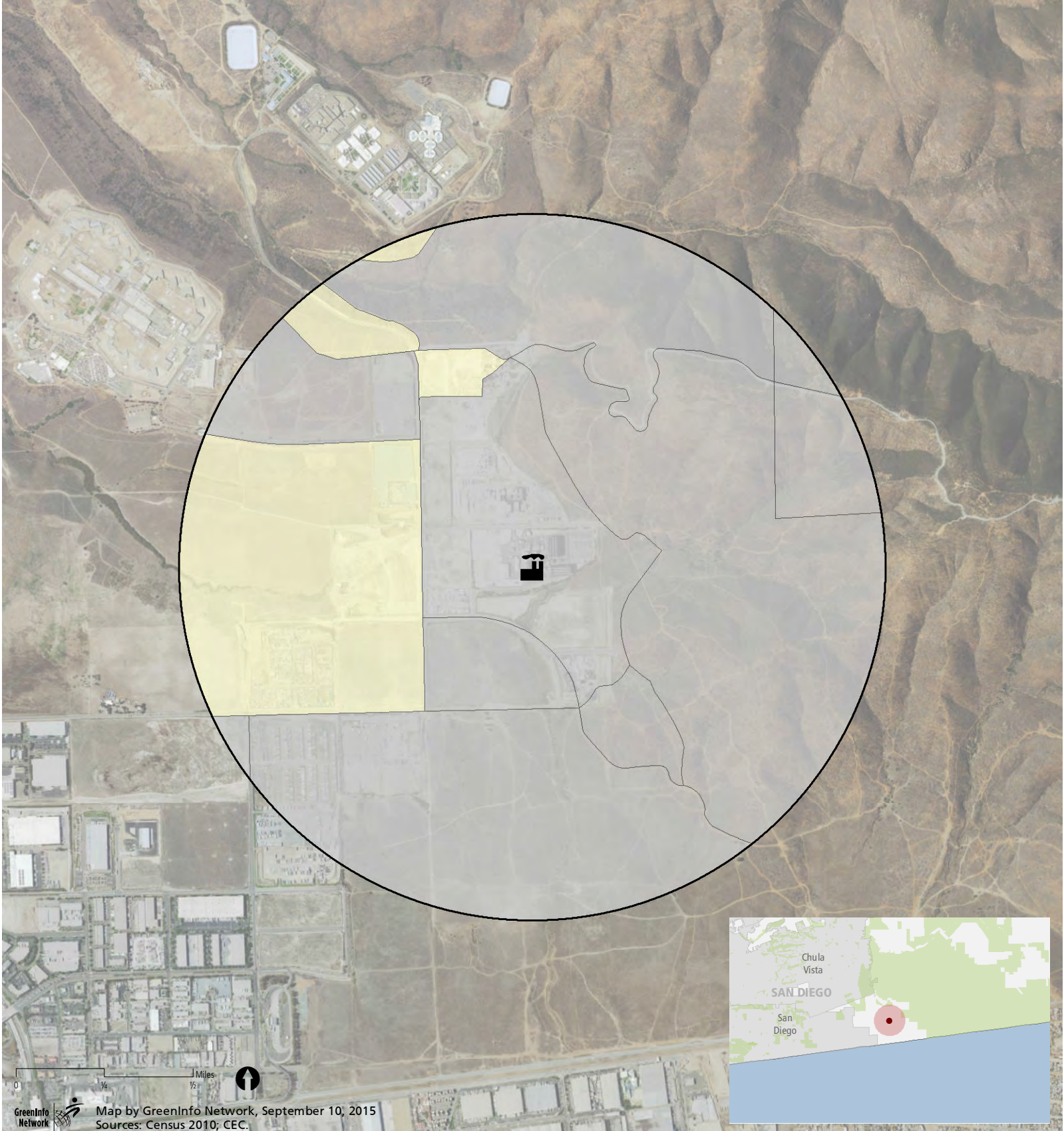
Number of residents
within 1 mile: **23,707**

- Featured gas-fired power plant
- 1-mile radius

**Population density
(residents per square mile)**



Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+









OTAY MESA
OTAY MESA ENERGY CENTER
590 MW

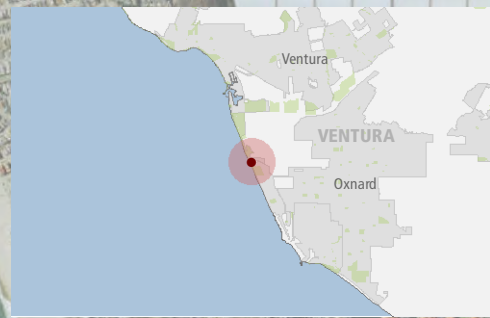
Number of residents
within 1 mile: **273**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



0 1/4 1/2 Miles



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

OXNARD
MANDALAY
573 MW



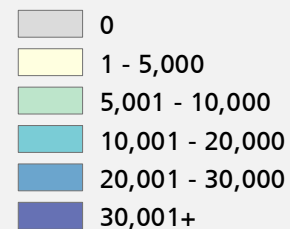
Featured gas-fired power plant



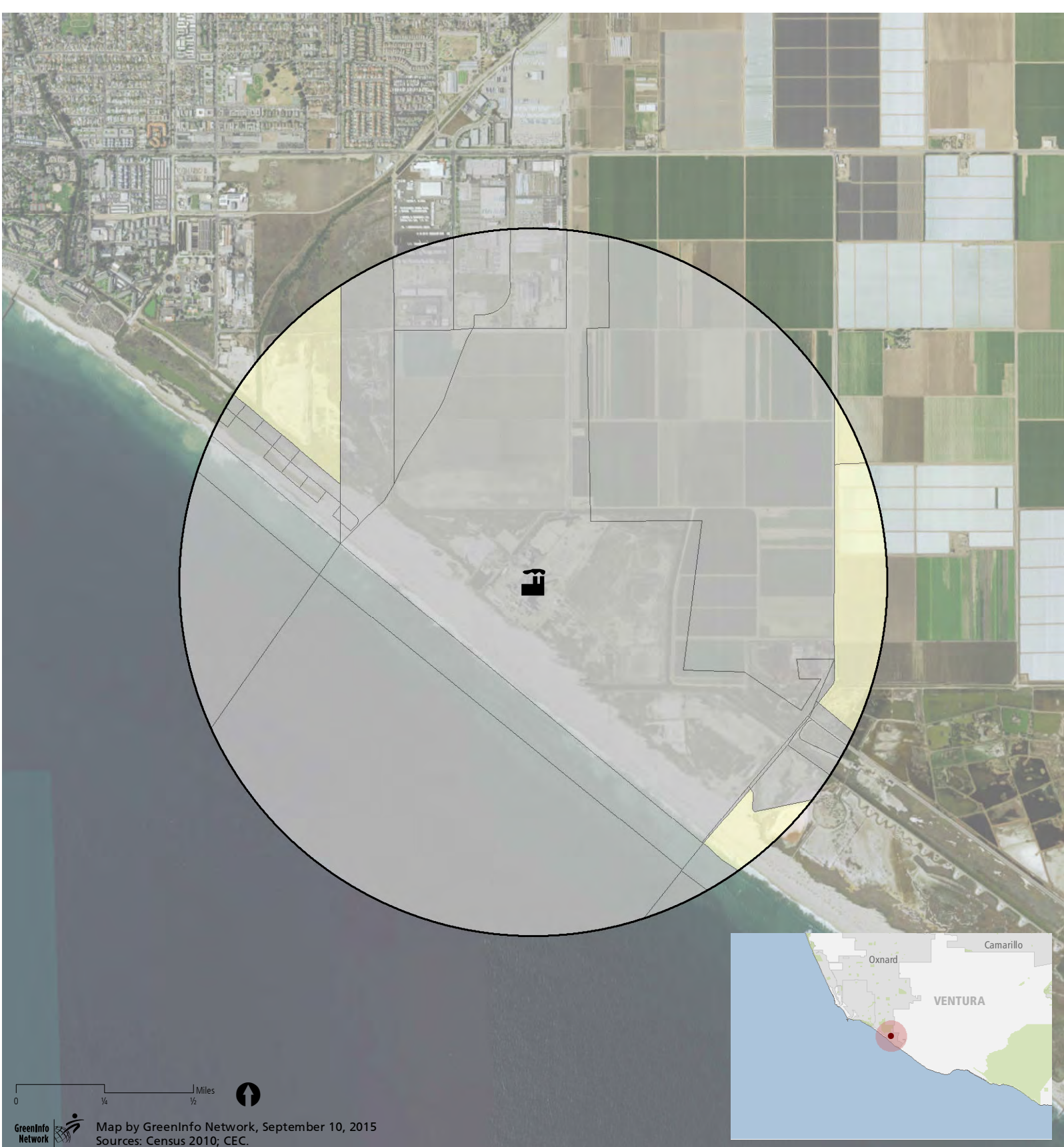
1-mile radius

Population density
(residents per square mile)

Census block



Number of residents
within 1 mile: **886**



OXNARD
ORMOND BEACH
1,613 MW

Number of residents
within 1 mile: **17**



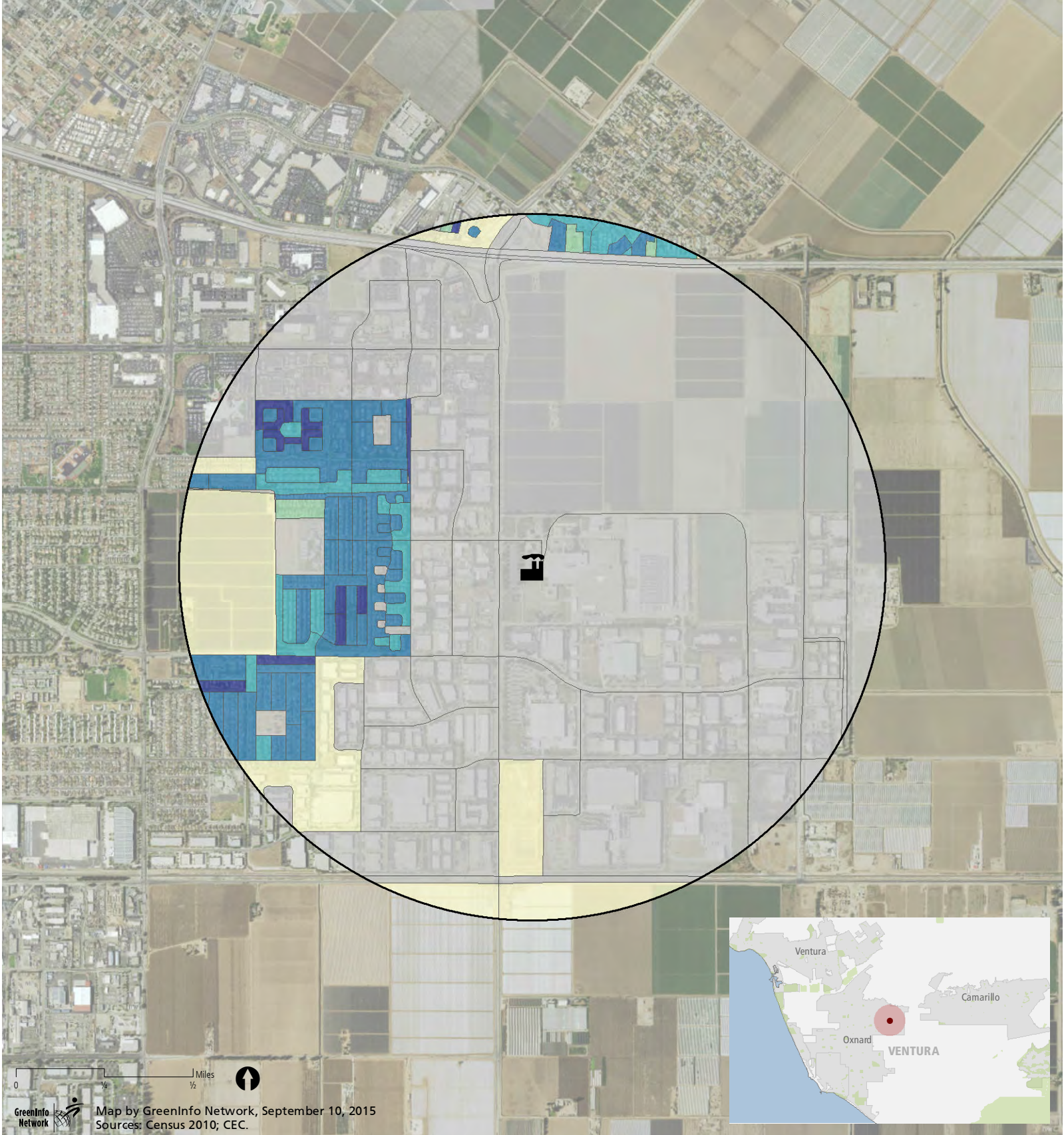
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)



Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+









OXNARD OXNARD I & II 70 MW

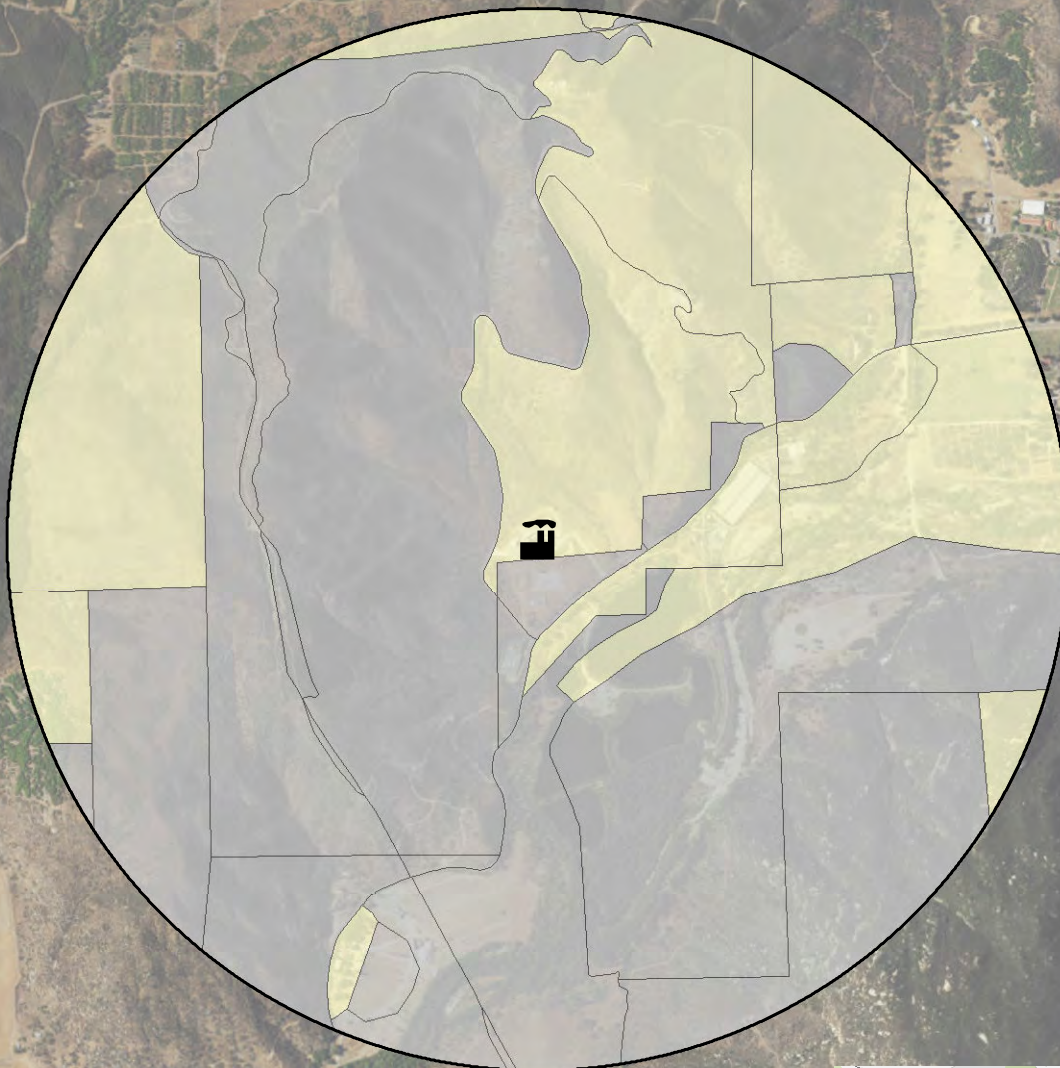
Number of residents
within 1 mile: **9,154**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



0 1/4 1/2 Miles



GreenInfo Network
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

PALA
ORANGE GROVE PEAKER
96 MW



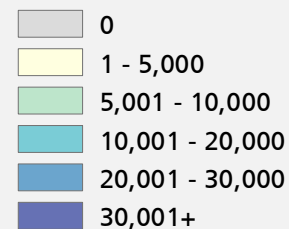
Featured gas-fired power plant



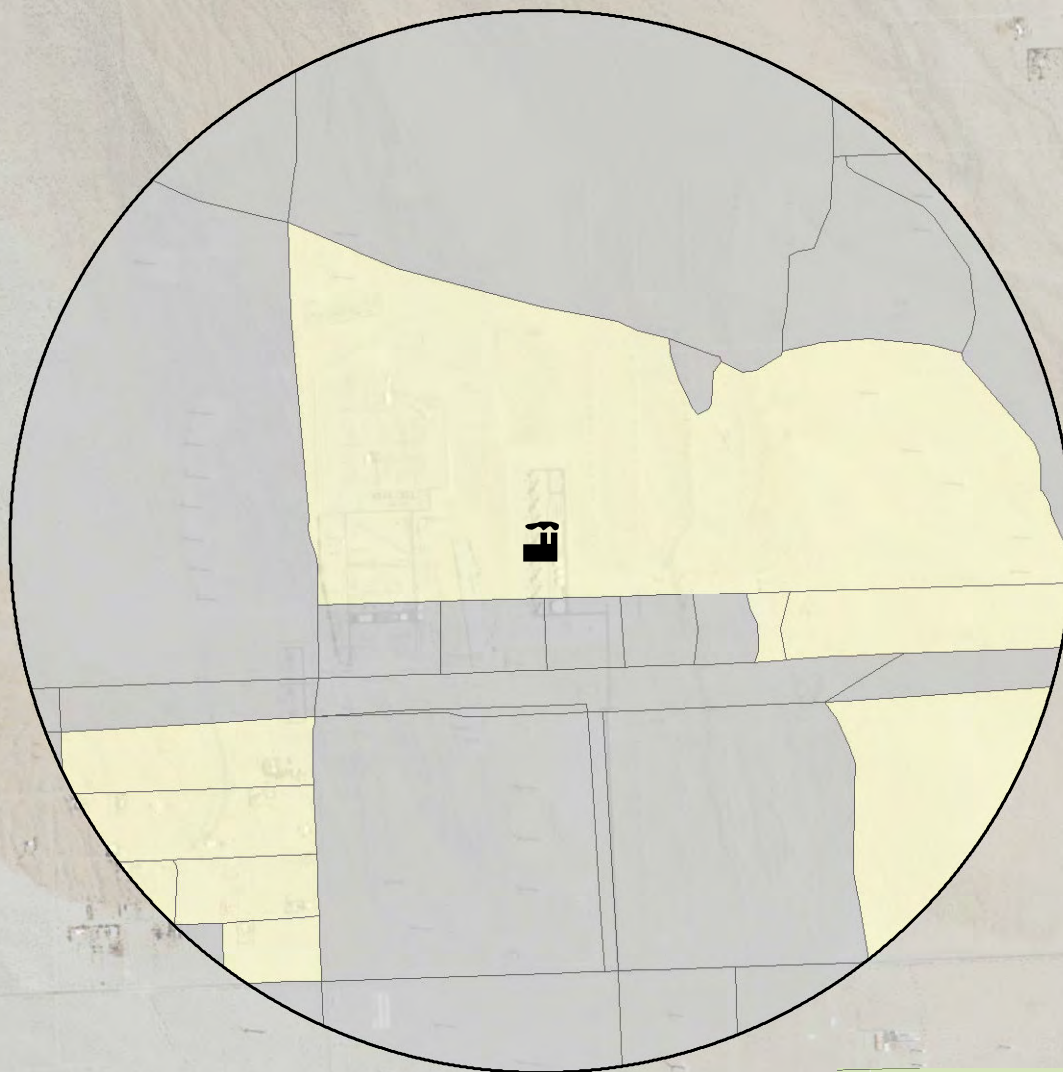
1-mile radius

Population density
(residents per square mile)

Census block



Number of residents
within 1 mile: **48**



0 1/4 1/2 Miles



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

PALM SPRINGS

SENTINEL ENERGY
850 MW

Number of residents
within 1 mile: **47**



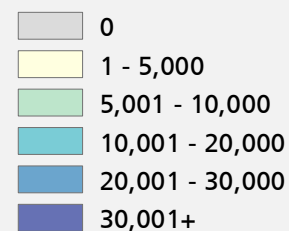
Featured gas-fired power plant

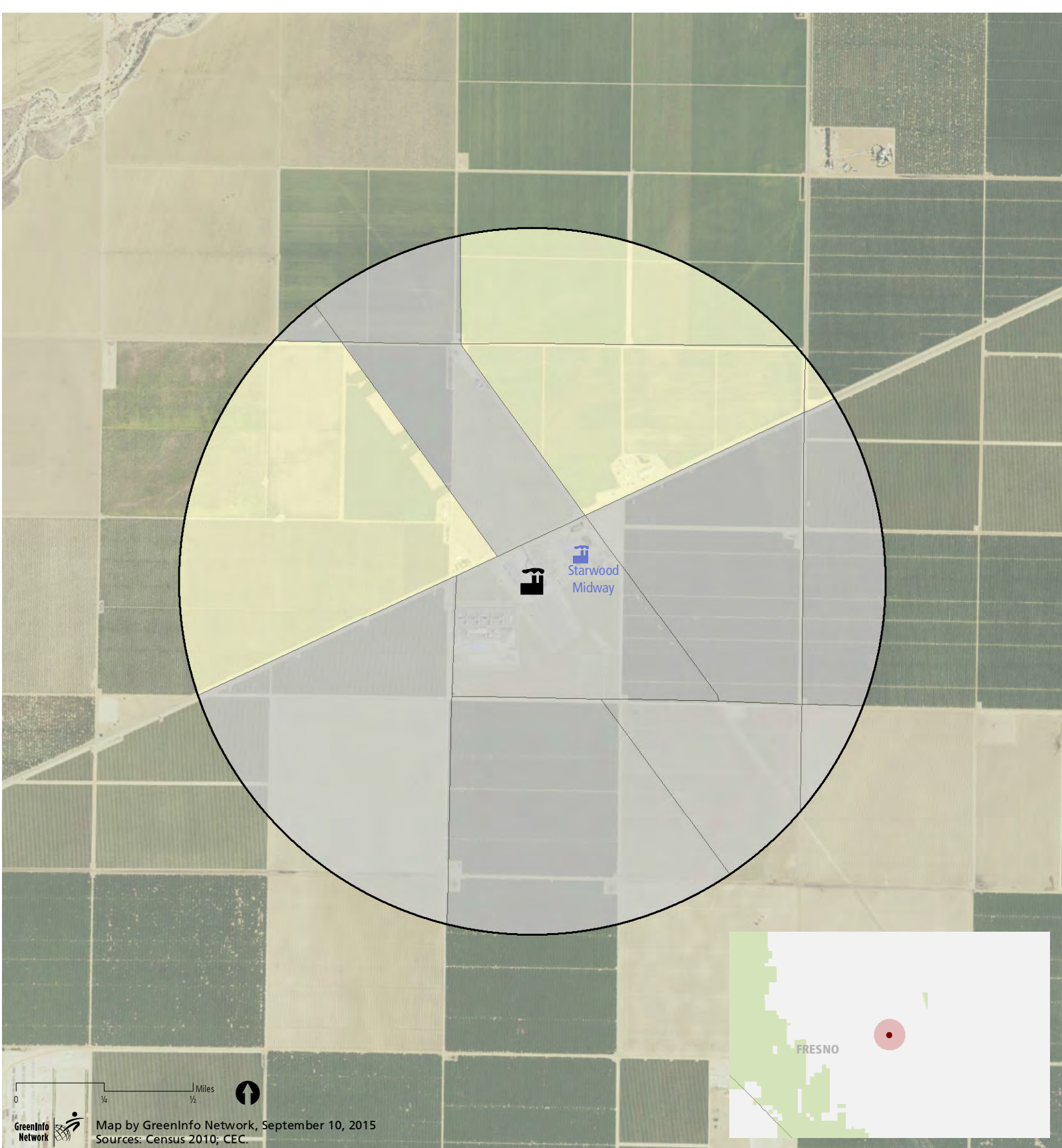


1-mile radius

Population density
(residents per square mile)




Census block









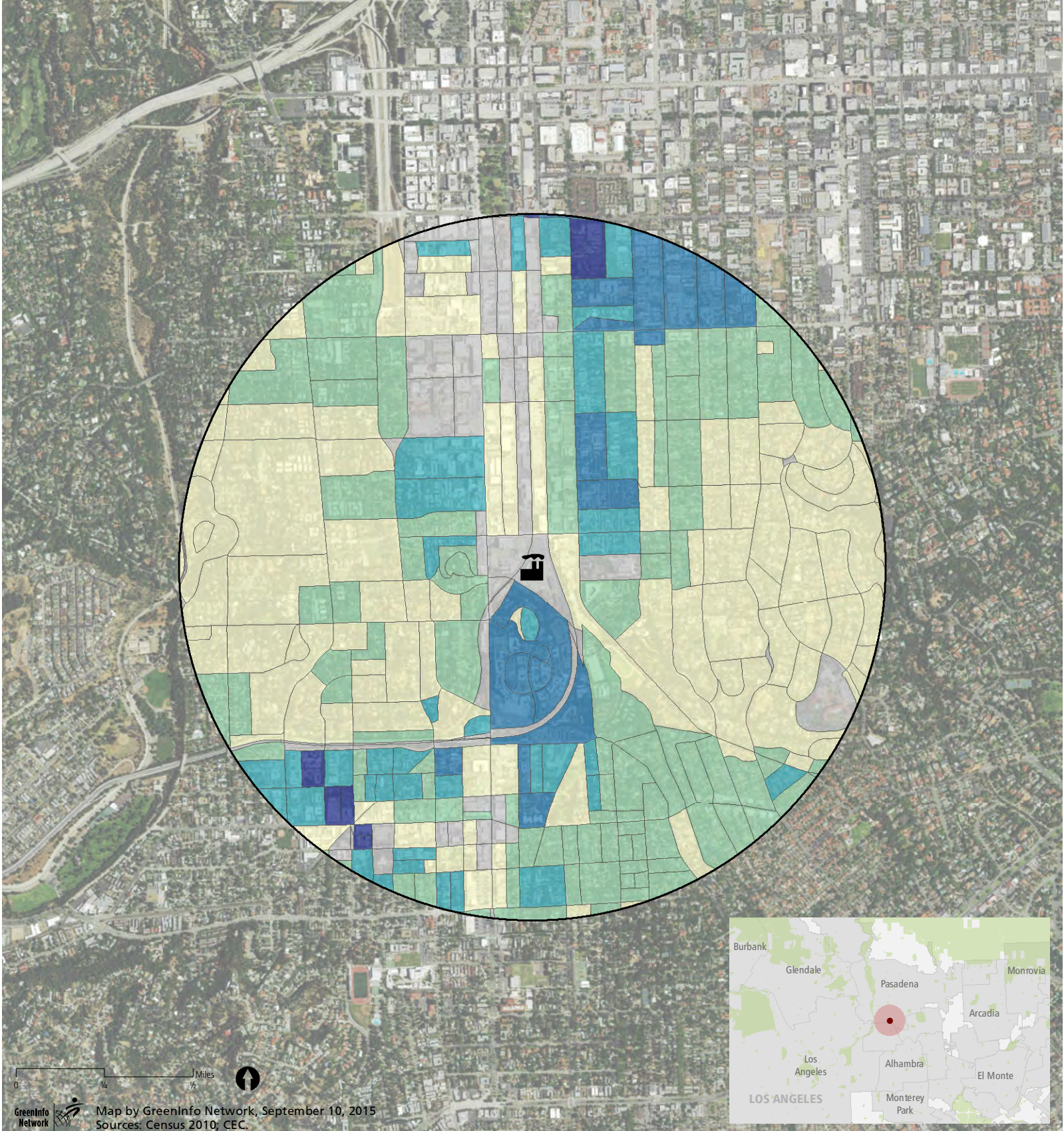


PANOCH HILLS **PANOCH ENERGY CENTER** **400 MW**

Number of residents
 within 1 mile: **14**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

Population density (residents per square mile)	
Census block	
	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

PASADENA
BROADWAY
75 MW

Number of residents
within 1 mile: **22,248**



Featured gas-fired power plant

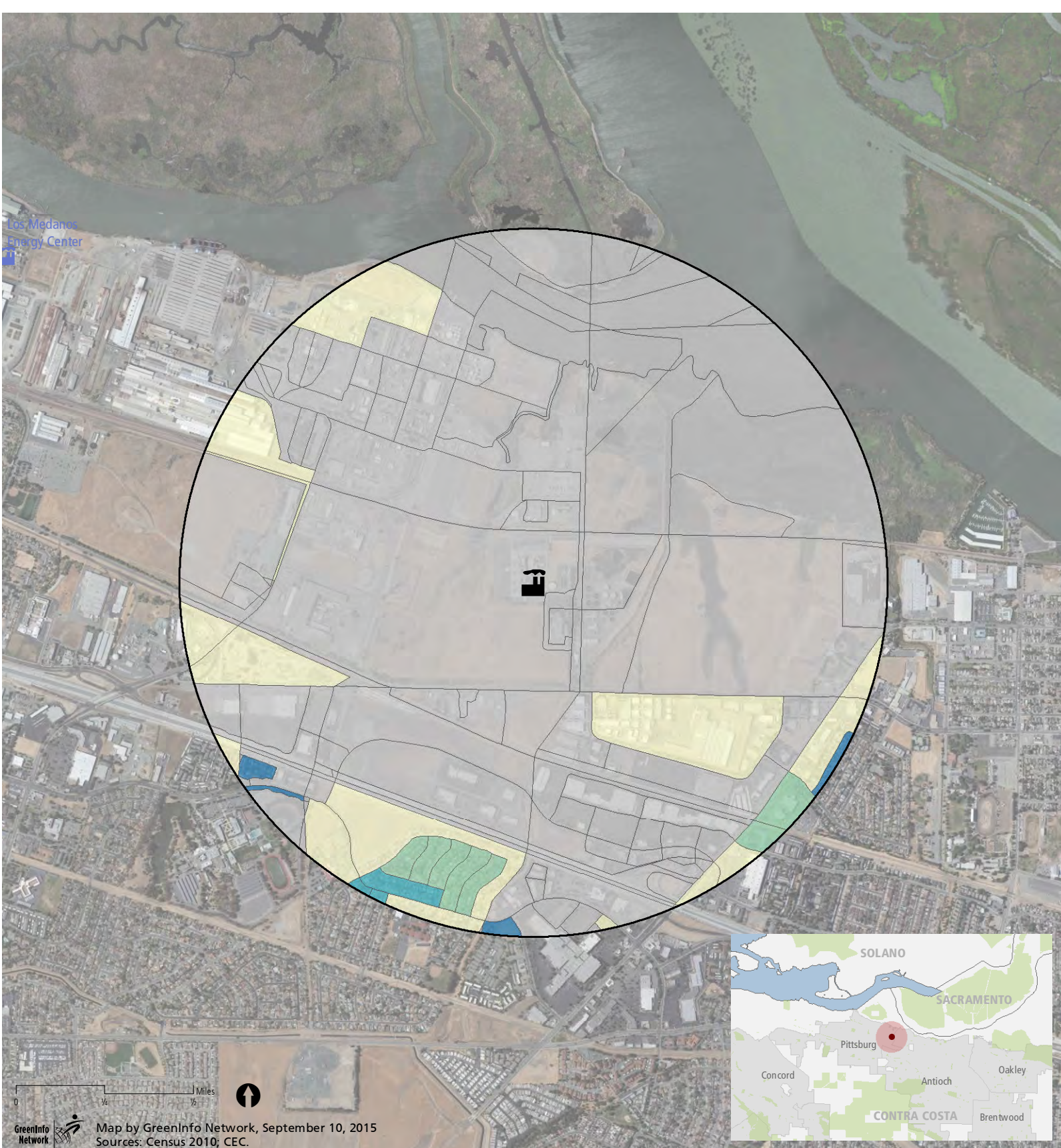
1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+

Los Medanos
Energy Center












0 1/4 1/2 Miles

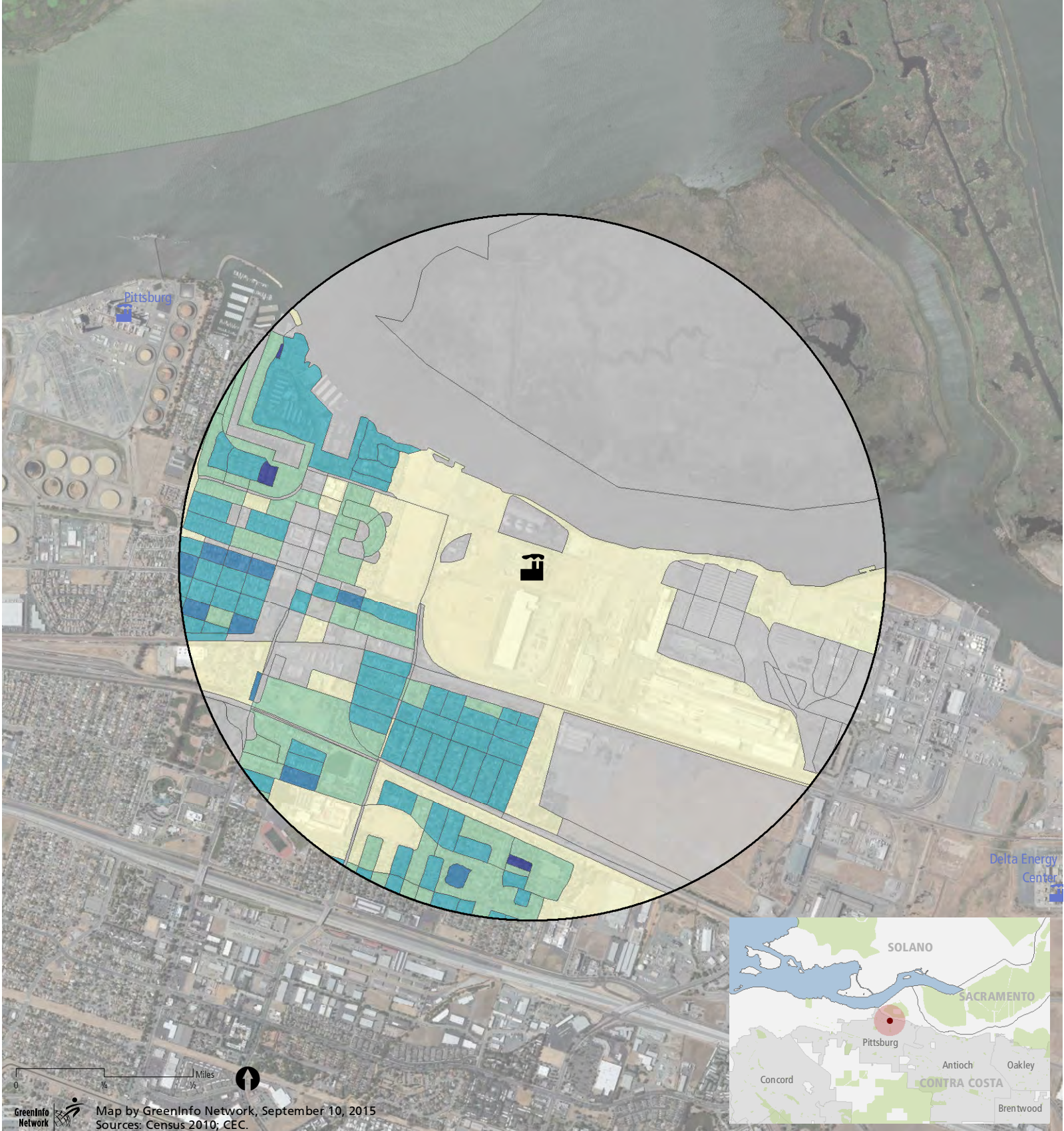
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

PITTSBURG
DELTA ENERGY CENTER
860 MW

Number of residents
within 1 mile: **1,468**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

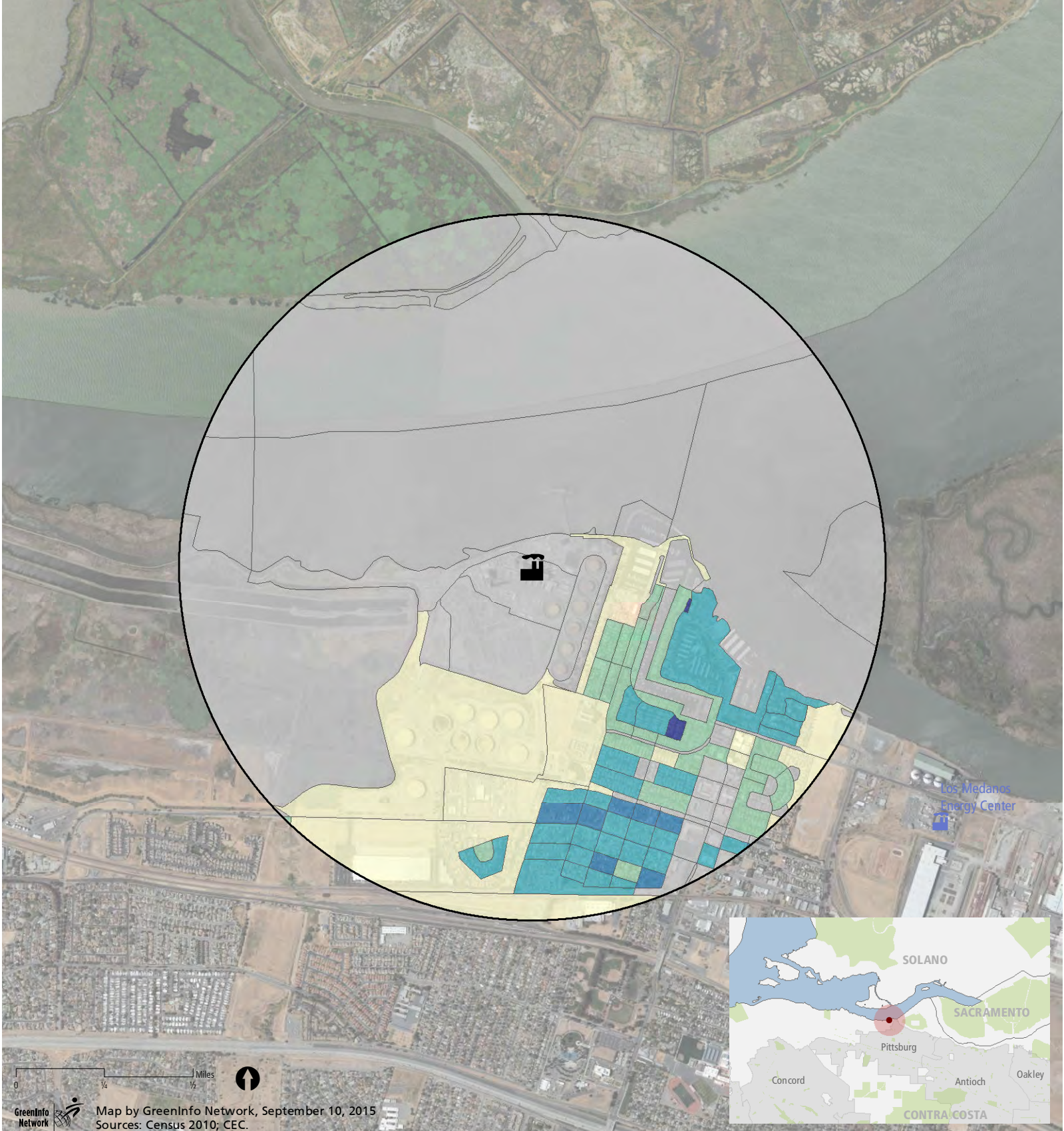


PITTSBURG
 LOS MEDANOS ENERGY CENTER
 594 MW

Number of residents
 within 1 mile: **7,958**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

- Population density
 (residents per square mile)**
- Census block**
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



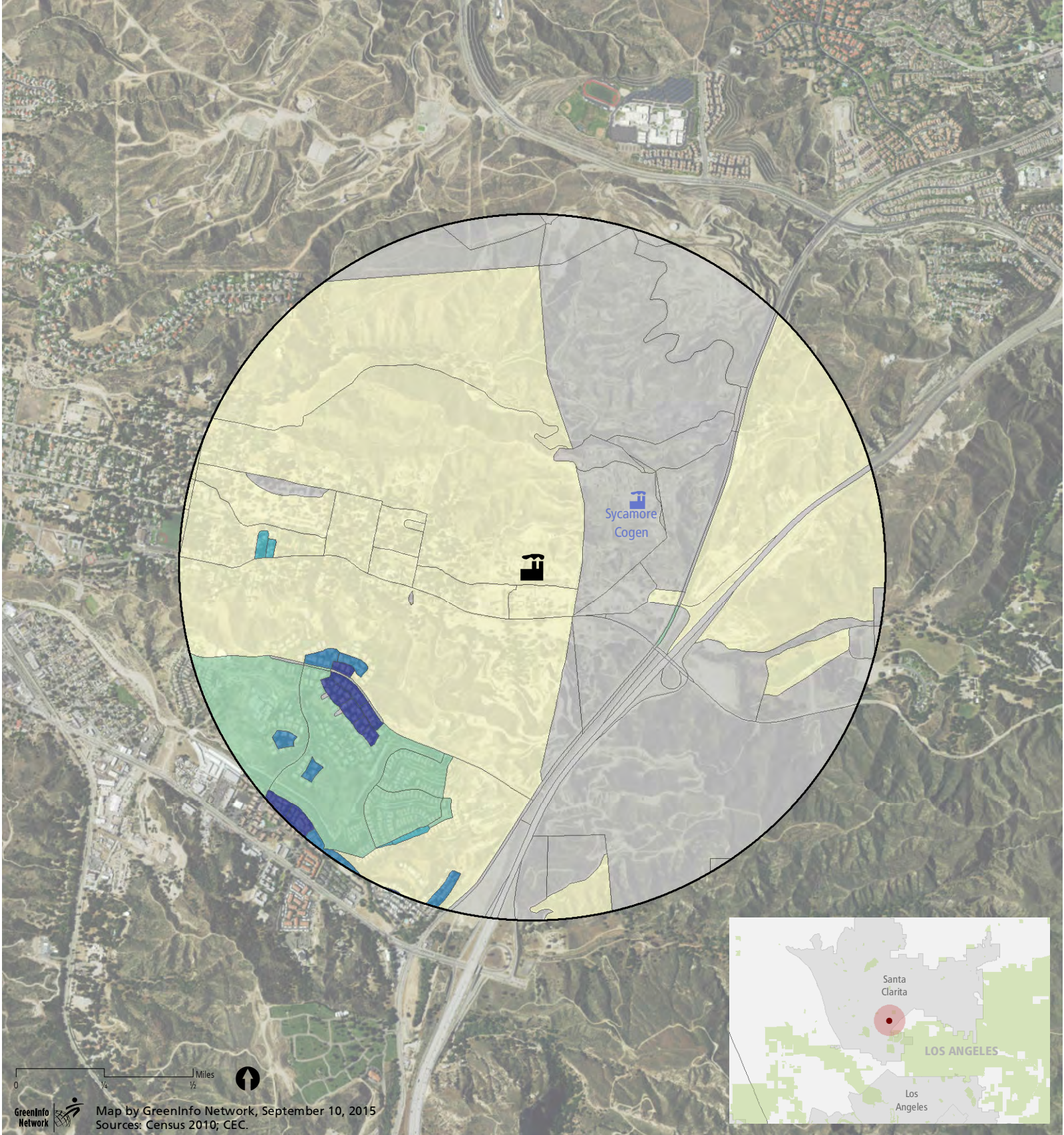
PITTSBURG

PITTSBURG
1,370 MW

Number of residents
within 1 mile: **4,957**

- Featured gas-fired power plant
- Nearby plant
- 1-mile radius

- Population density
(residents per square mile)
- Census block*
- 0
 - 1 - 5,000
 - 5,001 - 10,000
 - 10,001 - 20,000
 - 20,001 - 30,000
 - 30,001+



PLACERITA CYN.

AES PLACERITA
120 MW

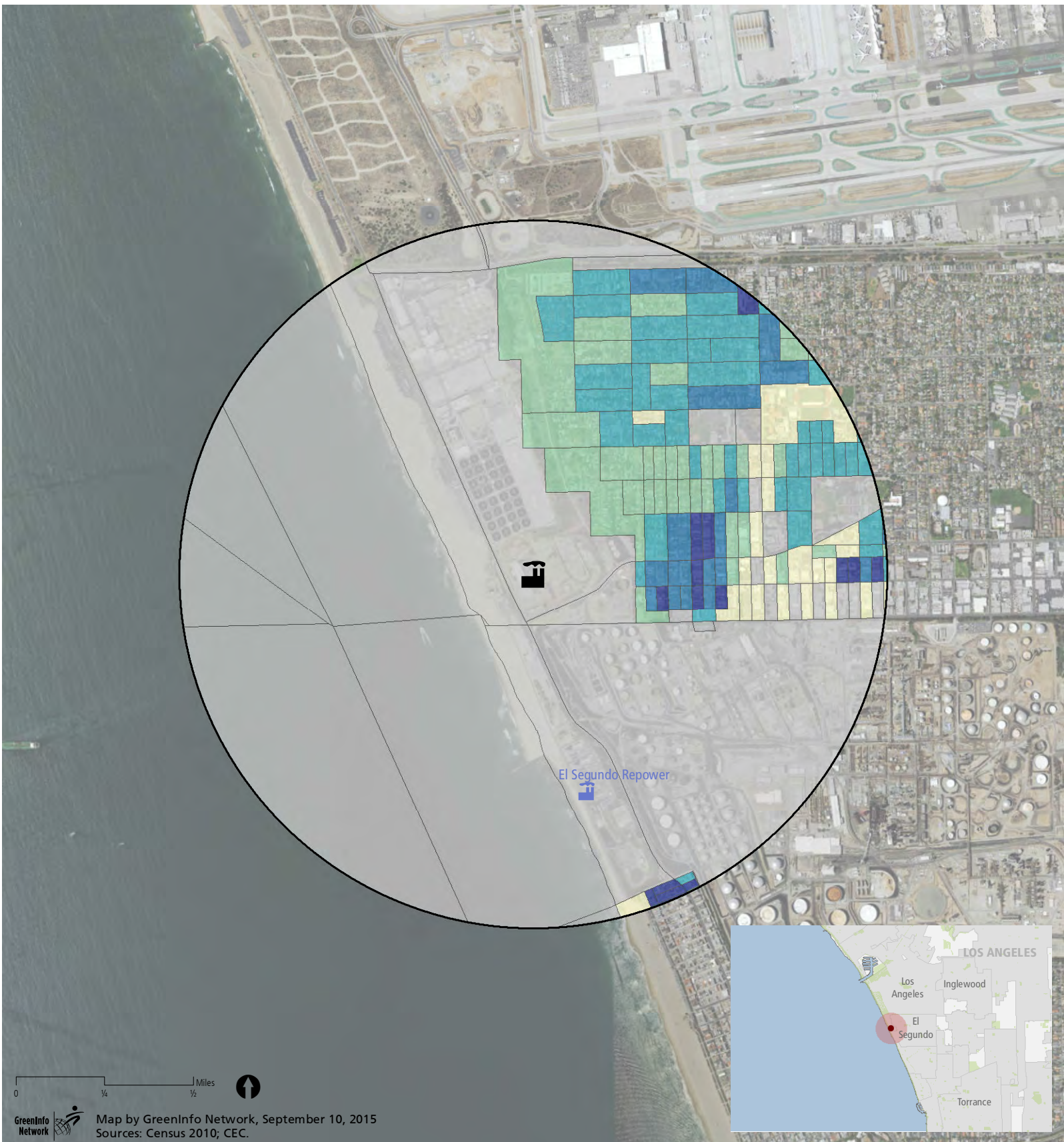
Number of residents
within 1 mile: **4,894**

- Featured gas-fired power plant
- Nearby plant
- 1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



0 1/4 1/2 Miles

GreenInfo Network Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

PLAYA DEL REY

SCATTERGOOD

803 MW

Number of residents
within 1 mile: **8,634**



Featured gas-fired power plant



Nearby plant

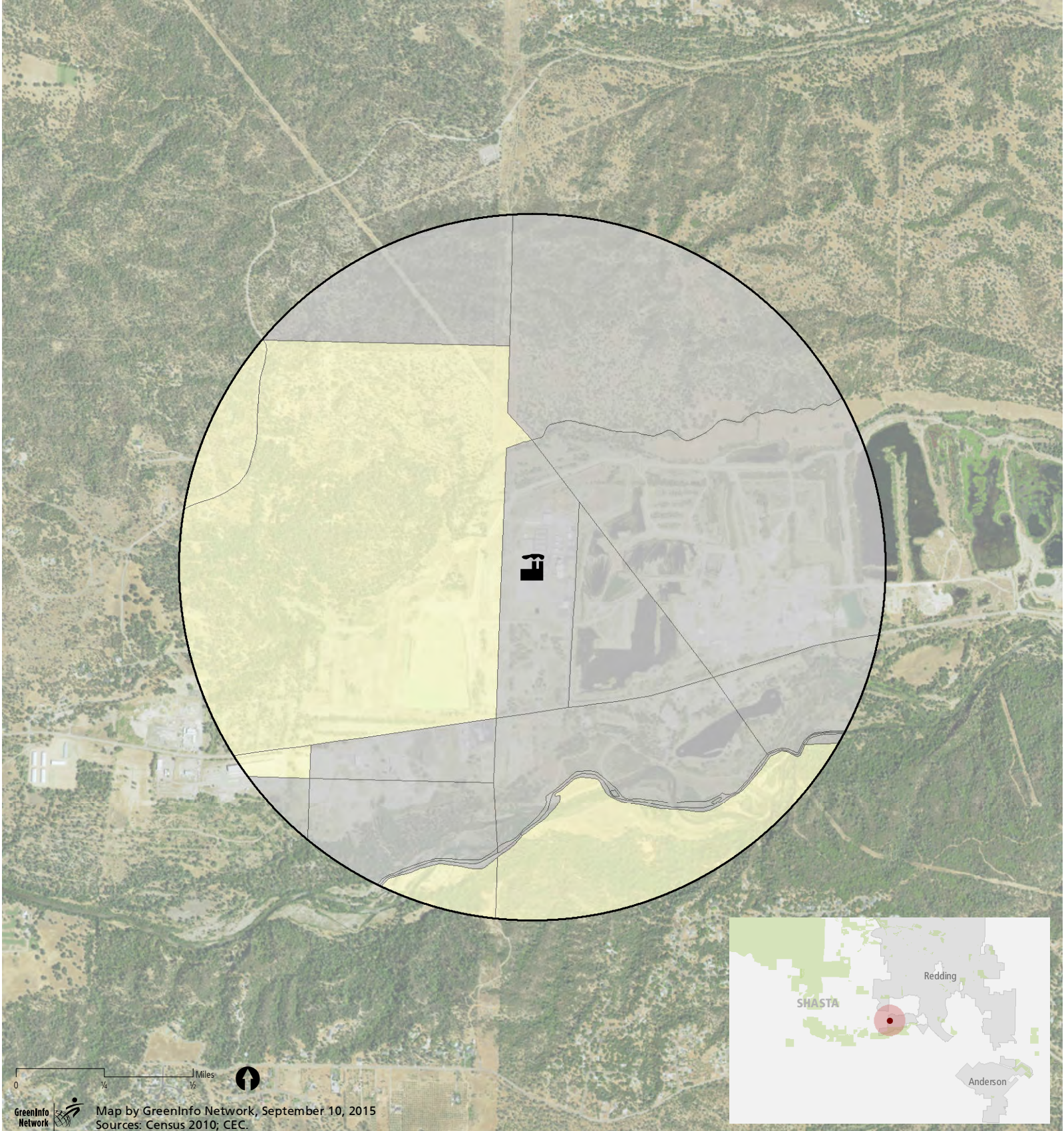


1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



REDDING
REDDING POWER
141 MW

Number of residents
within 1 mile: **117**

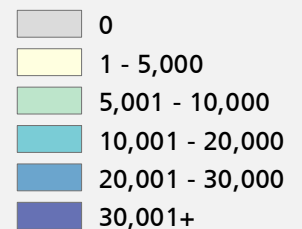


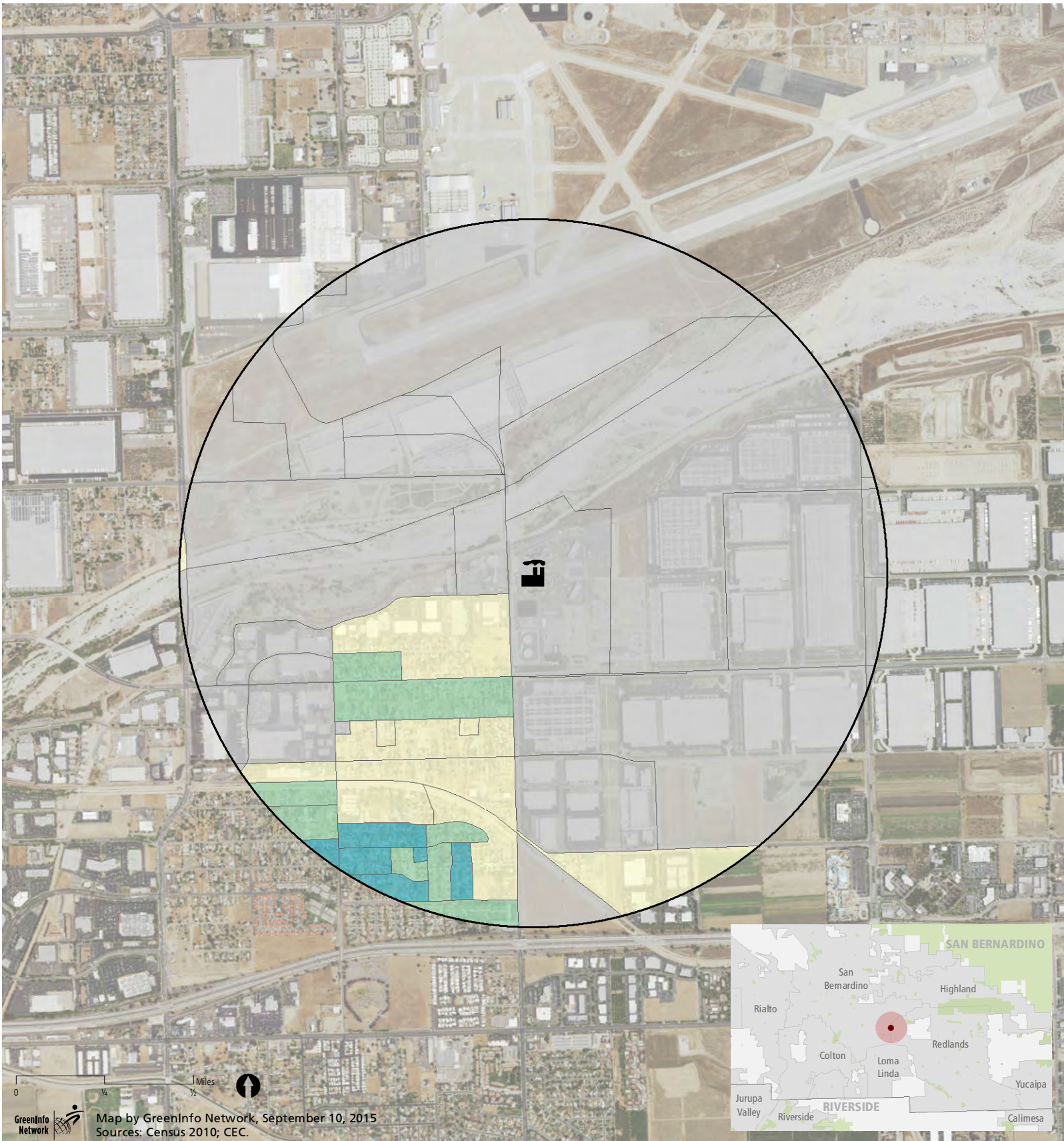
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block





REDLANDS
MOUNTAINVIEW
1,058 MW

Number of residents
within 1 mile: **2,486**

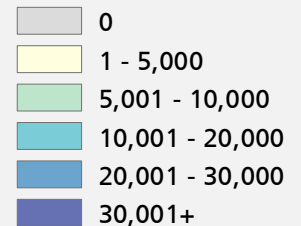


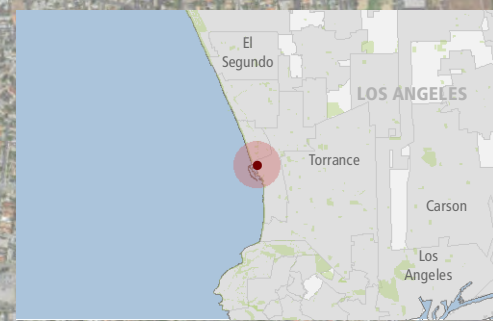
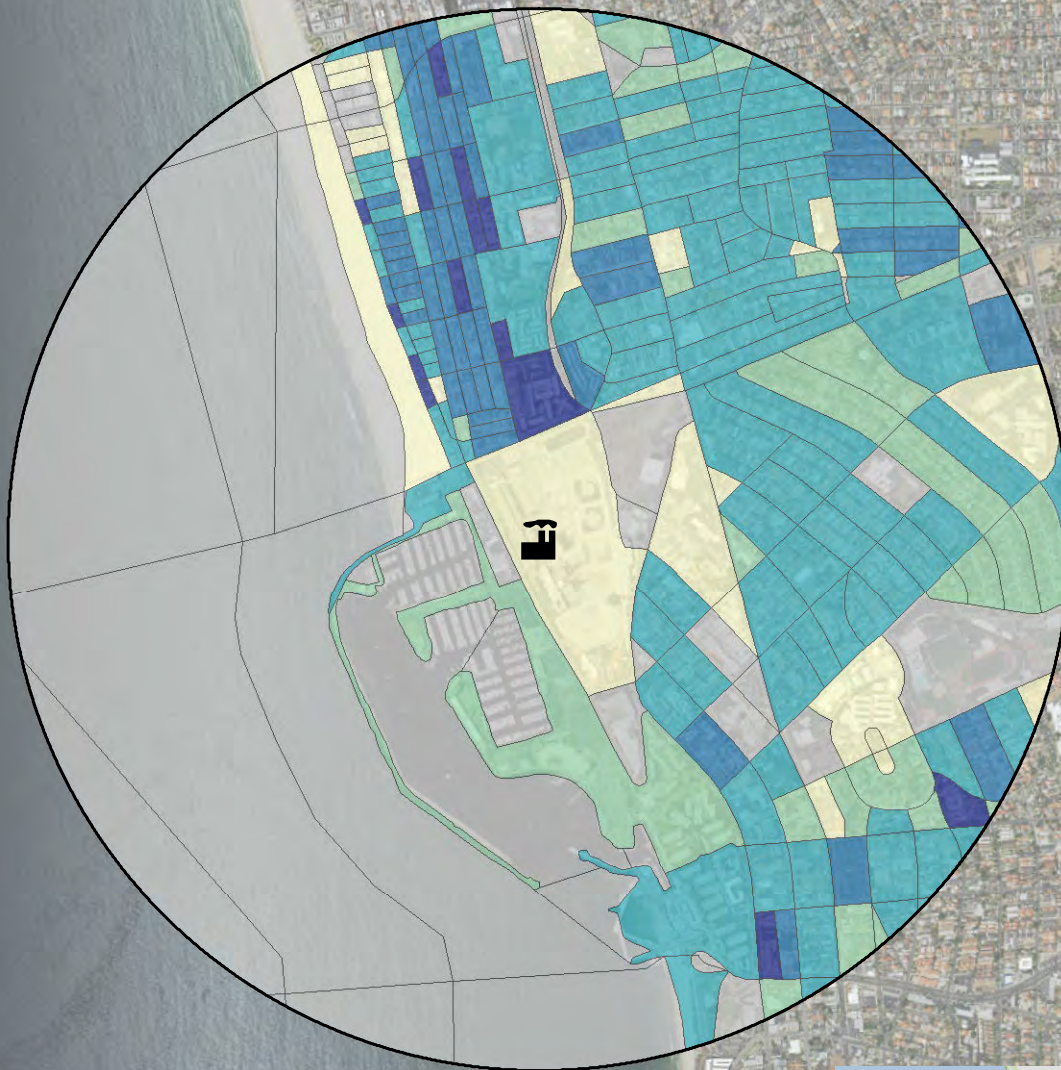
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block





0 1/4 1/2 Miles



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

REDONDO BEACH

REDONDO BEACH GEN. STATION
1,343 MW

Number of residents
within 1 mile: **21,632**



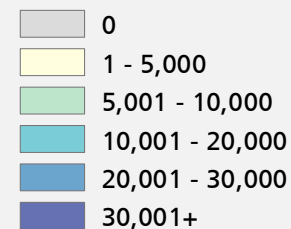
Featured gas-fired power plant

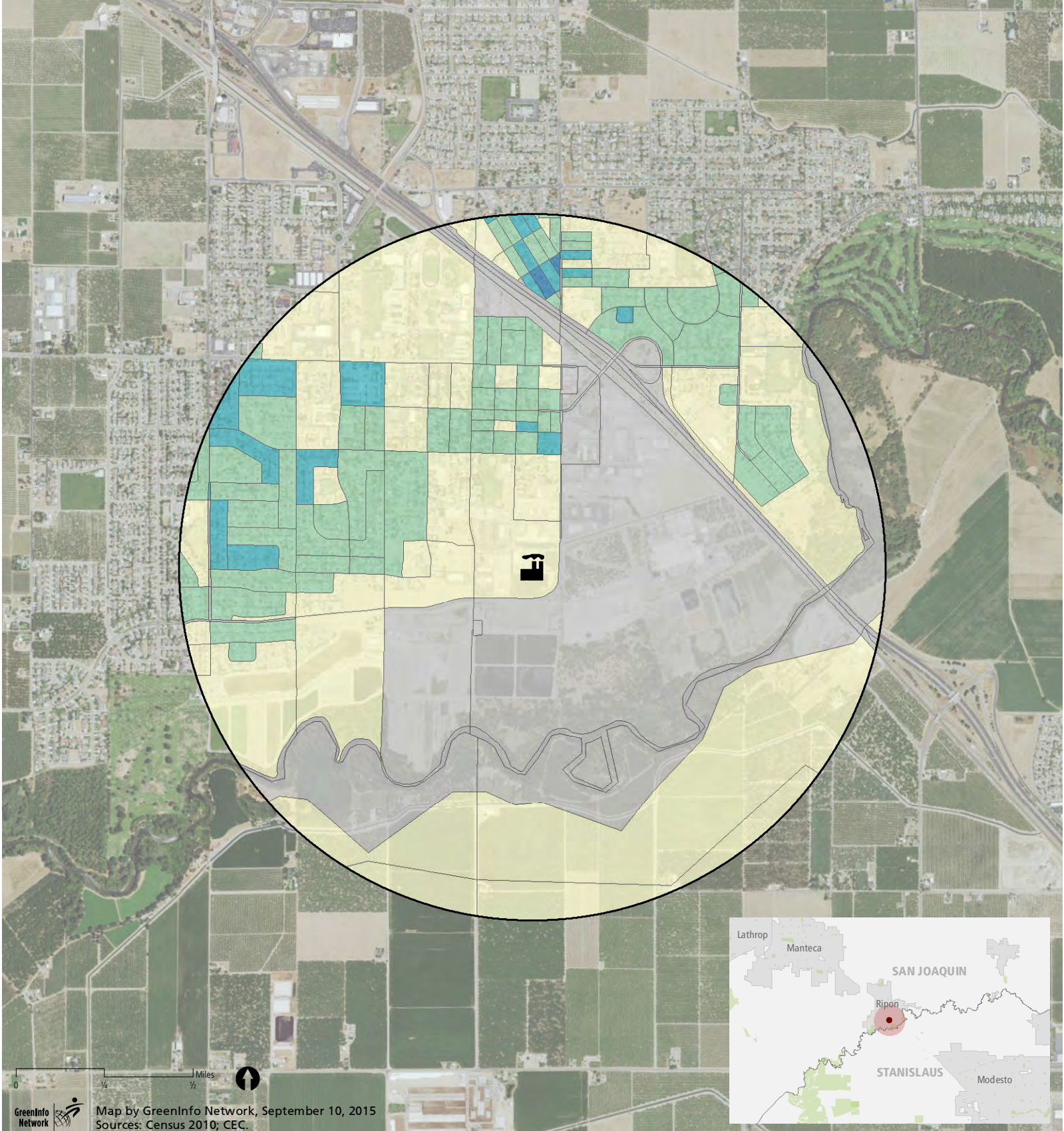


1-mile radius

Population density
(residents per square mile)

Census block













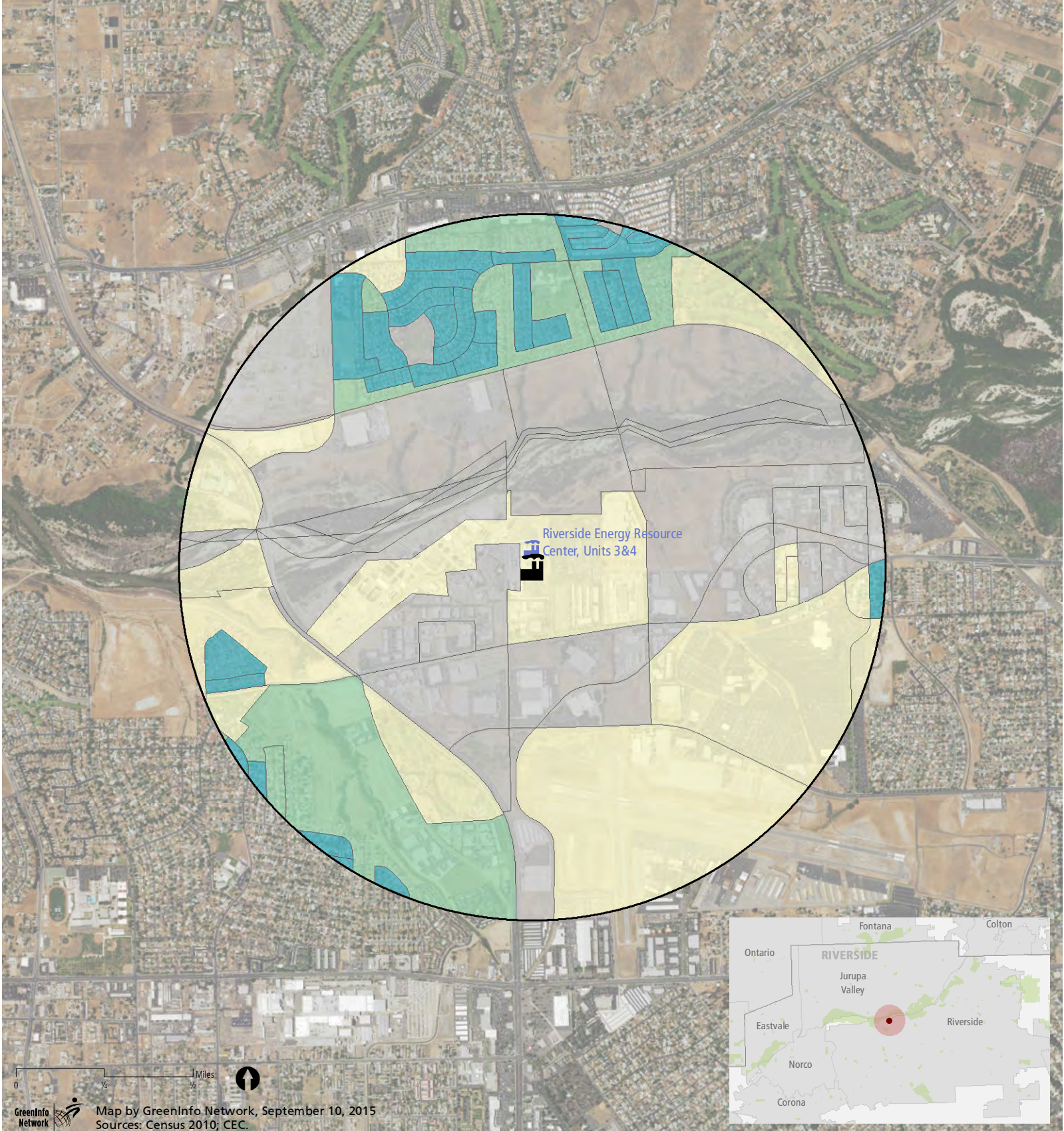
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

RIPON
MID RIPON
100 MW

Number of residents
within 1 mile: **6,806**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



RIVERSIDE

RIVERSIDE ENERGY RESOURCE CENTER, 1&2
96 MW

Number of residents
within 1 mile: **6,806**



Featured gas-fired power plant



Nearby plant

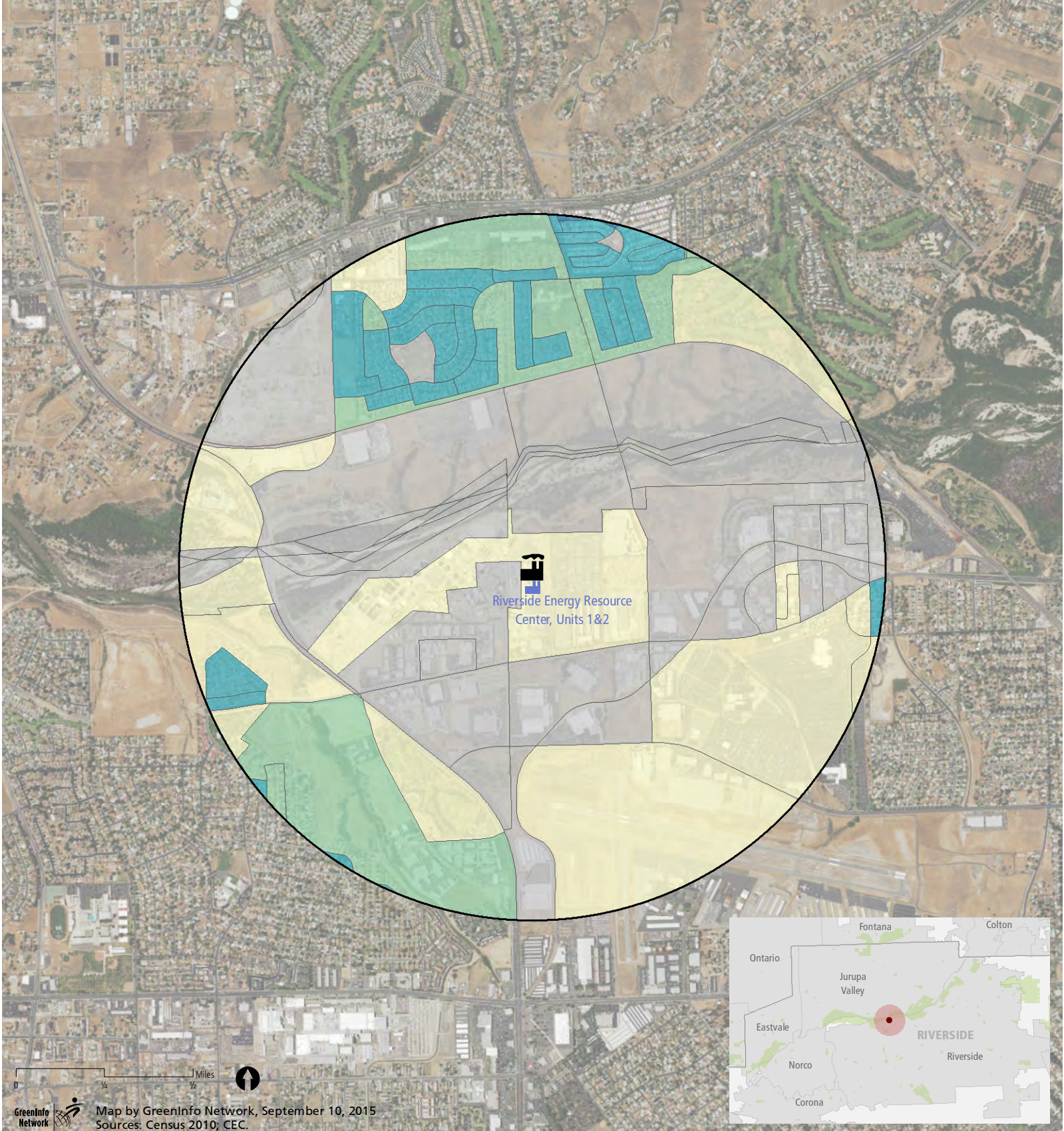


1-mile radius

Population density
(residents per square mile)

Census block




- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+









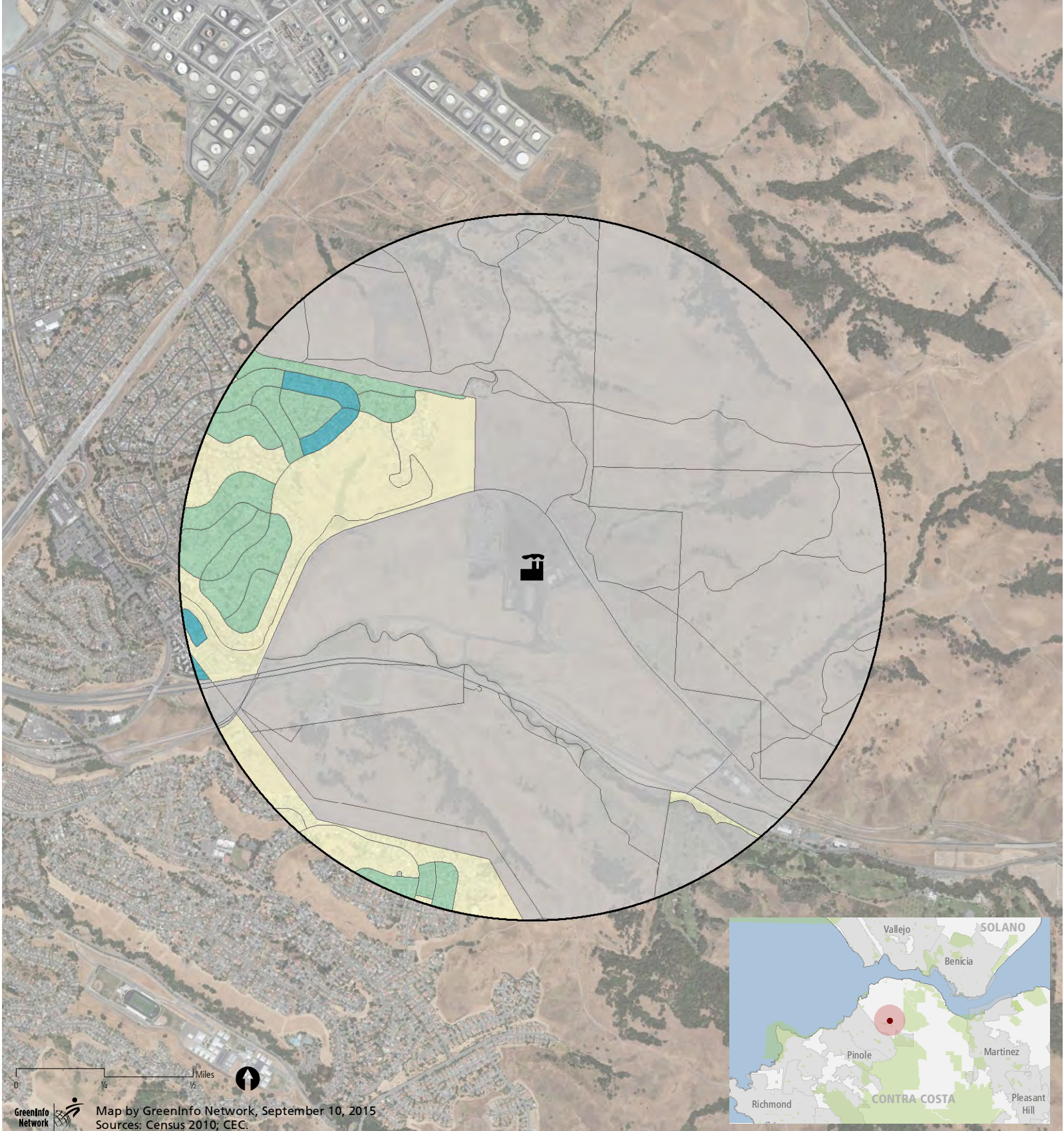
RIVERSIDE

RIVERSIDE ENERGY RESOURCE CENTER, 3&4
99 MW

Number of residents
within 1 mile: **6,819**



-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







Population density (residents per square mile)	
Census block	
	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+

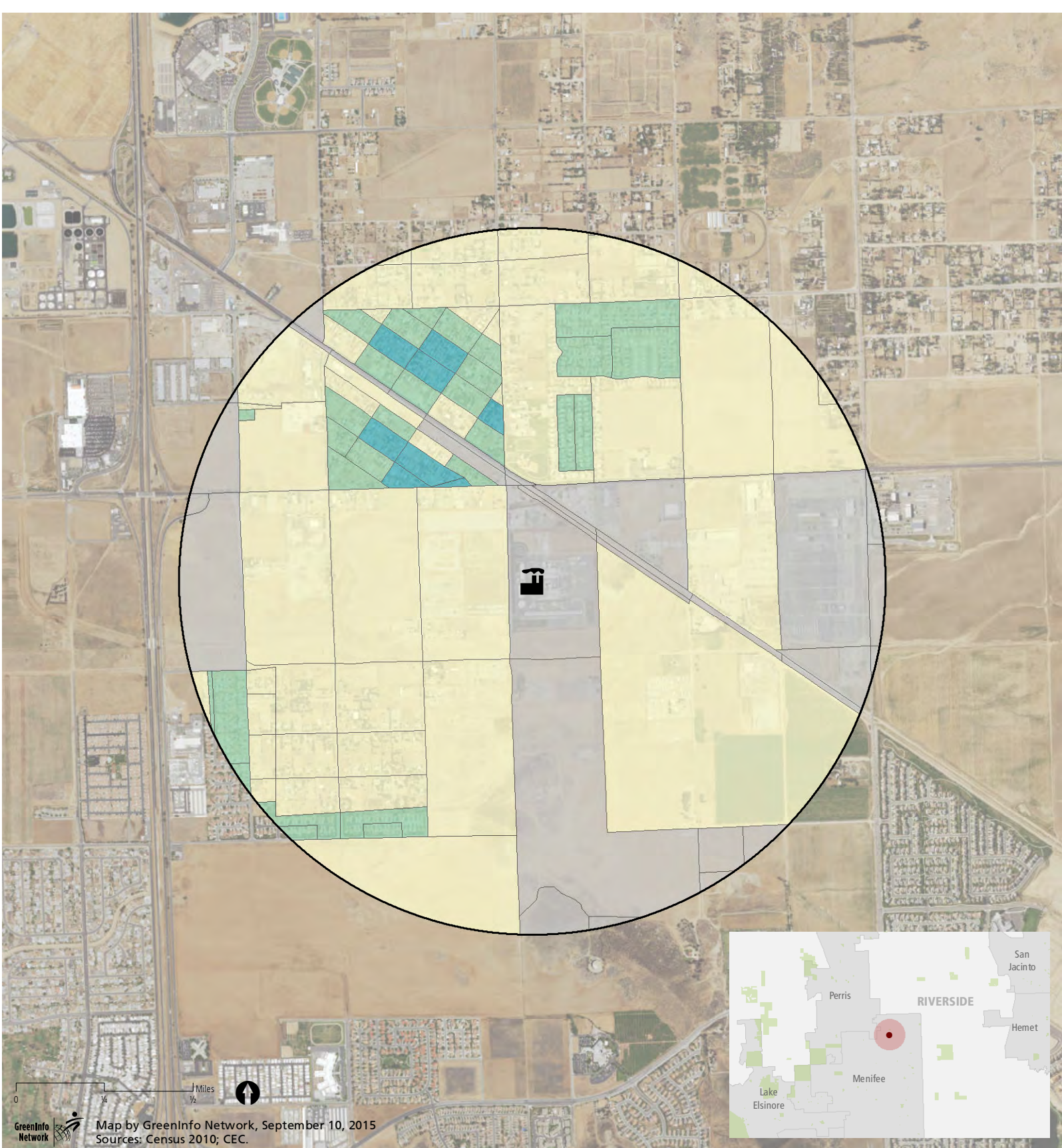


RODEO
TOSCO SFAR CARBON
51 MW

Number of residents
within 1 mile: **2,928**

-  Featured gas-fired power plant
-  1-mile radius

- Population density**
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



ROMOLAND INLAND EMPIRE ENERGY CENTER 400 MW

Number of residents
within 1 mile: **4,204**



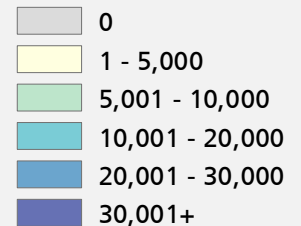
Featured gas-fired power plant

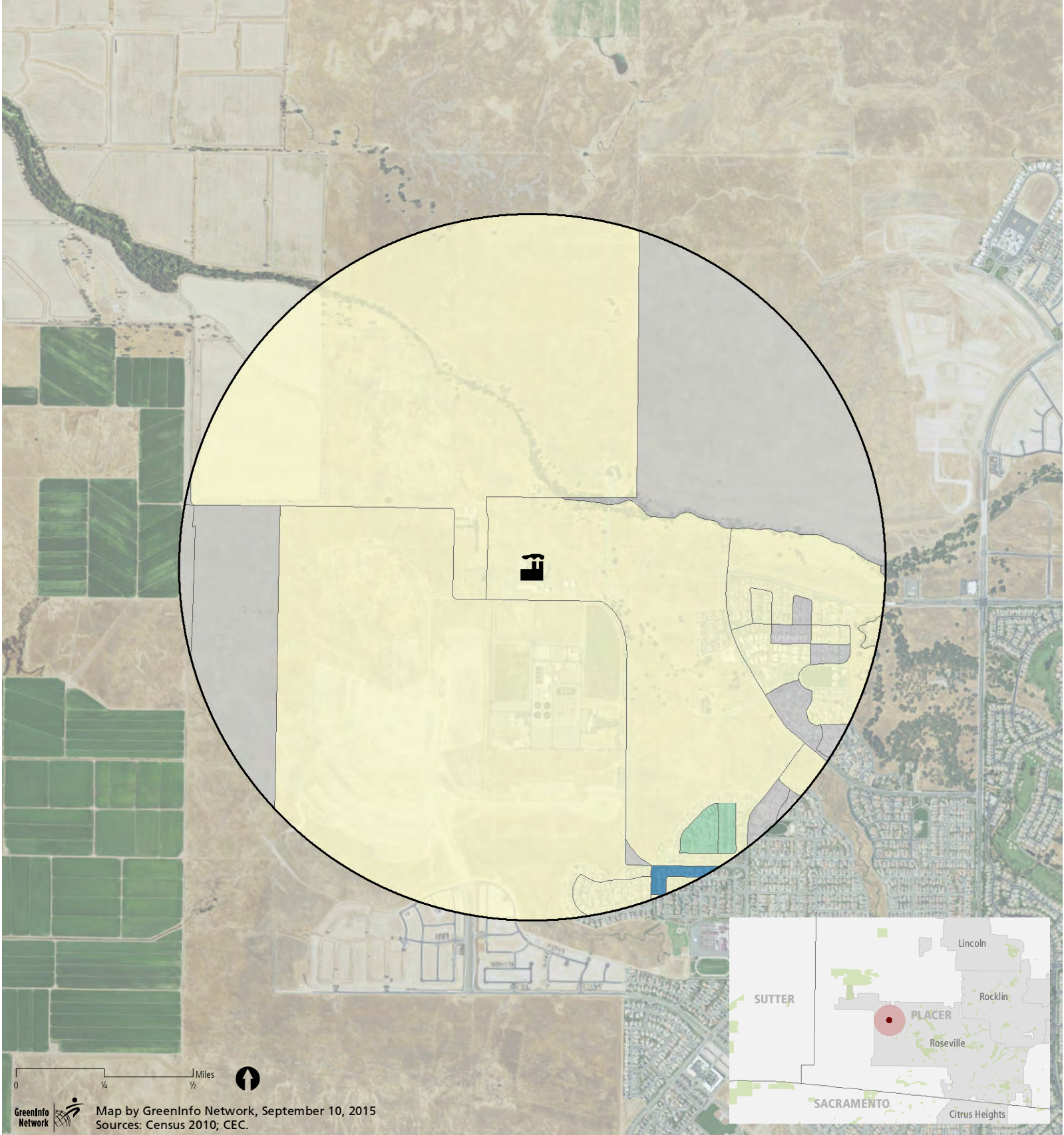


1-mile radius

Population density
(residents per square mile)

Census block





Map by GreenInfo Network, September 10, 2015
 Sources: Census 2010; CEC.

ROSEVILLE
 ROSEVILLE ENERGY PARK
 200 MW

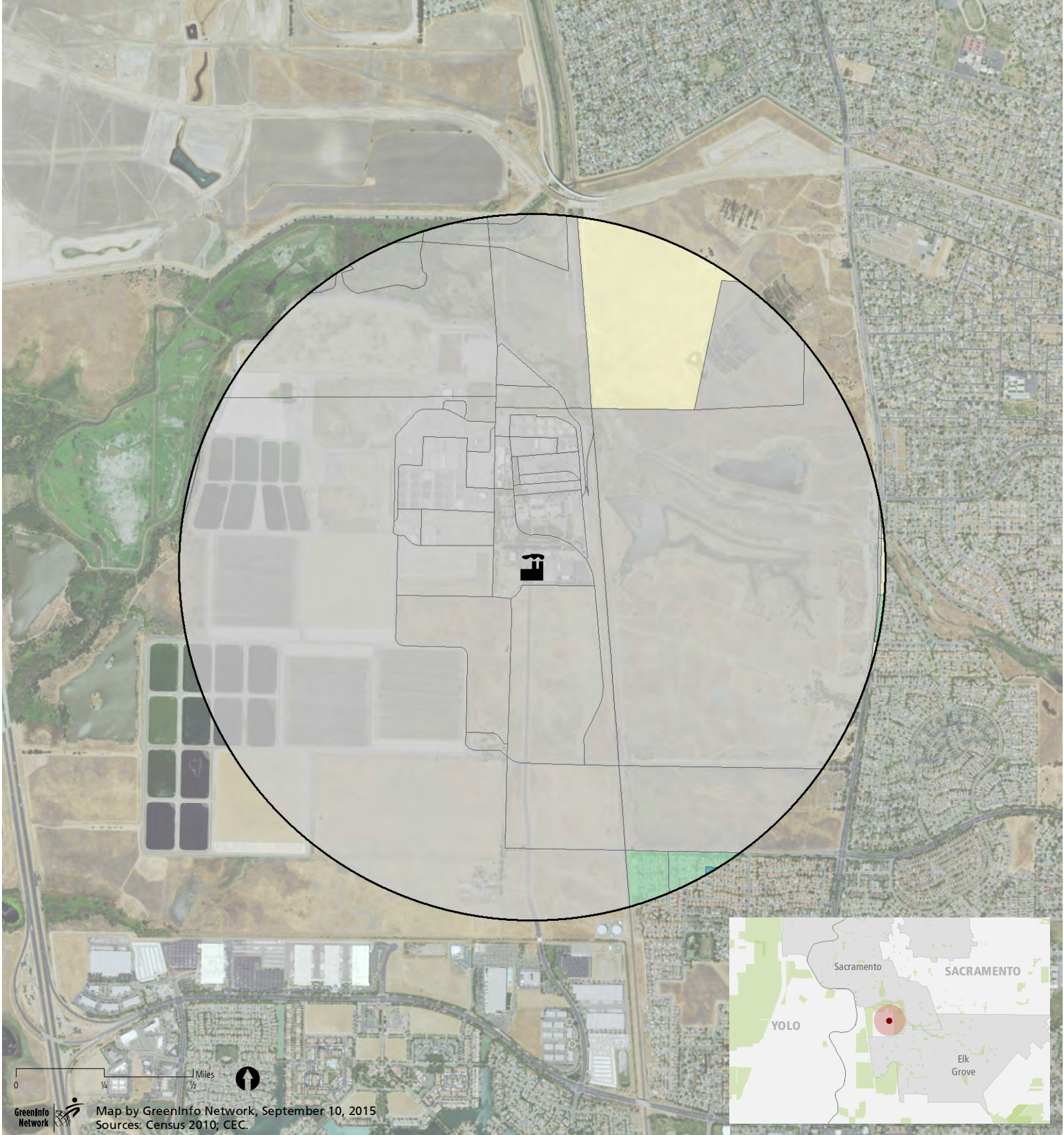
Number of residents
 within 1 mile: **1,540**

- Featured gas-fired power plant
- 1-mile radius

Population density
 (residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



SACRAMENTO

CARSON COGEN
126 MW

Number of residents
within 1 mile: **265**



Featured gas-fired power plant

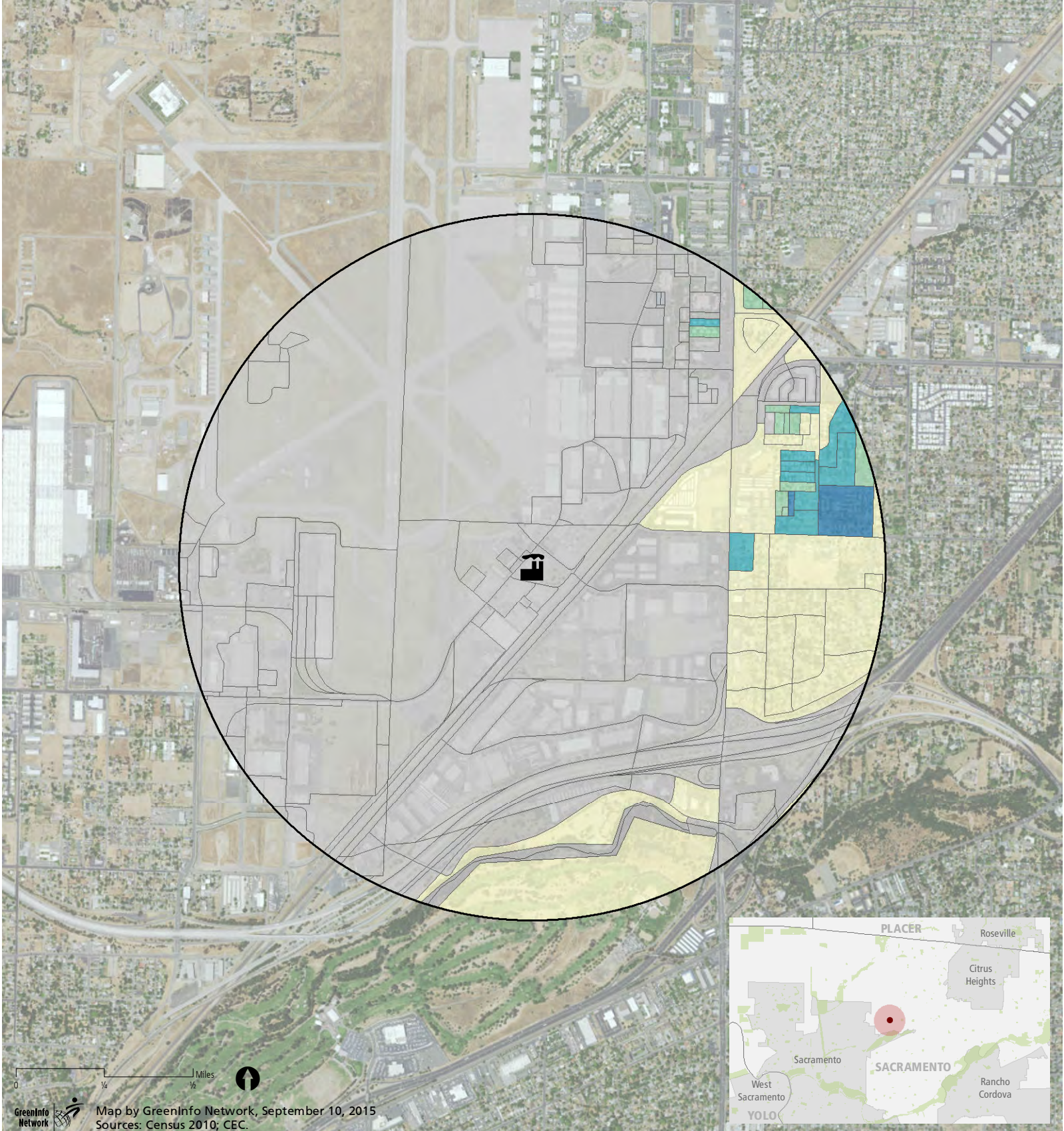


1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

SACRAMENTO

MCCLELLAN
74 MW

Number of residents
within 1 mile: **2,359**

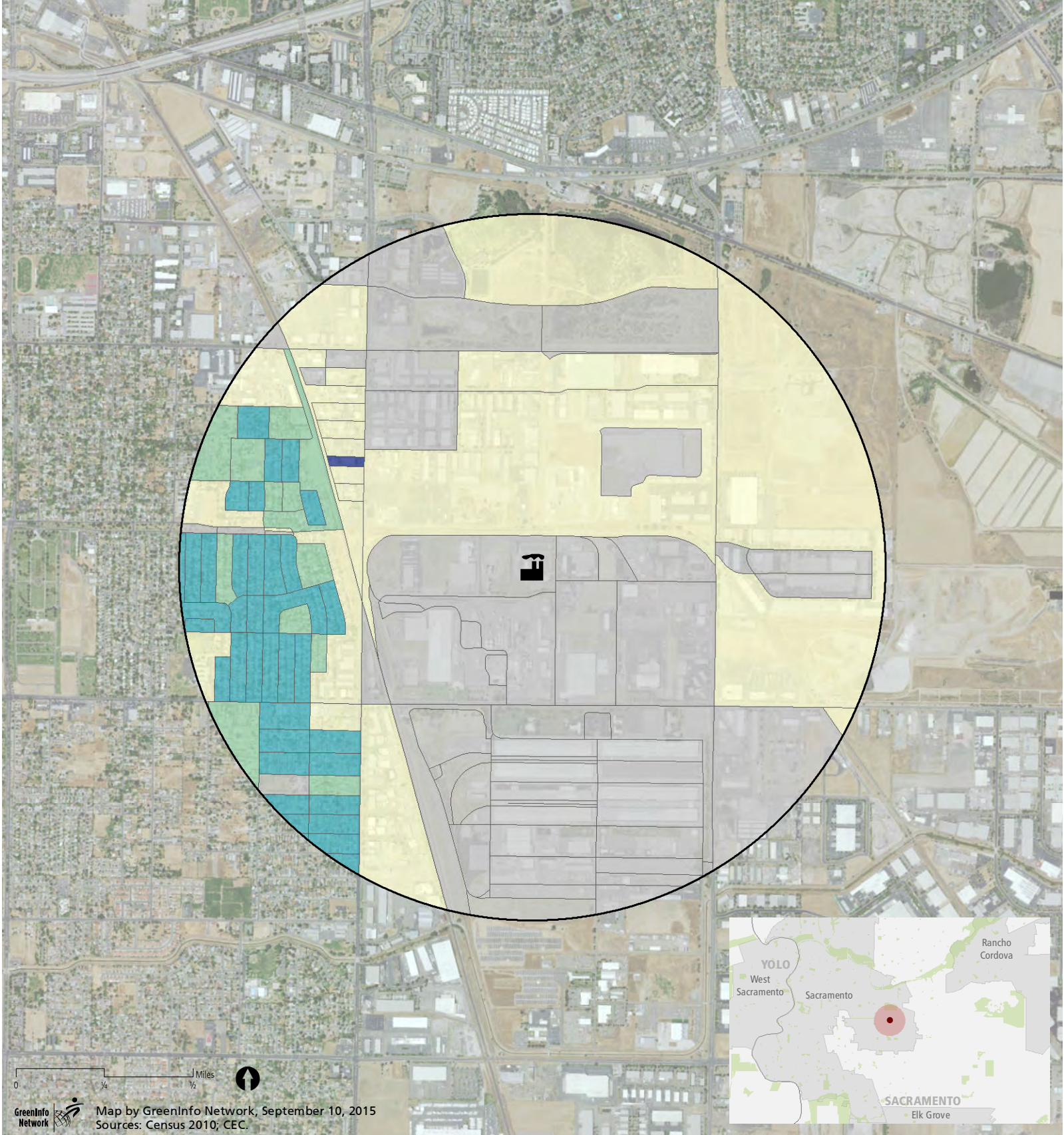


Featured gas-fired power plant
1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



SACRAMENTO

PROCTER & GAMBLE - SMUD
193 MW

Number of residents
within 1 mile: **5,013**



Featured gas-fired power plant

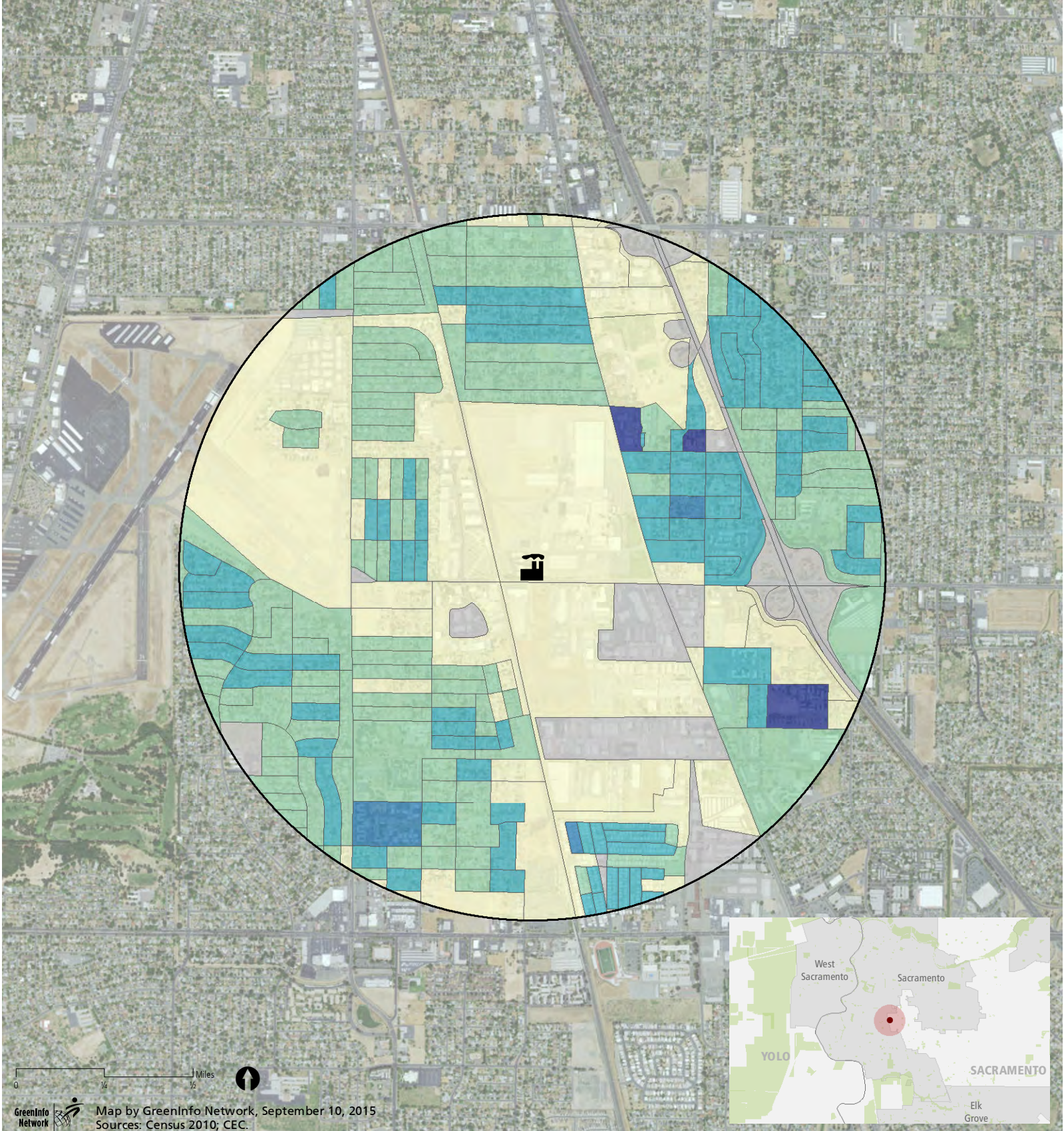


1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

SACRAMENTO

SPAC
174 MW

Number of residents
within 1 mile: **17,850**



Featured gas-fired power plant

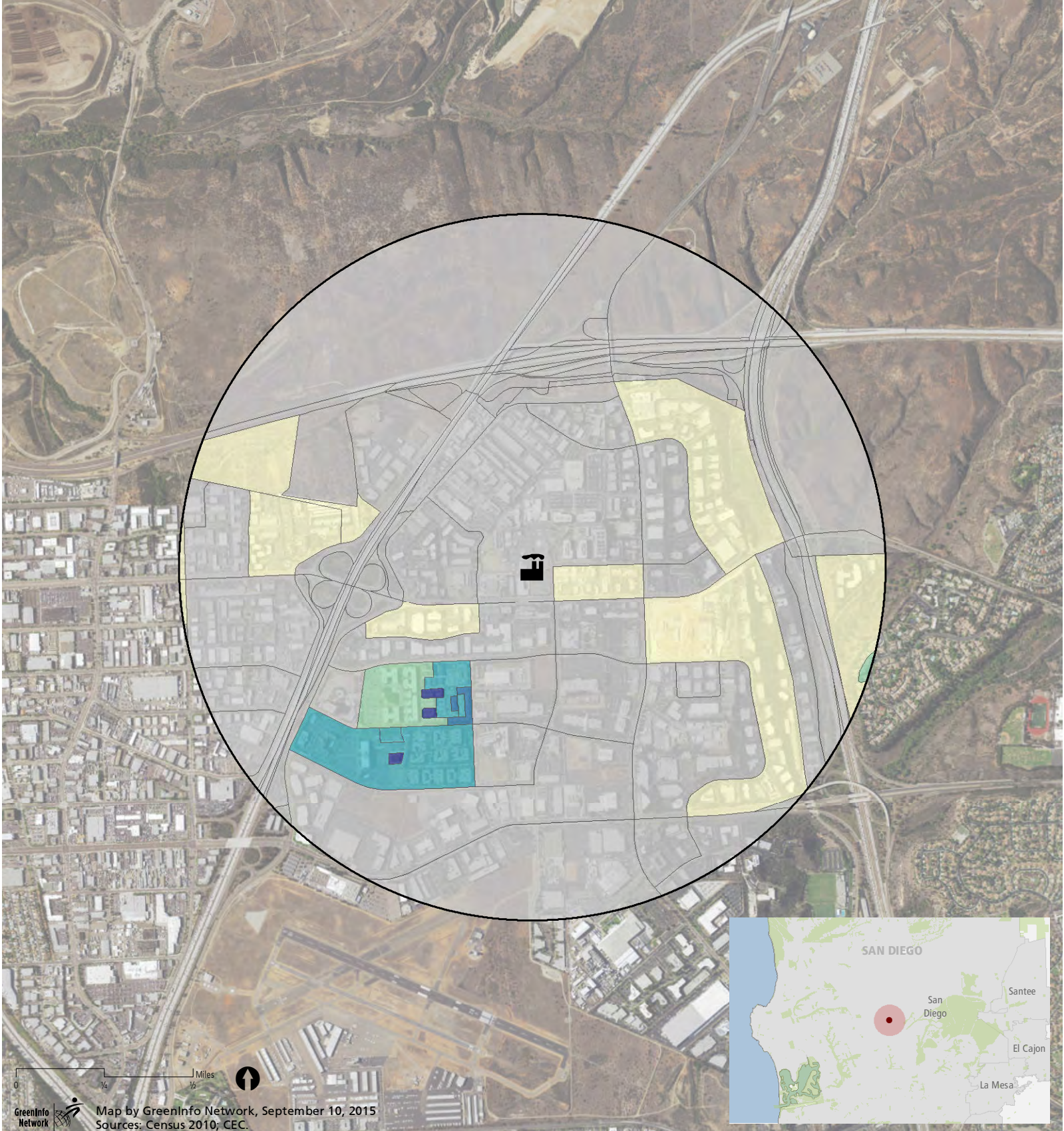


1-mile radius

Population density
(residents per square mile)

Census block



- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



SAN DIEGO







KEARNY
138 MW

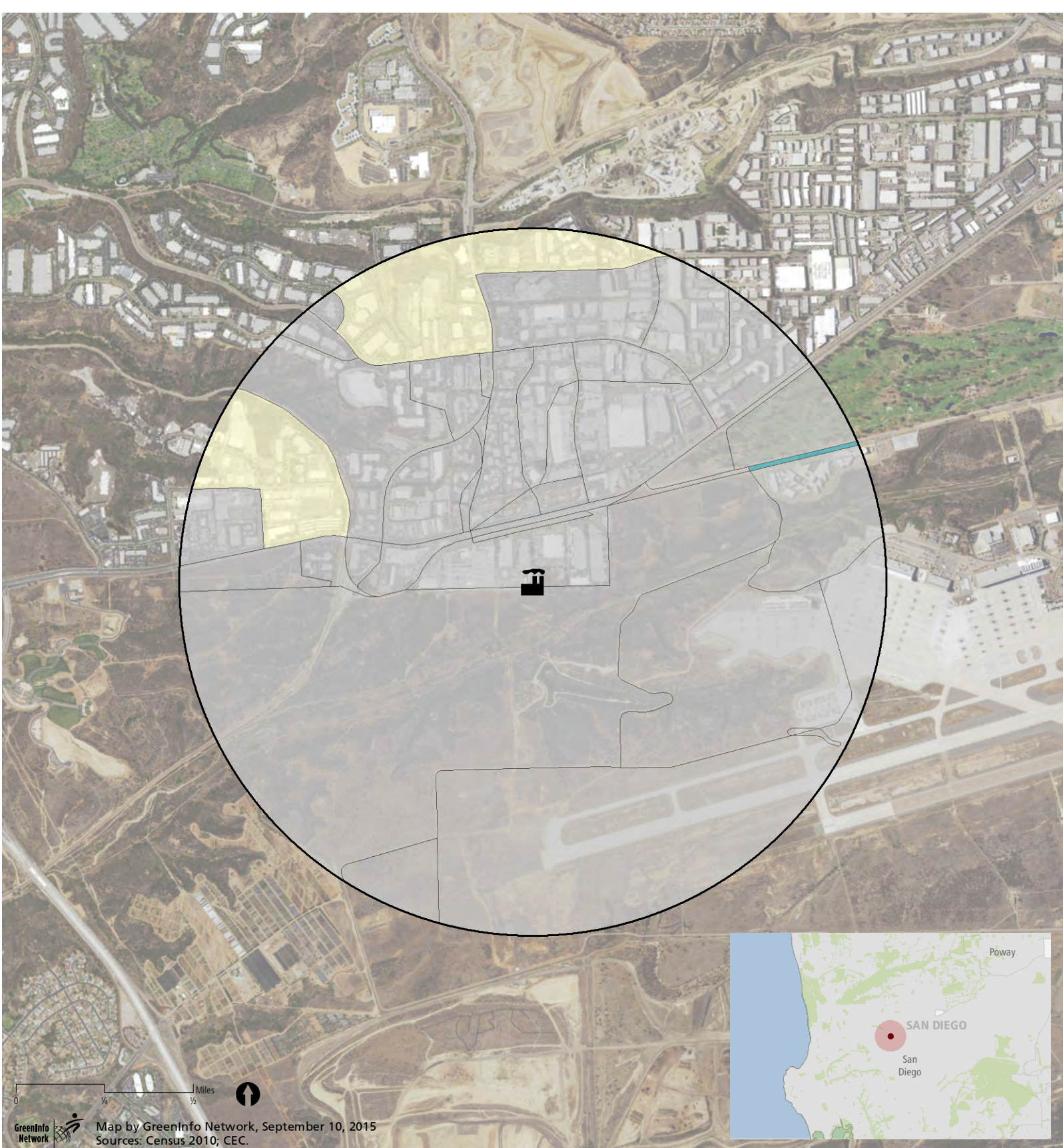
Number of residents
within 1 mile: **1,723**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



SAN DIEGO

MIRAMAR
95 MW

Number of residents
within 1 mile: **72**



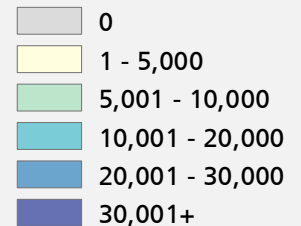
Featured gas-fired power plant

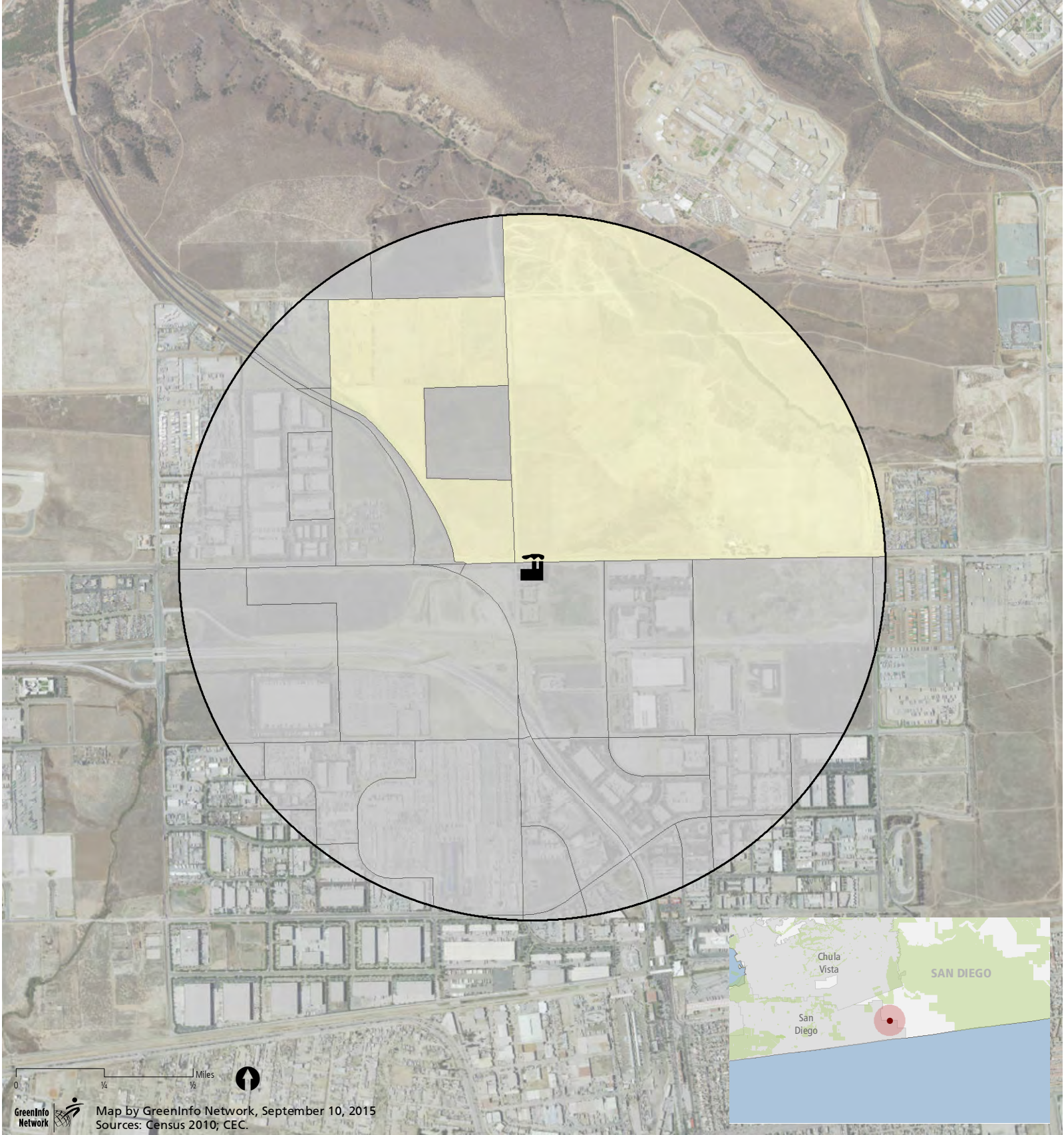


1-mile radius

Population density
(residents per square mile)

Census block





SAN DIEGO
WILDFLOWER - LARKSPUR
90 MW

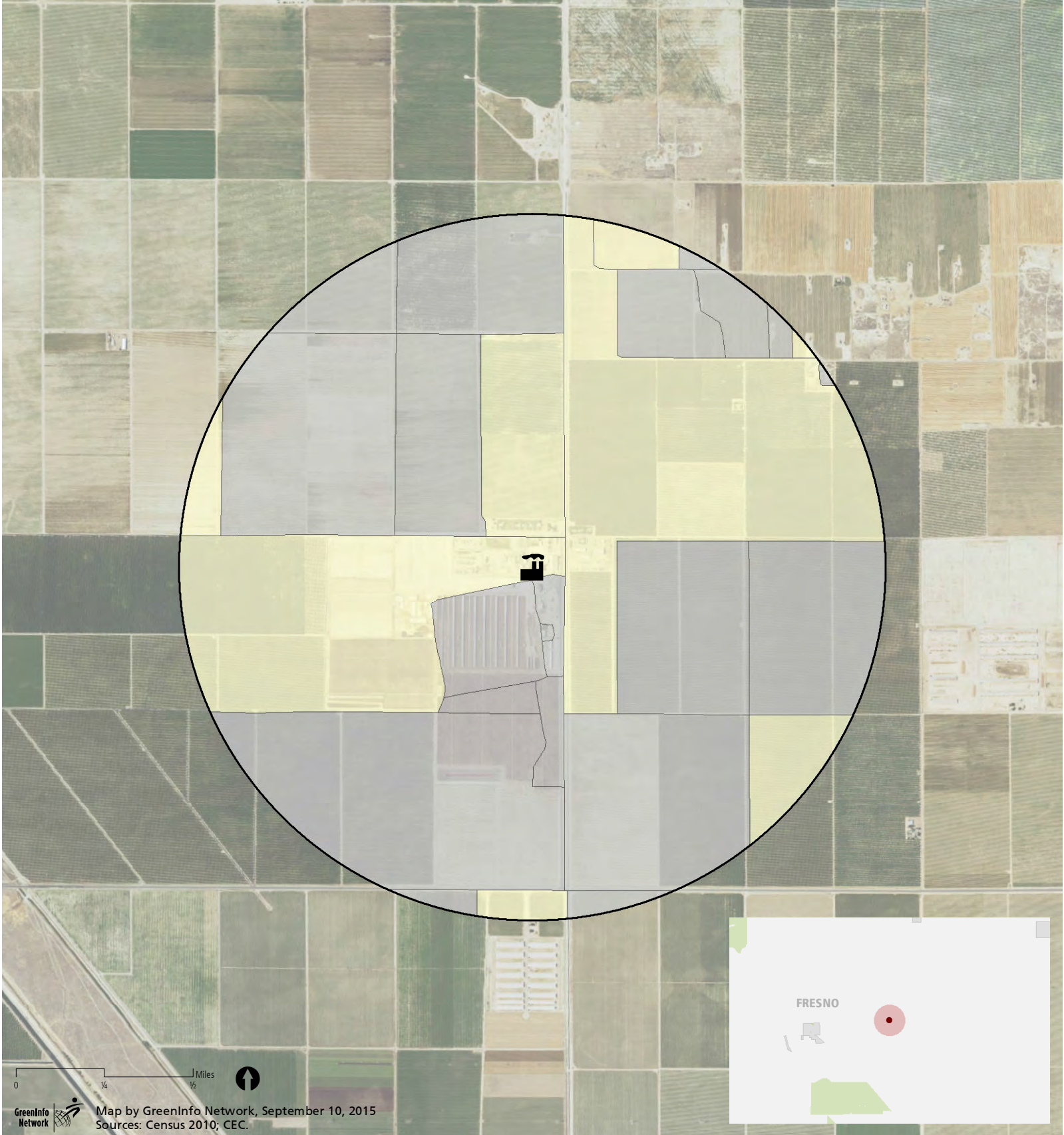
Number of residents
within 1 mile: **8**

- Featured gas-fired power plant
- 1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



SAN JOAQUIN

FRESNO COGEN
58 MW

Number of residents
within 1 mile: **56**



Featured gas-fired power plant

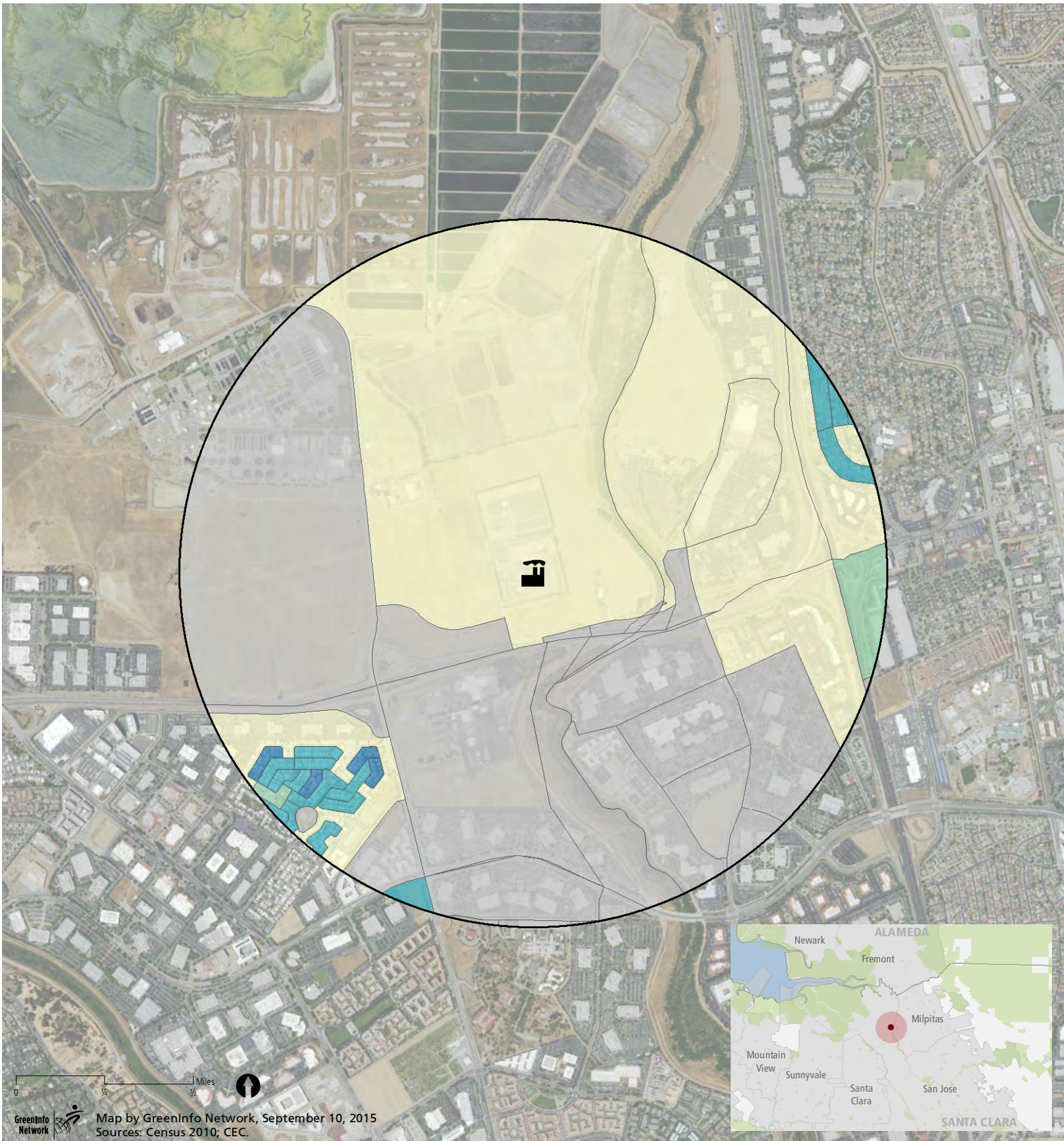


1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



SAN JOSE

LOS ESTEROS CRITICAL ENERGY CENTER
192 MW

Number of residents
within 1 mile: **2,193**



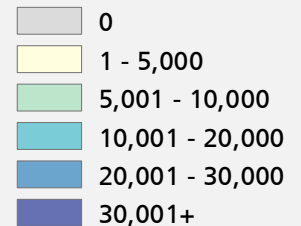
Featured gas-fired power plant

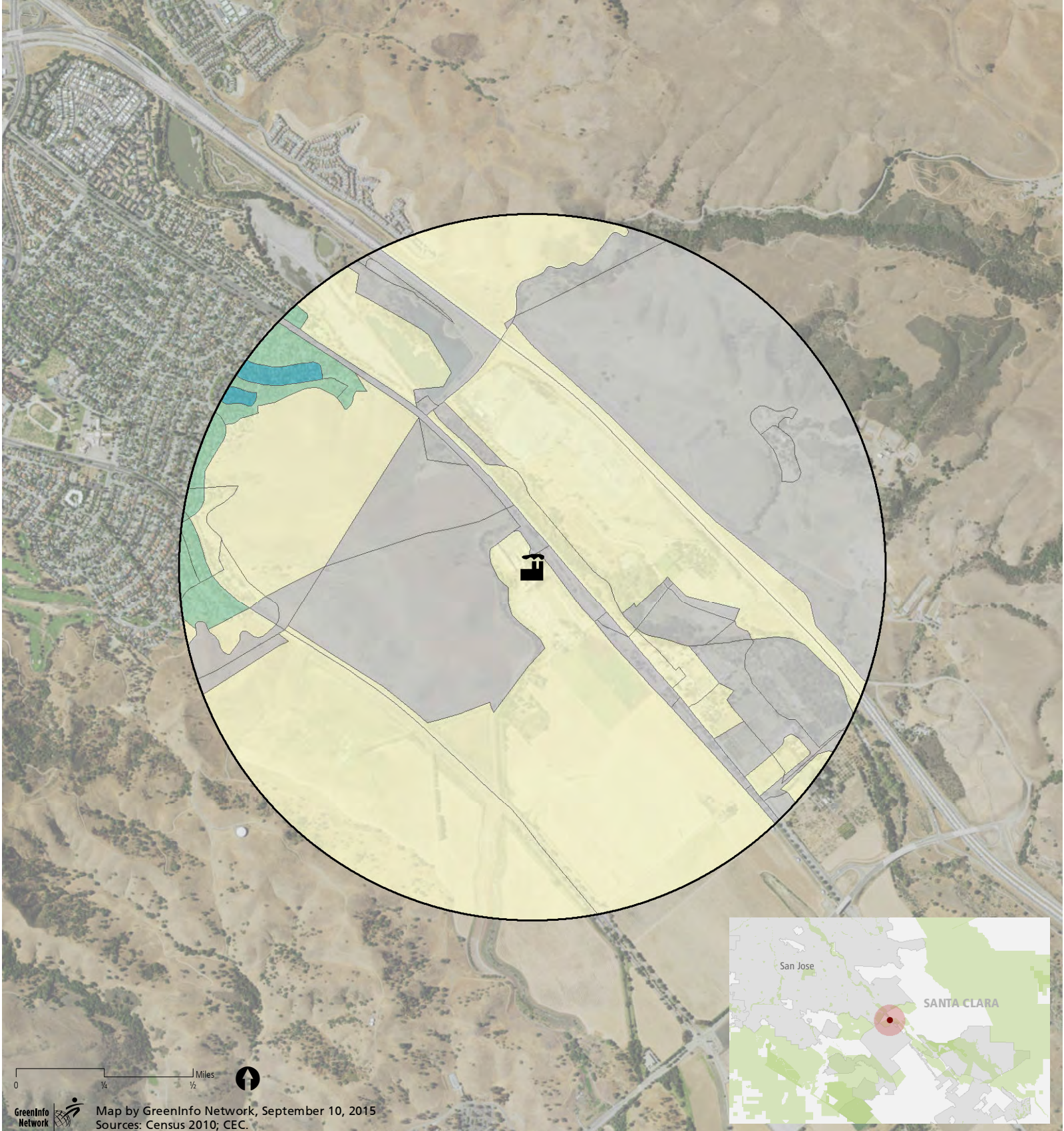


1-mile radius

Population density
(residents per square mile)



Census block











SAN JOSE
METCALF ENERGY CENTER
 566 MW

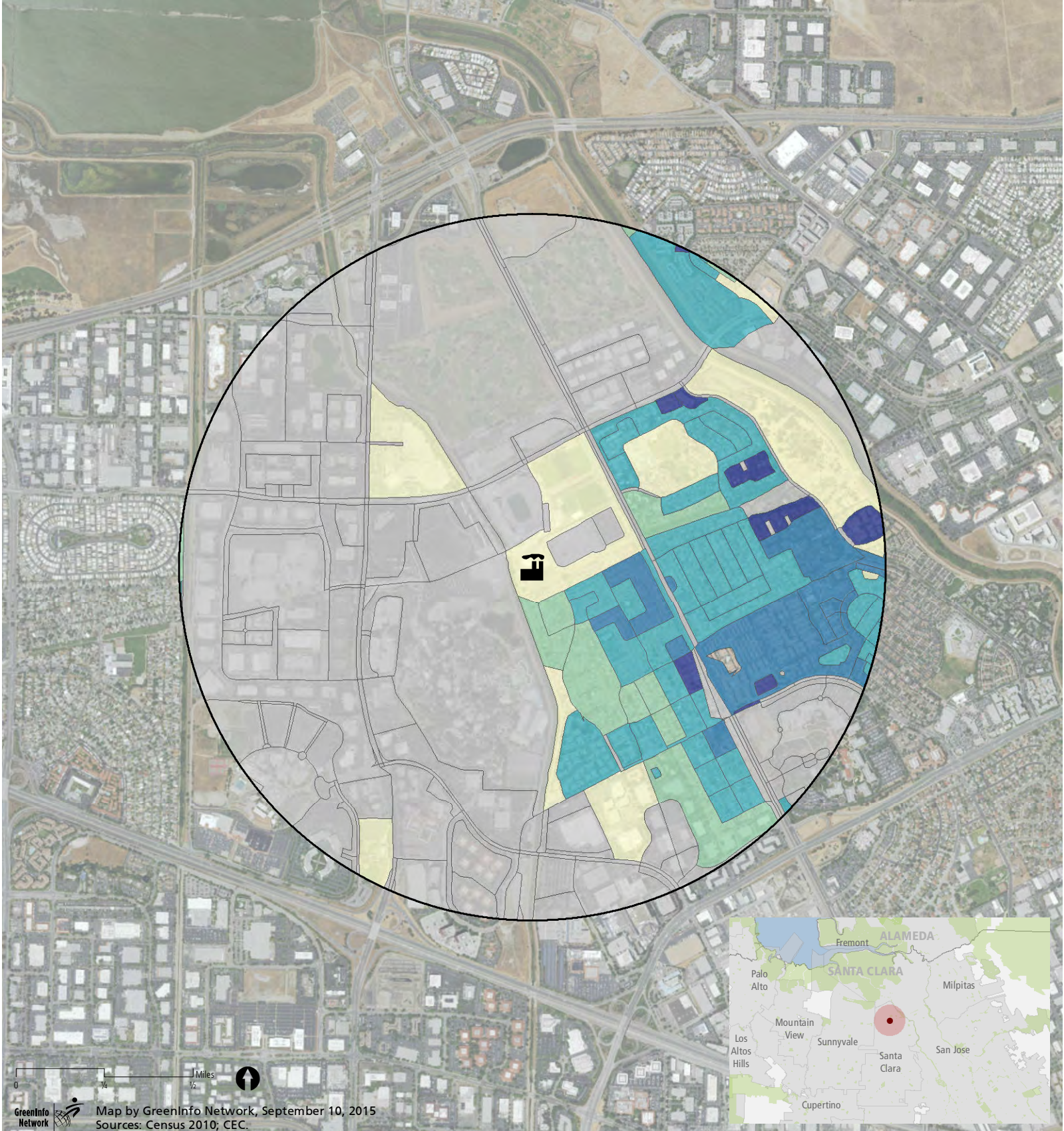
Number of residents
 within 1 mile: **1,236**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



SANTA CLARA

GIANERA GENERATING STATION

64 MW

Number of residents
within 1 mile: **14,392**

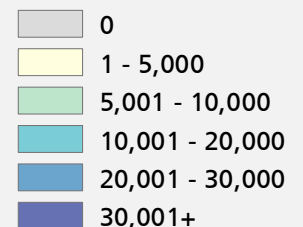


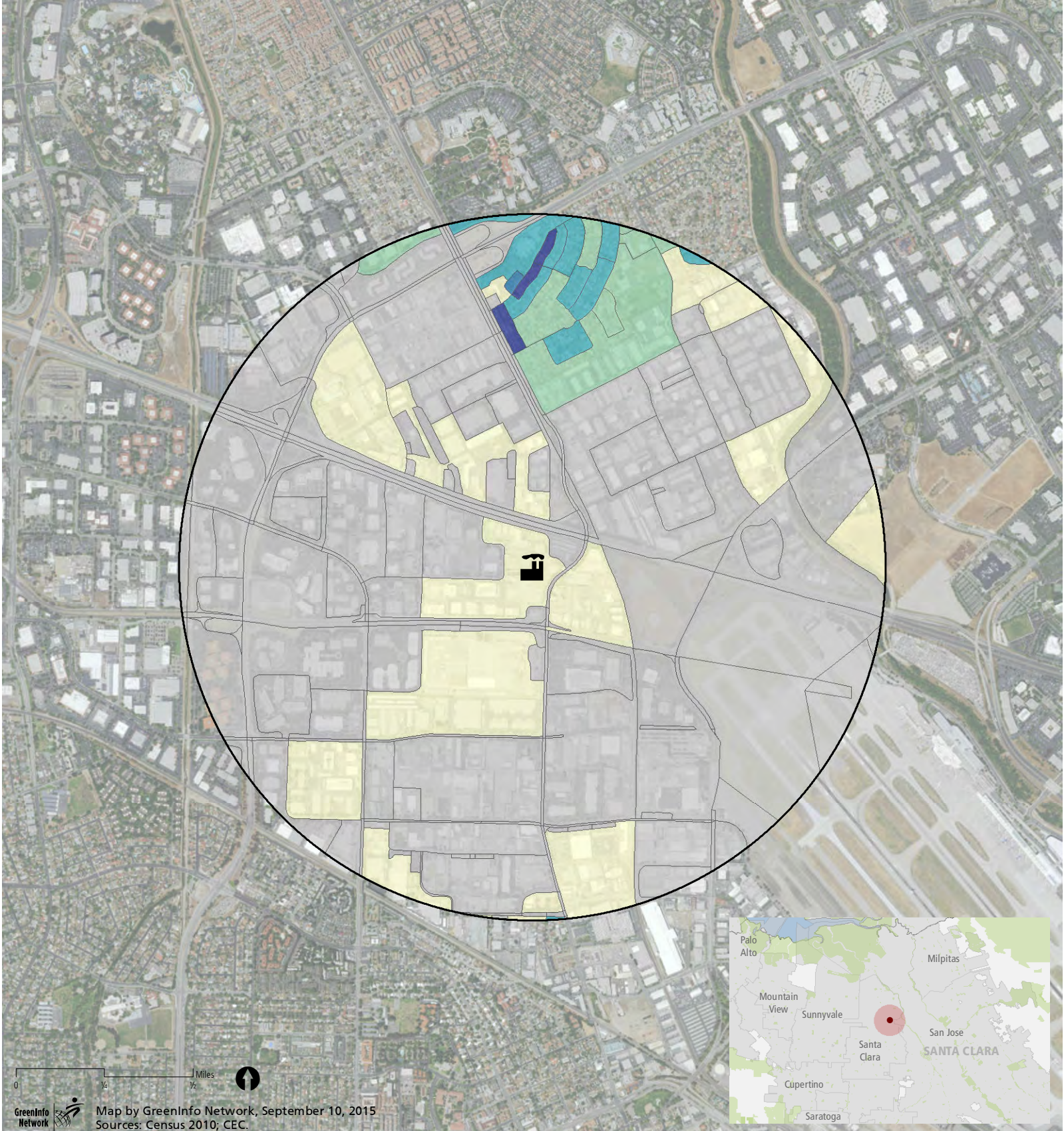
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block













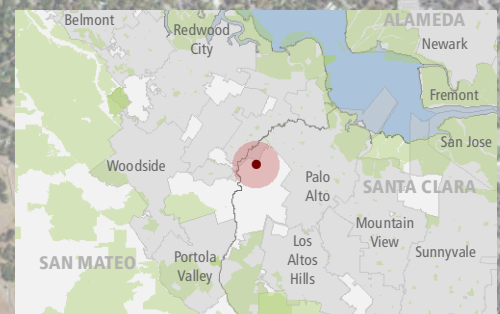
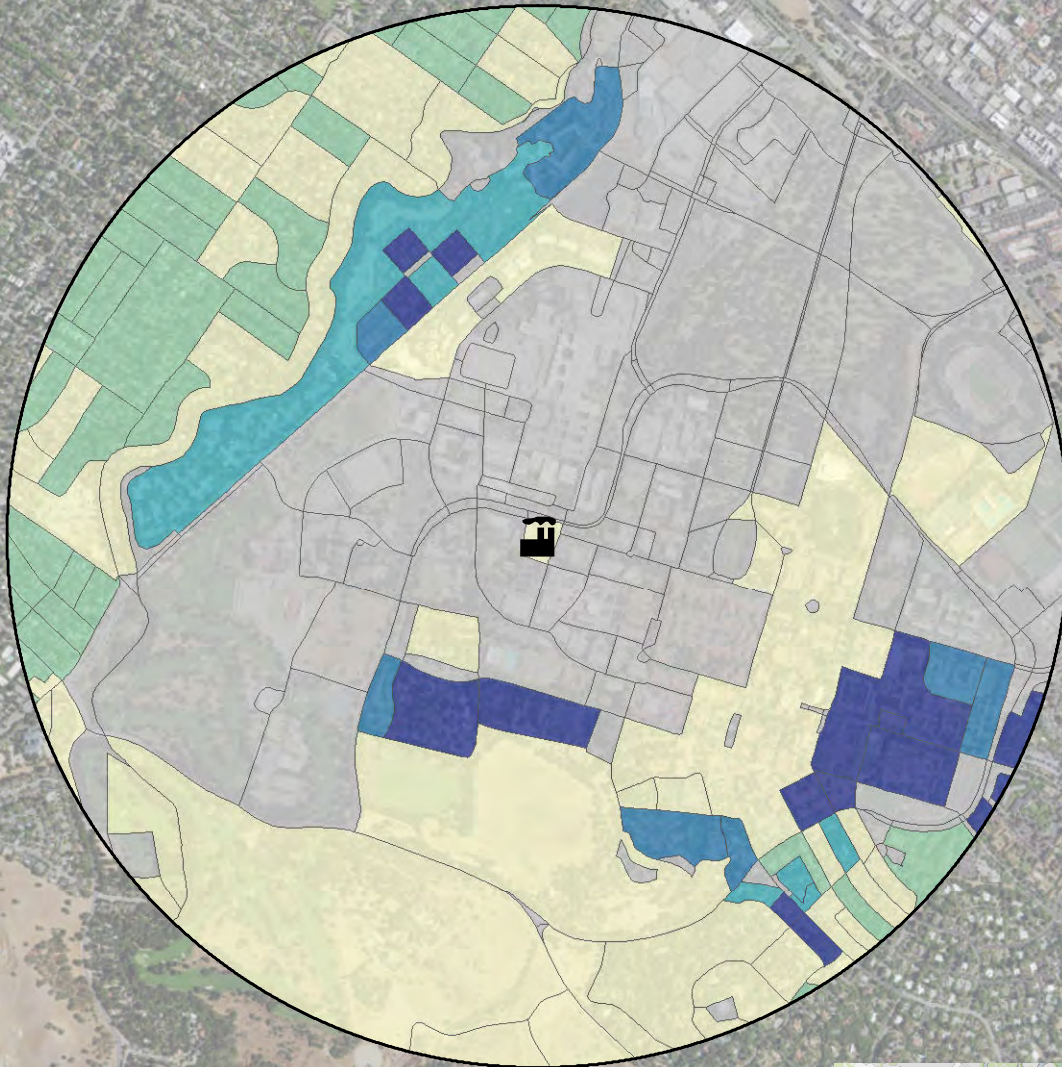
GreenInfo Network
Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

SANTA CLARA
DONALD VON RAESFELD CC
147 MW

Number of residents
within 1 mile: **3,065**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



0 1/4 1/2 Miles



Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

STANFORD
CARDINAL COGEN
53 MW



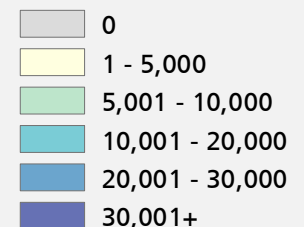
Featured gas-fired power plant



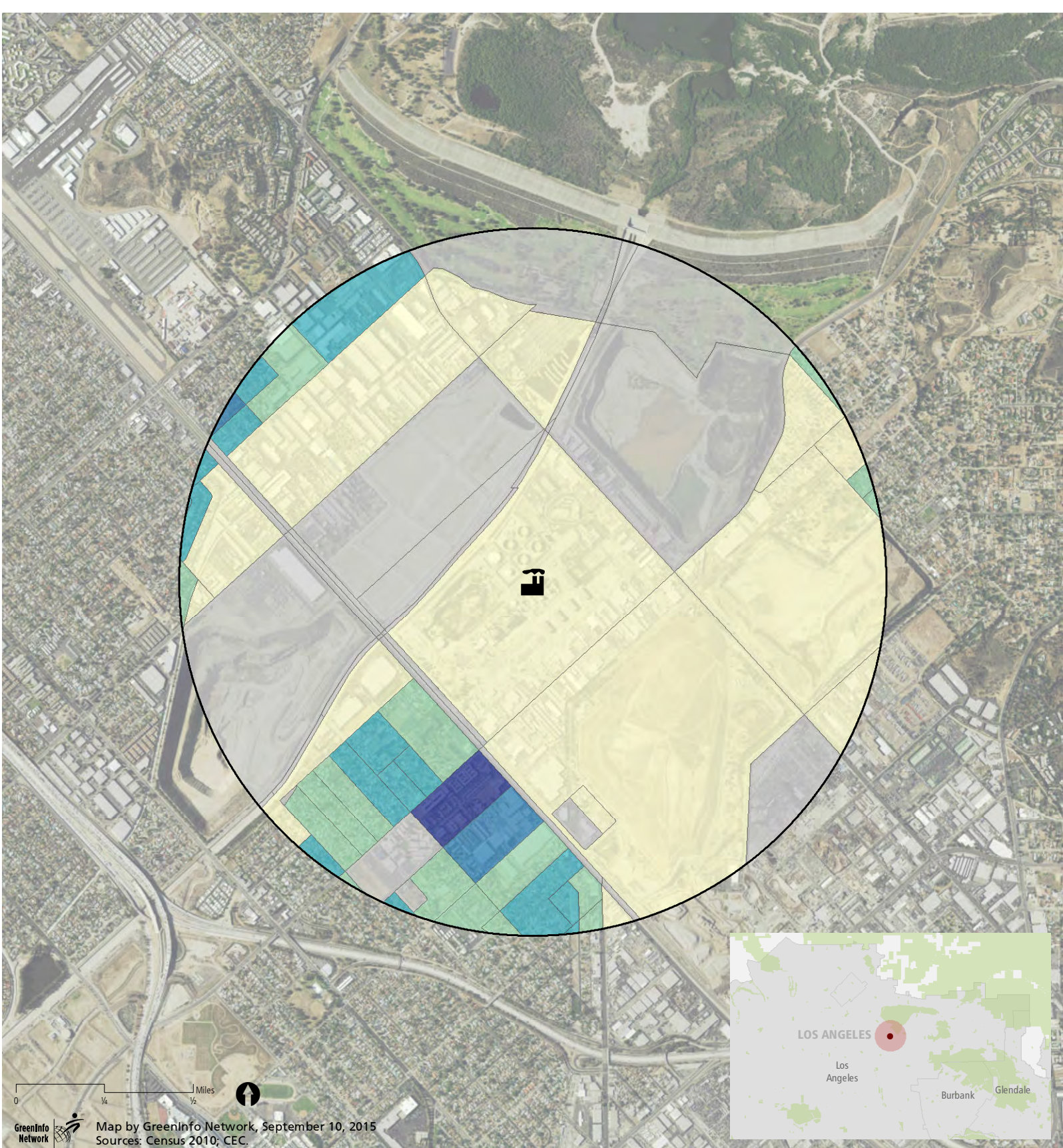
1-mile radius

Population density
(residents per square mile)

Census block



Number of residents
within 1 mile: **13,247**



SUN VALLEY VALLEY 573 MW

Number of residents
within 1 mile: **7,088**



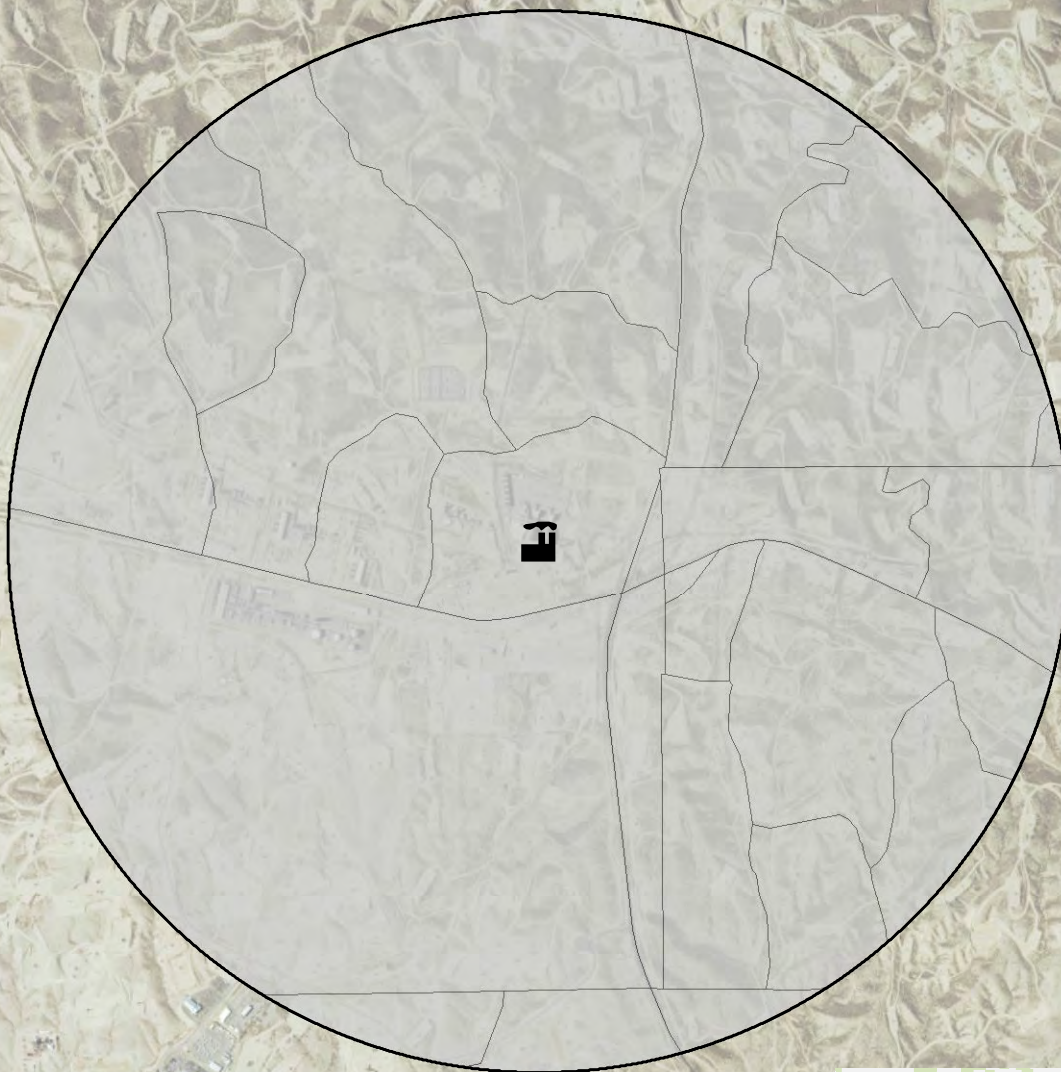
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block

- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+



0 1/4 1/2 Miles

Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.

TAFT
ELK HILLS
567 MW



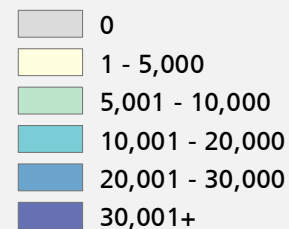
Featured gas-fired power plant



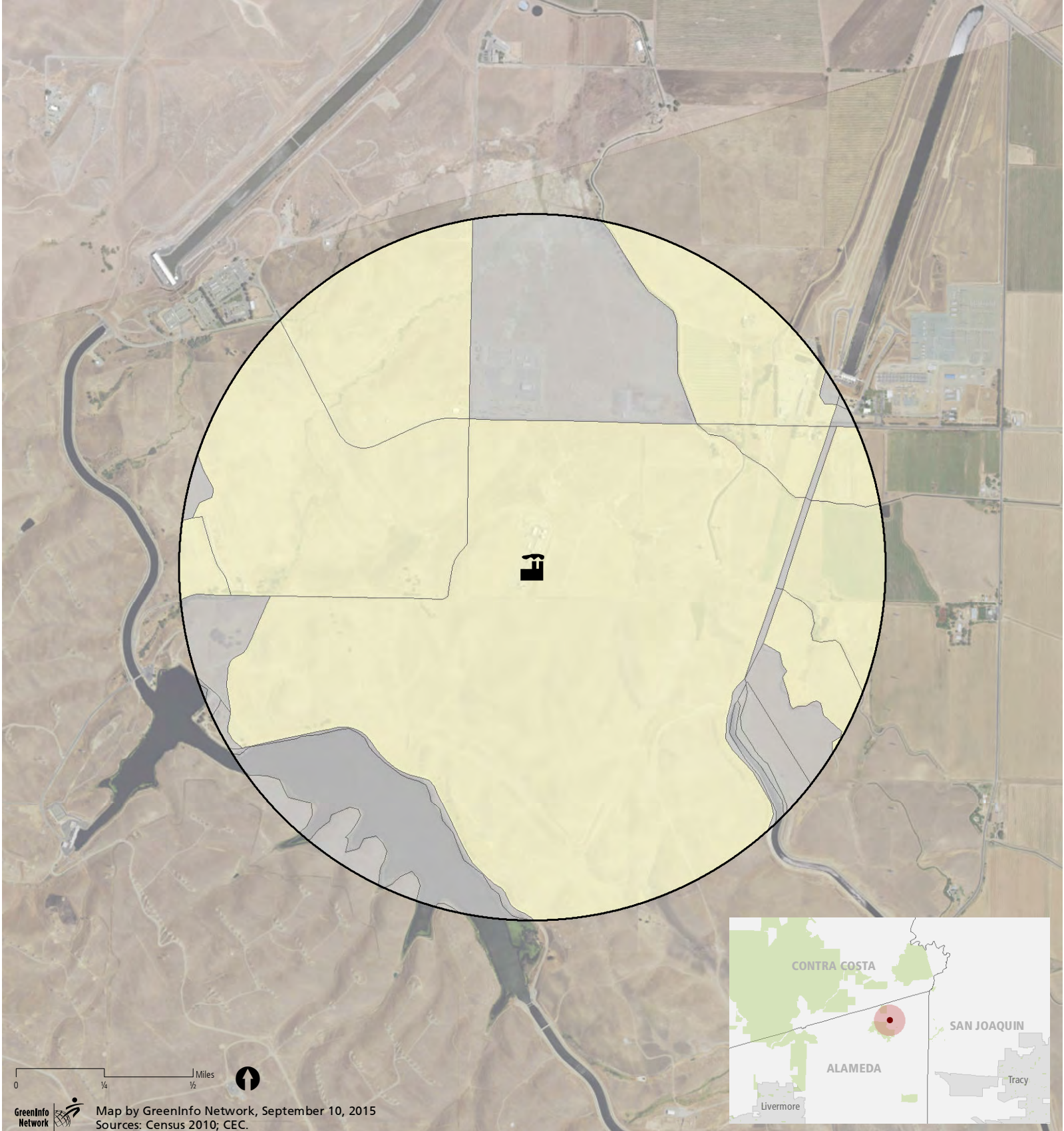
1-mile radius

Population density
(residents per square mile)

Census block



Number of residents
within 1 mile: **0**



TRACY

MARIPOSA ENERGY PROJECT

200 MW

Number of residents
within 1 mile: **27**



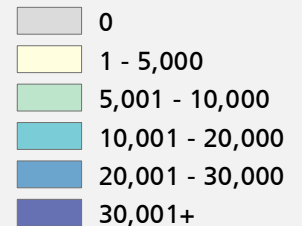
Featured gas-fired power plant

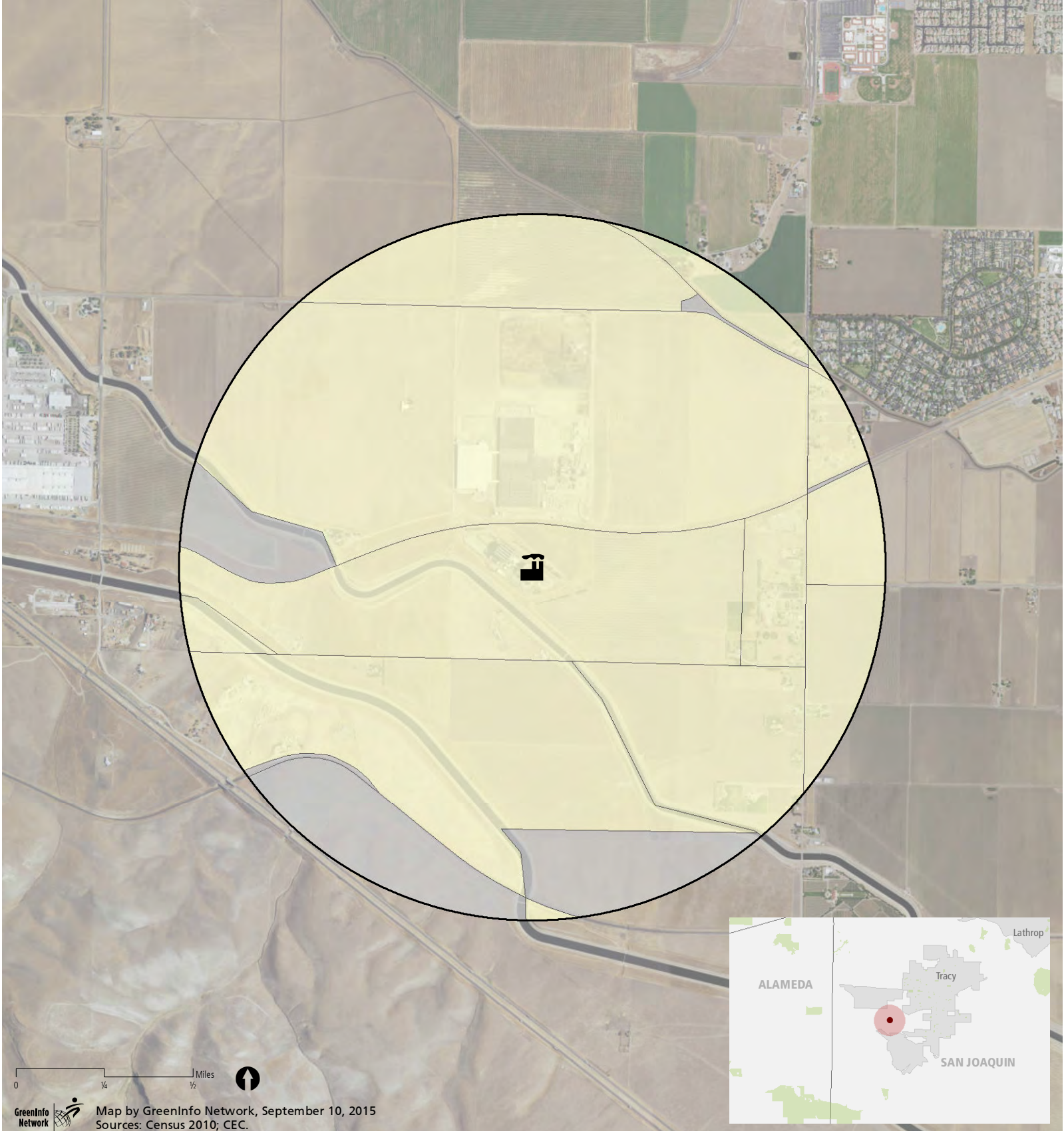


1-mile radius

Population density
(residents per square mile)

Census block





TRACY
TRACY
355 MW

Number of residents
within 1 mile: **110**



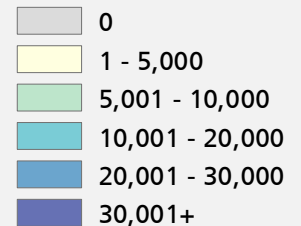
Featured gas-fired power plant

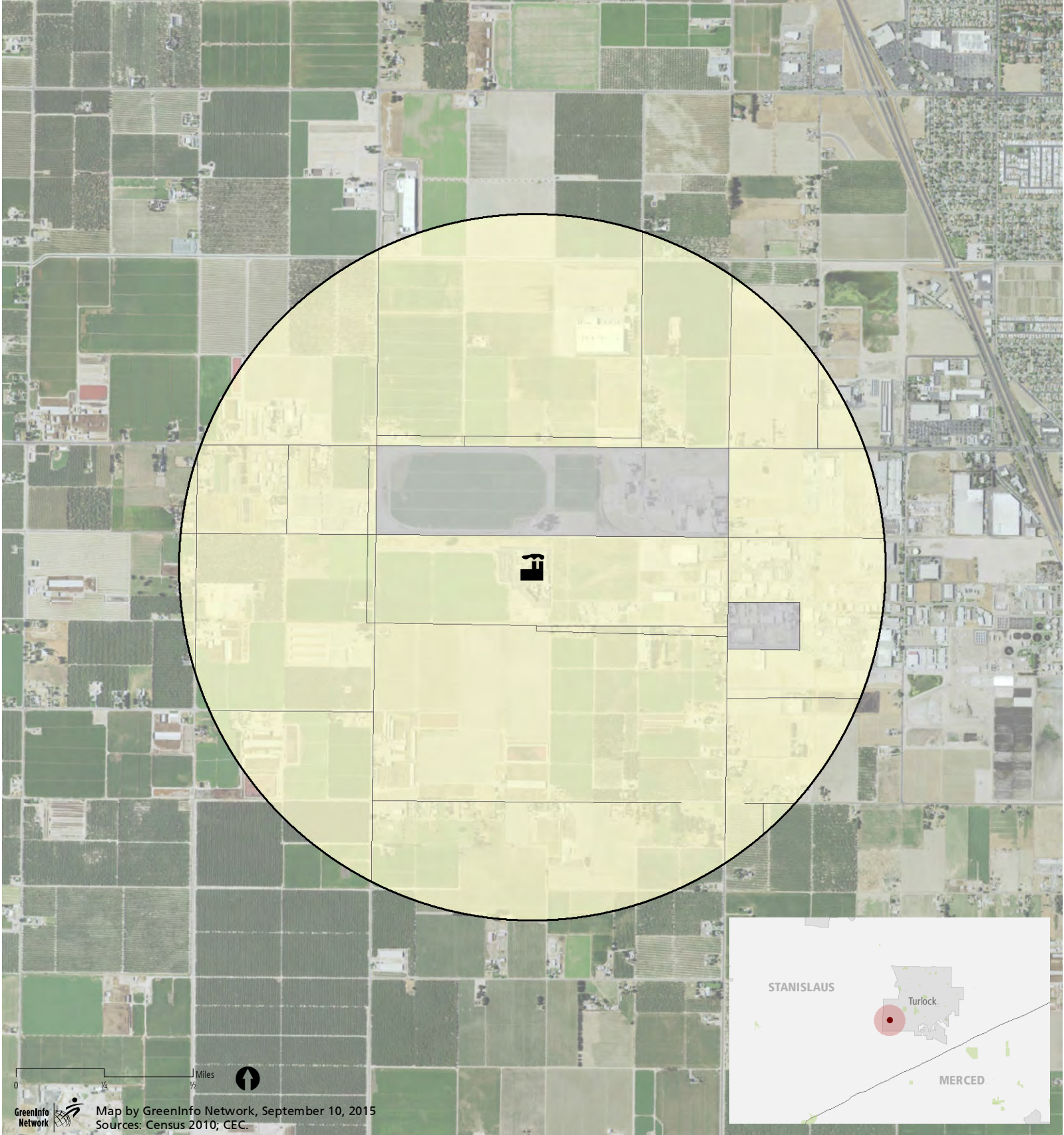


1-mile radius

Population density
(residents per square mile)

Census block







Map by GreenInfo Network, September 10, 2015
Sources: Census 2010; CEC.







TURLOCK
WALNUT ENERGY CENTER
250 MW

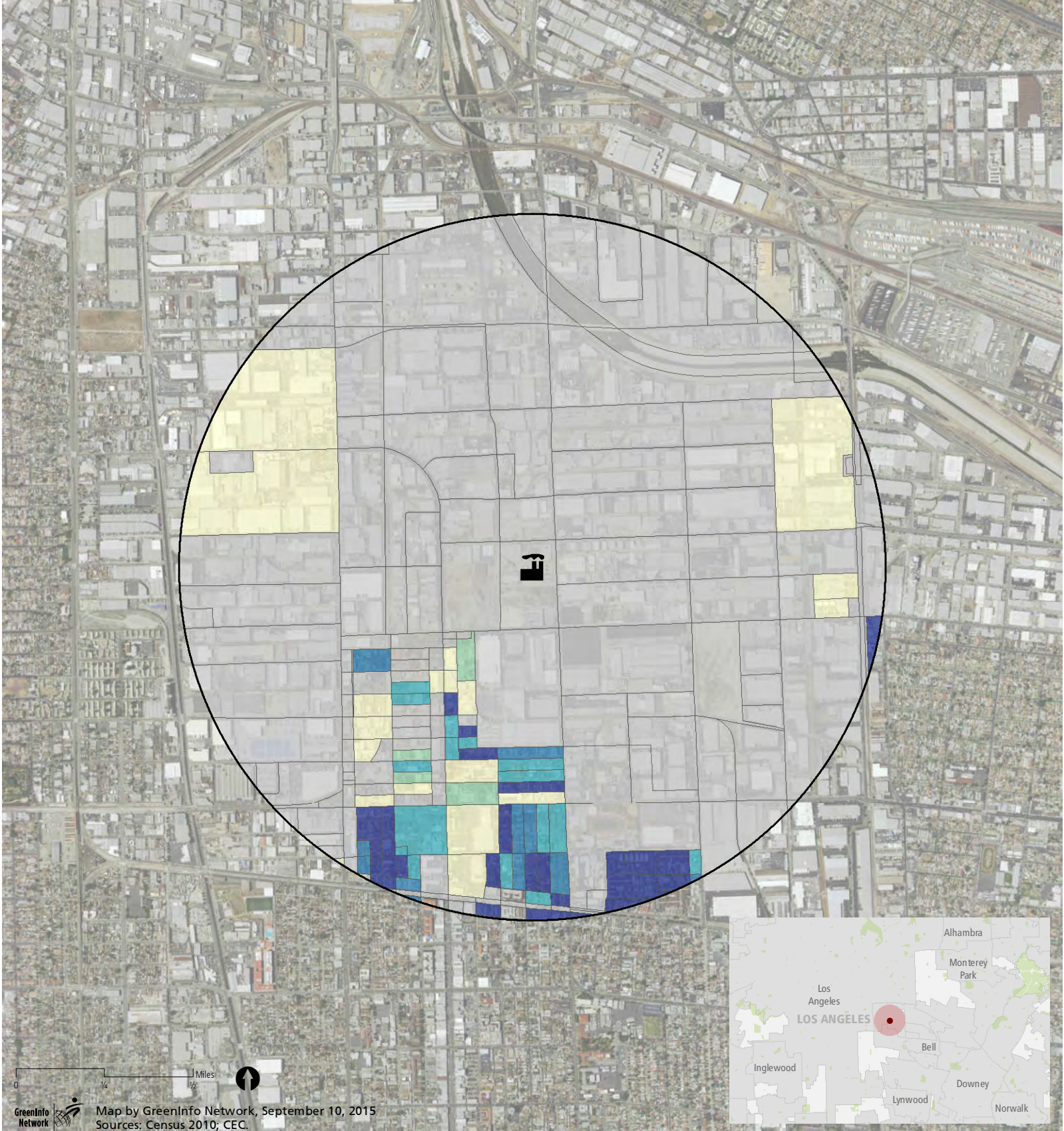
Number of residents
within 1 mile: **347**

-  Featured gas-fired power plant
-  1-mile radius

Population density
(residents per square mile)



Census block







	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+

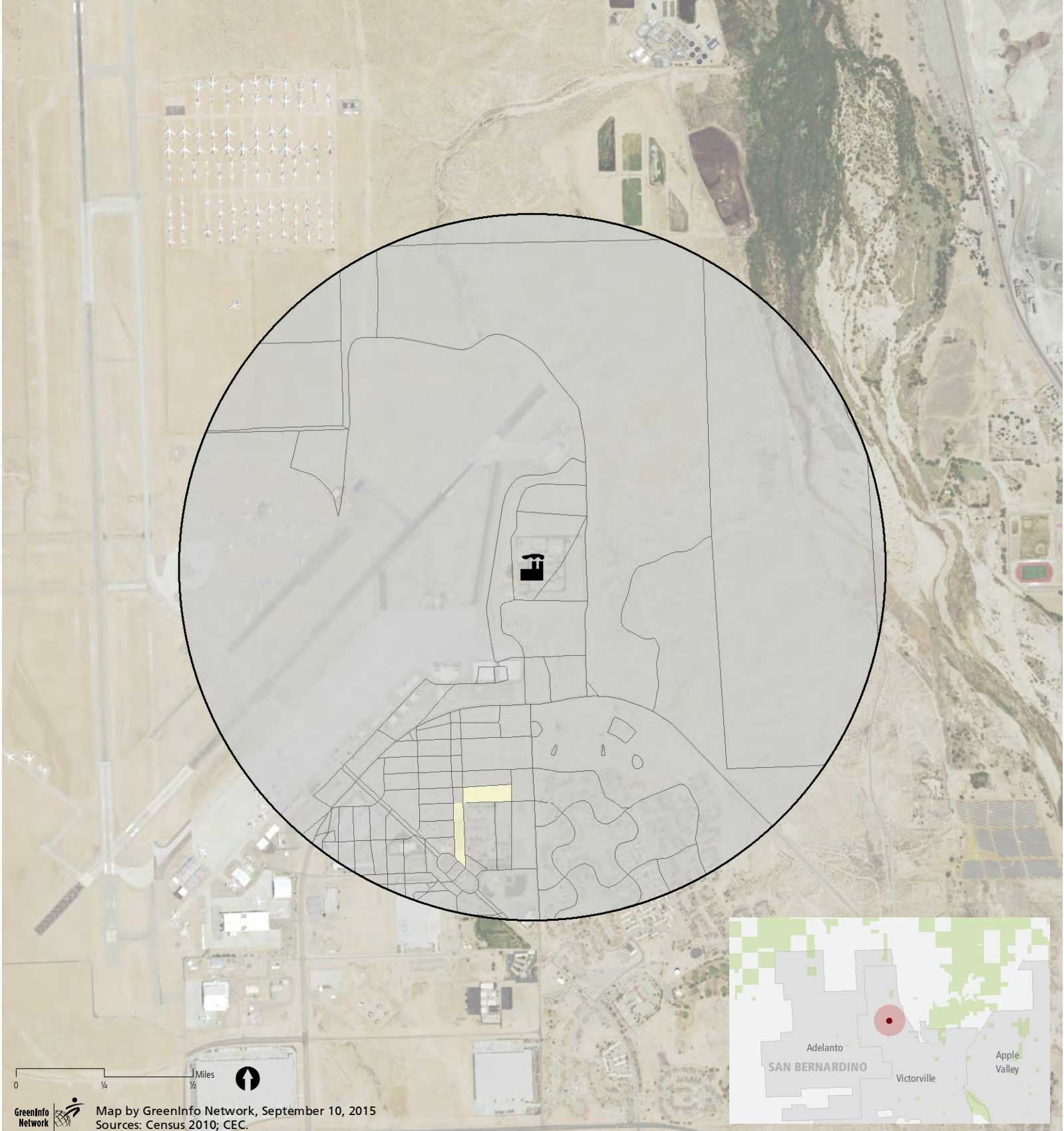


VERNON
 CITY OF VERNON COMB. CYCLE (MALBURG)
 138 MW

Number of residents
 within 1 mile: **7,477**

-  Featured gas-fired power plant
-  1-mile radius

- Population density**
 (residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+



VICTORVILLE

HIGH DESERT
855 MW

Number of residents
within 1 mile: **23**



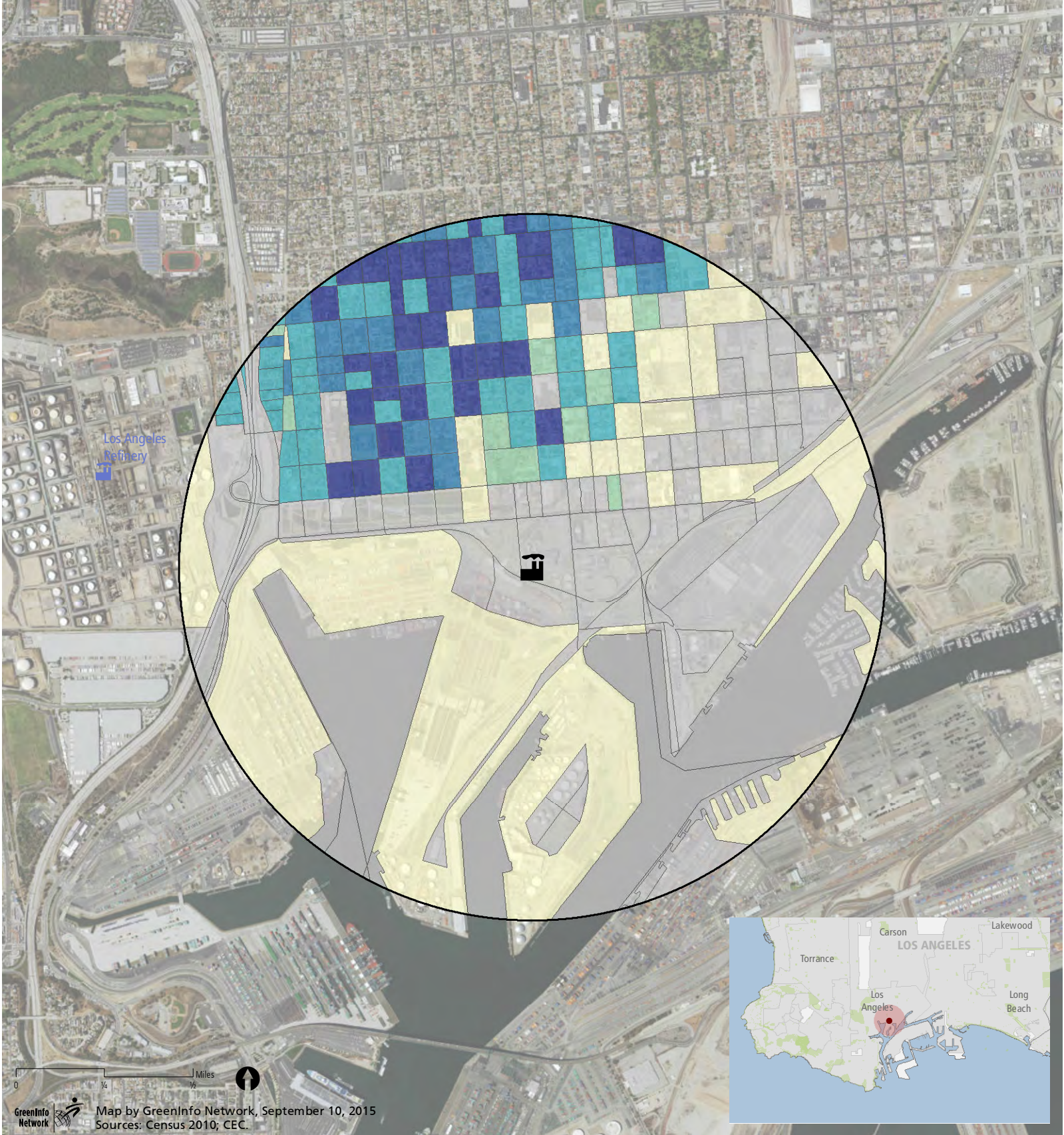
Featured gas-fired power plant

1-mile radius

Population density
(residents per square mile)

Census block




- 0
- 1 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001+








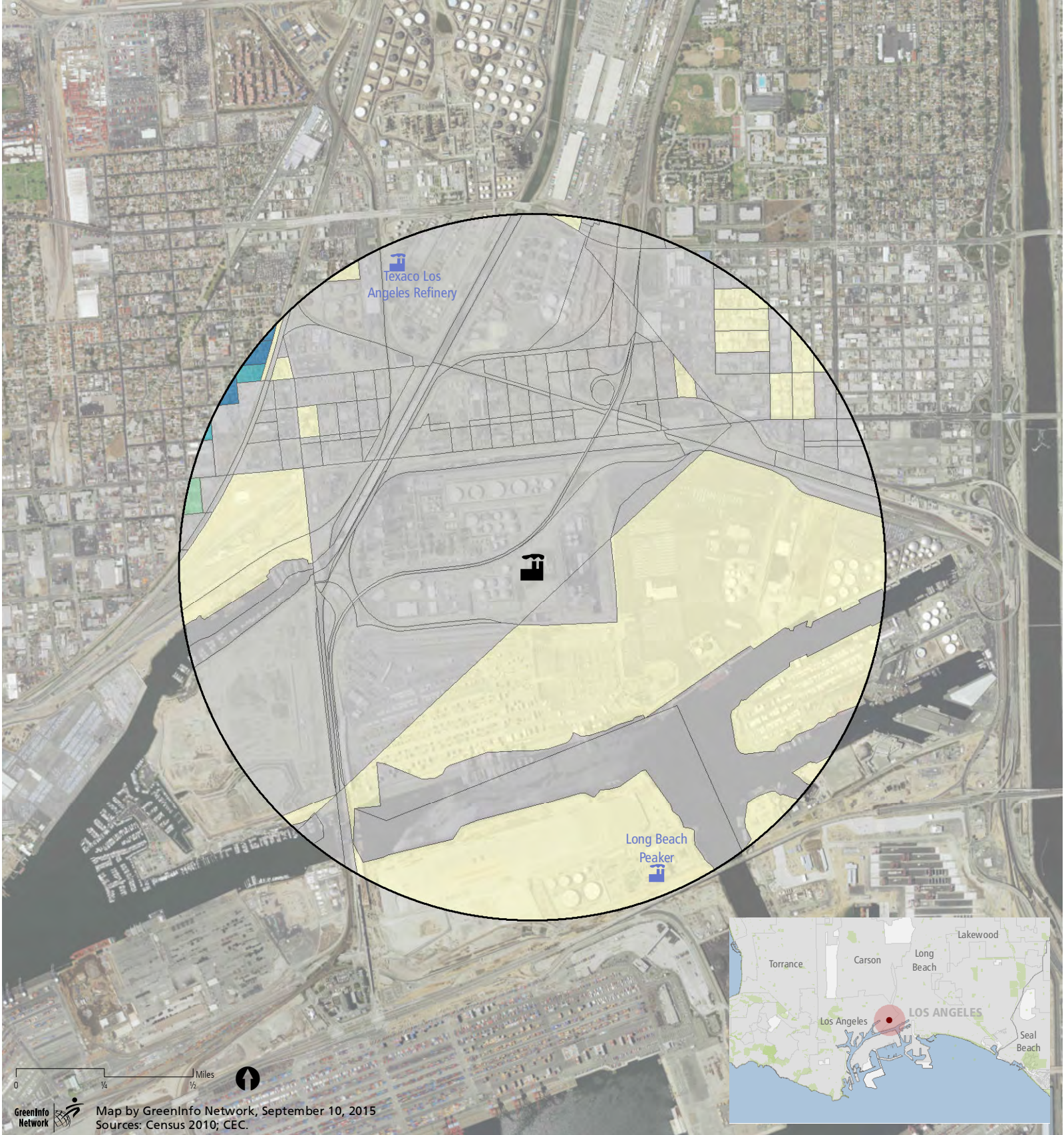
WILMINGTON

HARBOR
466 MW

Number of residents
within 1 mile: **17,256**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius




- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 - 30,001+









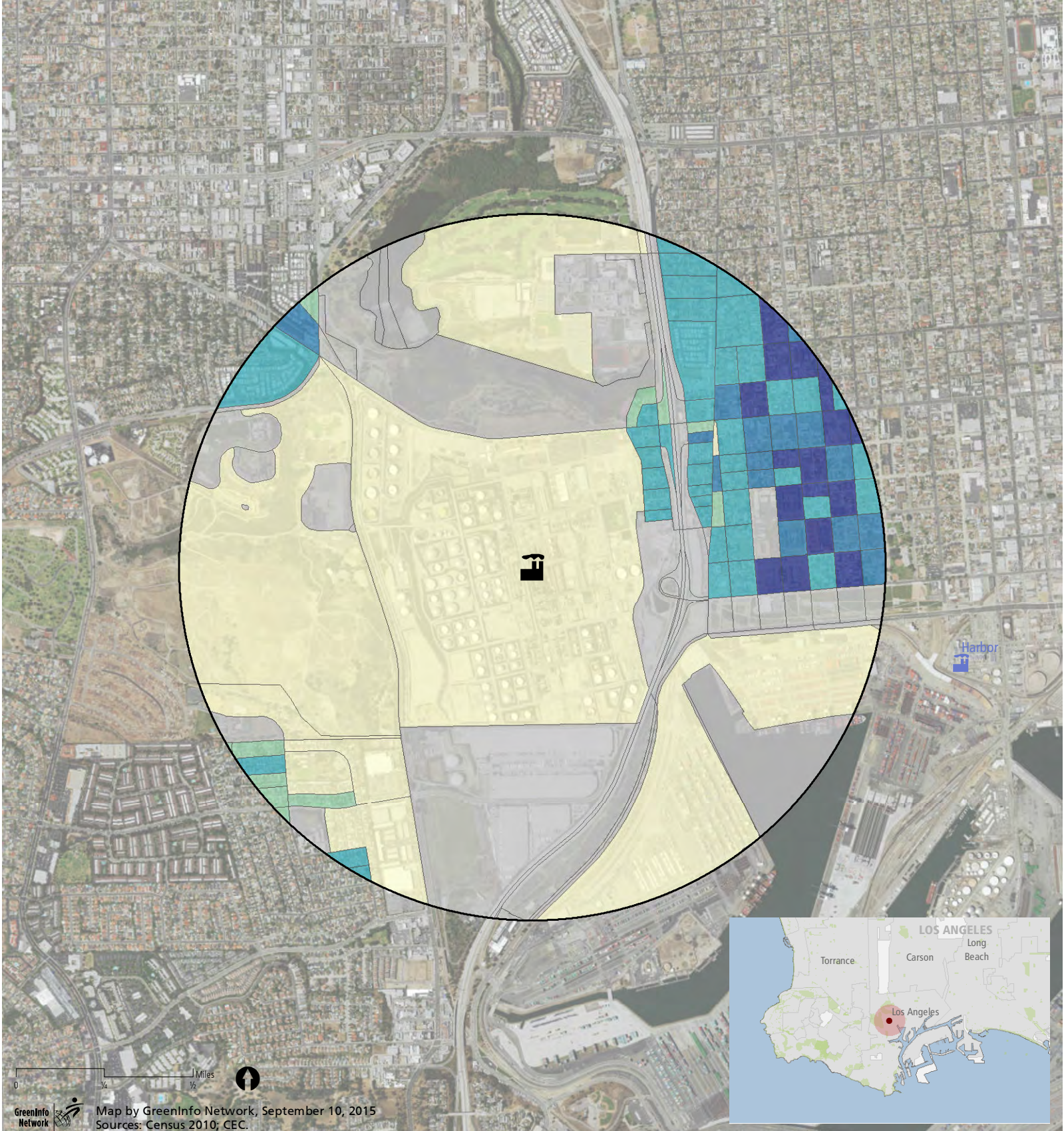
WILMINGTON

HARBOR COGEN
107 MW

Number of residents
within 1 mile: **406**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius







- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

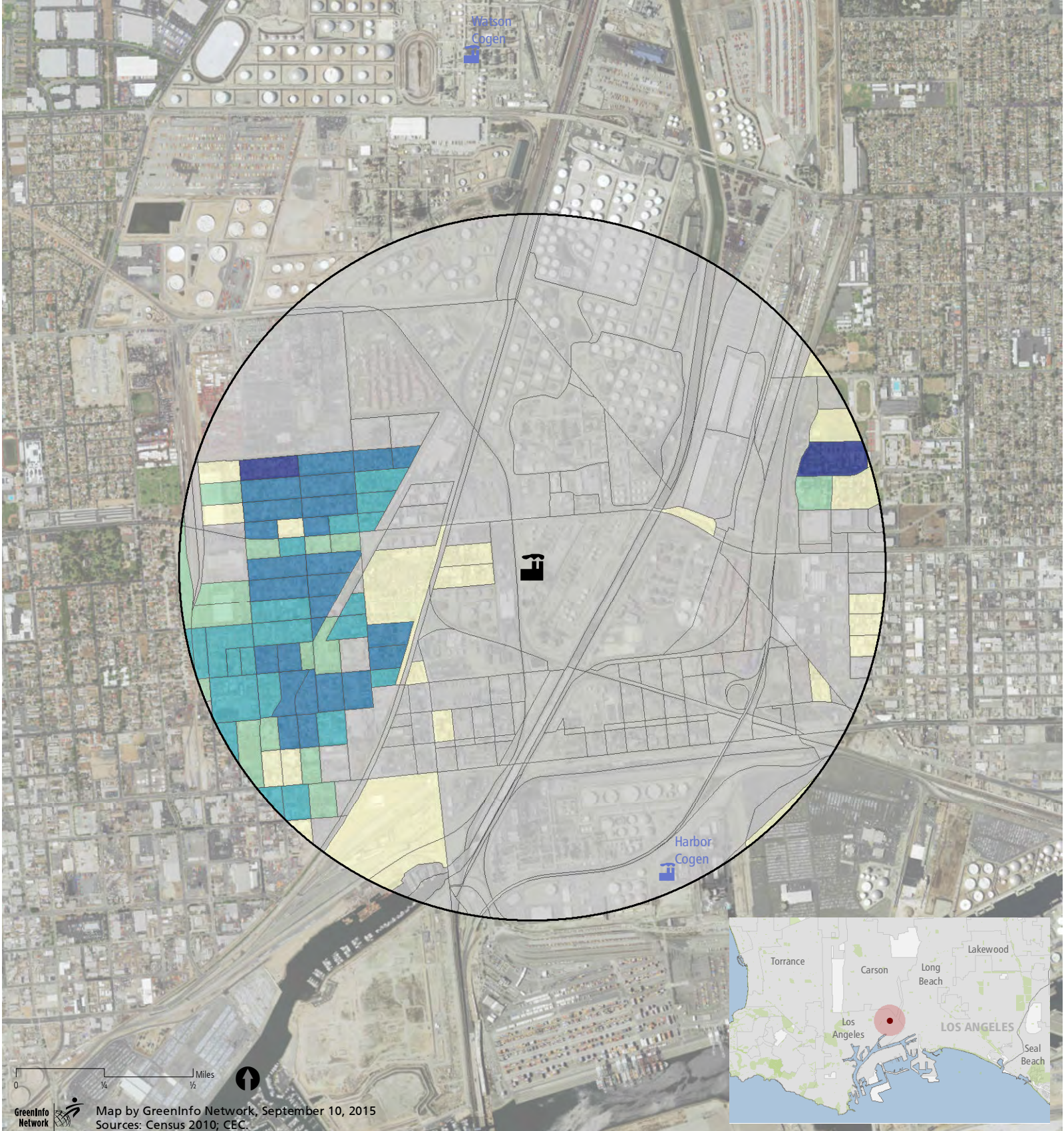


WILMINGTON
LOS ANGELES REFINERY
69 MW

Number of residents
within 1 mile: **11,466**




-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block*
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+









WILMINGTON
 TEXACO LOS ANGELES REFINERY
 83 MW

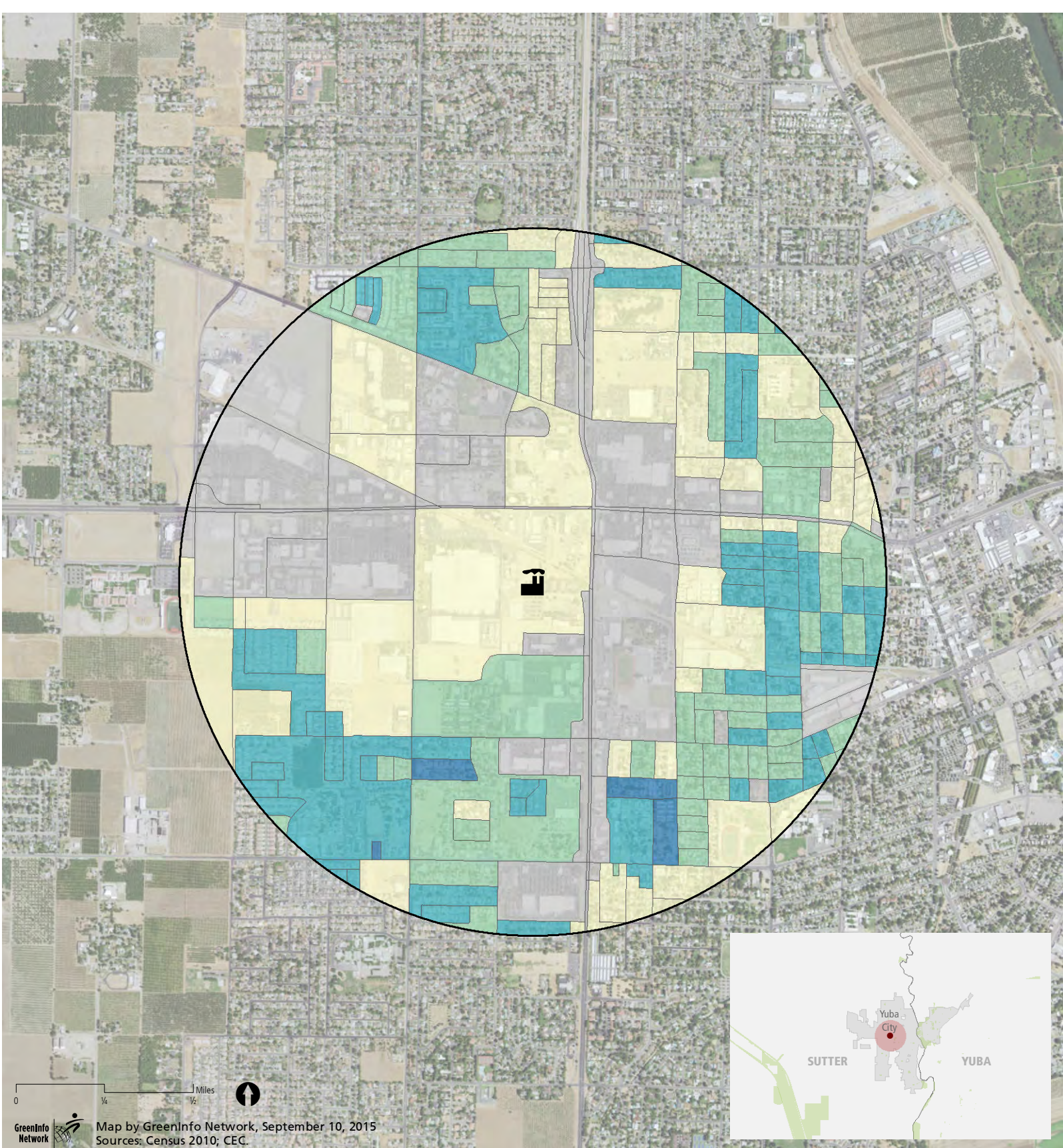
Number of residents
 within 1 mile: **8,247**

-  Featured gas-fired power plant
-  Nearby plant
-  1-mile radius

Population density
(residents per square mile)

Census block

	0
	1 - 5,000
	5,001 - 10,000
	10,001 - 20,000
	20,001 - 30,000
	30,001+



YUBA CITY

GREENLEAF UNIT TWO

50 MW

Number of residents
within 1 mile: **13,942**



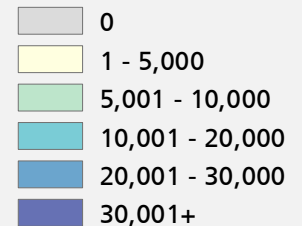
Featured gas-fired power plant

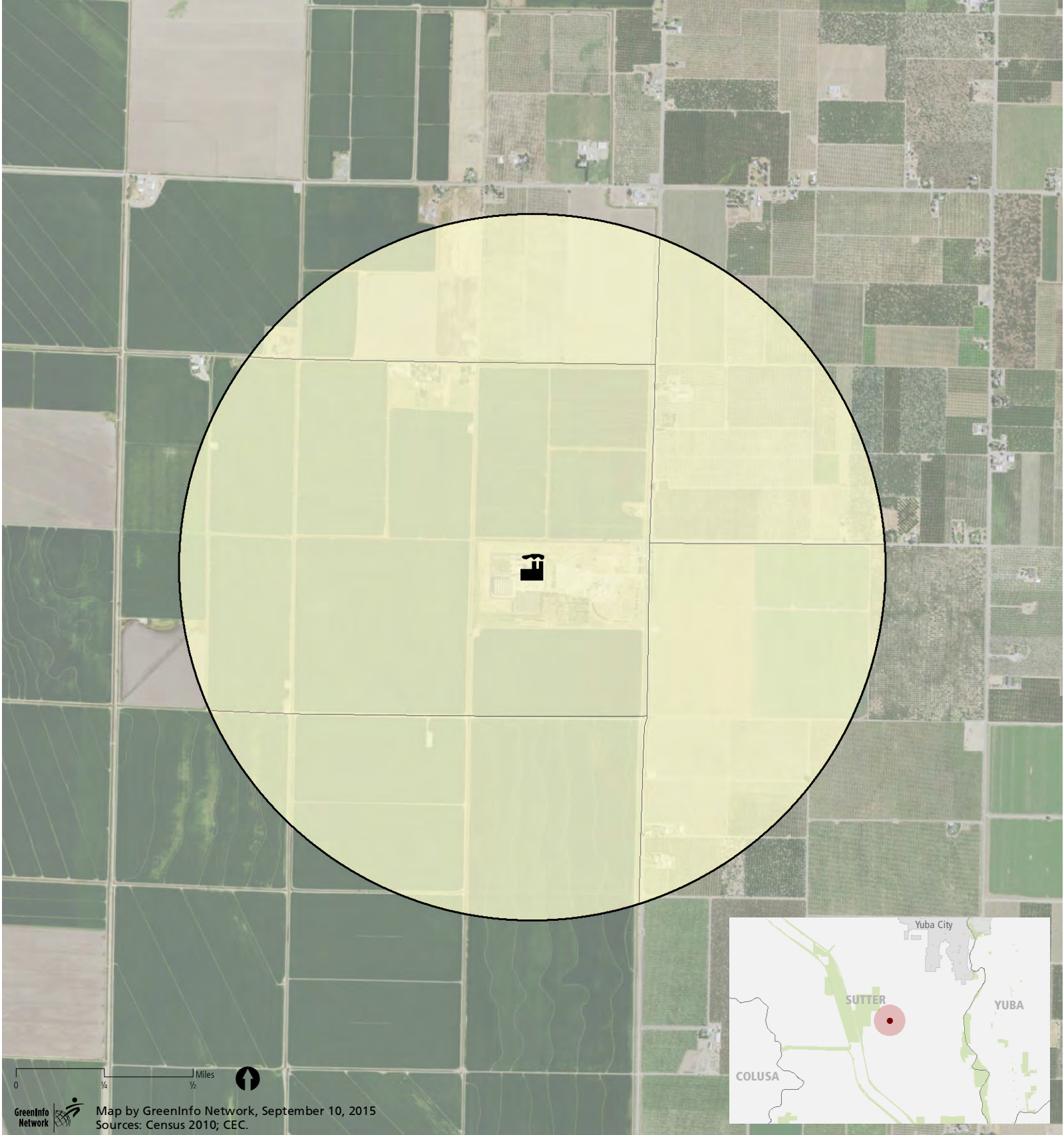


1-mile radius

Population density
(residents per square mile)

Census block













YUBA CITY

SUTTER POWER PROJECT
578 MW

Number of residents
within 1 mile: **45**

-  Featured gas-fired power plant
-  1-mile radius

- Population density
(residents per square mile)
- Census block
-  0
 -  1 - 5,000
 -  5,001 - 10,000
 -  10,001 - 20,000
 -  20,001 - 30,000
 -  30,001+

The purpose of this analysis was to determine and compare the population densities surrounding "large" gas-fired power plants in California, with "large" defined as 50 MW or greater. GreenInfo Network, a nonprofit technology support organization, was asked to develop demographic analysis within a one mile ring of each gas plant.

METHOD OVERVIEW

We used 2010 Census Block data in order to secure the finest-grain look at population density around power plants. Because not all census blocks fall perfectly within a 1-mile radius of each power plant, we needed an approach to calculate the population for the portion of each block that falls partially within the 1-mile radius. Our approach was to determine the percentage of the area of each block that fell within the 1-mile radius, and then to apply that percentage to the total population of the block. For example, if the 1-mile radius overlaps 43% of a census block, 43% of the block's population count is added to the population of the 1-mile radius. This technique is known as a proportionate allocation approach, and involves the following general steps:

- Intersect custom geography (our 1-mile radius) with the population data (census blocks).
- Calculate proportion of each block included in our analysis (percent of the block's total area that falls within the 1-mile radius).
- Apply resulting percentage to the block's total population.
- Sum total population within 1-mile radius from all whole and partial census blocks that intersect with it.