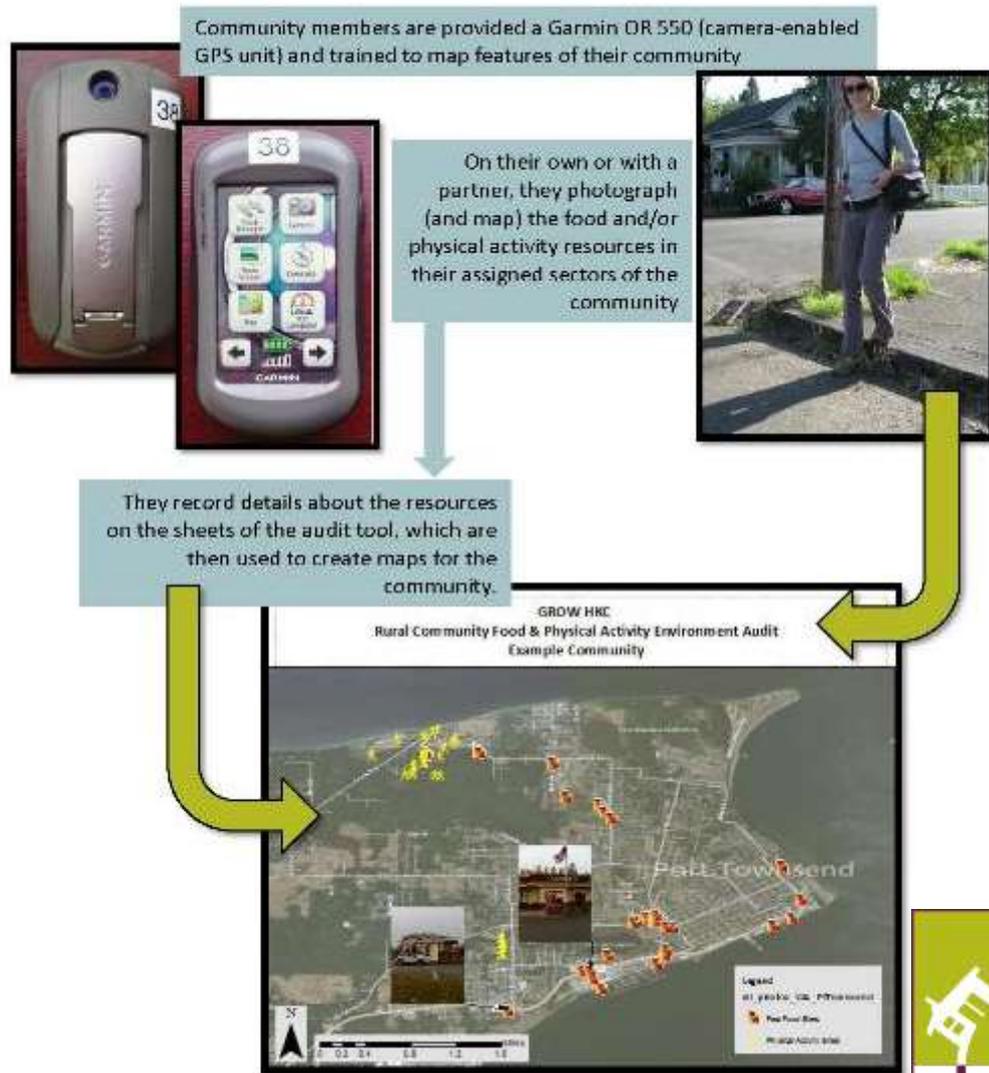


Rural Community Food and Physical Activity Environment

Chiloquin Audit Results Maps 2013



The information contained in this report can be used to drive decisions about land use and siting for new resources, to secure funding to improve the community food system, parks and recreation resources, and transportation planning. It can also be used by community members to seek out locally available and affordable healthy food and physical activity options.

GROW Healthy Kids & Communities Background Information

GROW HKC partners with rural people, organizations, and communities to generate local options to support weight healthy lifestyles – healthy eating and physical activity every day - for all children and families.

GROW engages people in the communities we serve in assessing the conditions that most affect them where they live, learn, work and play. We do this to identify what changes will best support weight healthy behaviors for children and families and improve food and physical activity resources in the community.

HEAL MAPPS, one of the GROW programs, helped residents to tell their story of life in the community, their personal experiences or encounters with food and physical activity resources as either supporting or hindering weight healthy choices and habits.

People's lived experiences are very important for understanding how and why healthy habits develop.

In order to have the most complete picture of the food and physical activity environment, we need to know about all of the available resources: who makes food and physical activity available, what types of food and physical activity are available, where are they located, and is there a cost?

The Rural Community Food and Physical Activity Environment Audit is a participatory survey of all of the food and physical activity resources in the community. The auditors use camera-enabled GPS units and photomapping methods to document and survey resource availability and location.

OSU faculty integrate community data with other geographic information systems (GIS) data to provide a visual report of the relationship between the location and types of food and physical activity assets and where most people live in the community.

GPS-Assisted Observational Survey Tool

GROW HKC Community Food Environment Audit

Please use the provided Garmin (GPS) unit, in conjunction with this survey, to map, photograph, and log information about all the food environment and resources in your community. If you do not have access to a Garmin unit, you may use any other GPS mapping device, such as a QStarz or GPS app on your smartphone, along with a camera. For each photograph that you take, please take care not to include people in your photographs.

Specifically, you will map, photograph and log information about all possible food resources in your community. Once you complete the audit of your sector, please check off all of the food resource categories that you encountered in your sector.

- A. Grocery Stores
- B. Convenience Stores
- C. Roadside or Dockside Retailers
- D. Restaurants
- E. Vending Machines (in public spaces)
- F. Food Banks and Food Pantries
 - Food Assistance Programs, including:
 - G. Meals on Wheels
 - H. Gleaners
 - I. Free Meal Sites
 - J. Summer Meal Service Programs
- K. Farm Stands / U-Pick Operations
- L. Farmers Markets
- M. Community Gardens
- N. Hunting, Fishing and Foraging Supports
- O. Home-Based Food Retailers
- P. Other Community Food Resources

A. Grocery Stores

Name of Store: _____

A *grocery store* is a retailer where people buy most of their food for meals and snacks.

Photographs and Logs: Please photograph and log (with the Garmin unit) each grocery store you come across in your sector.

Take a photo of the front of the grocery store. Take a single photo, if you can capture the entire store and the sign with the store's name in a single shot. If you need to take more than one photo to capture the entire store and the sign, take the shot looking straight ahead, and as needed, 1-2 shot(s) looking to the left and to the right. Record your photo code(s), below.

- looking straight ahead DSC _____ .JPG
- looking to the left (as needed) DSC _____ .JPG
- looking to the right (as needed) DSC _____ .JPG

Take additional photographs that describe the access to this store. Examples of photographs to take are listed below. For each feature that is present, please take no more than one photo.

- Bike rack at the store DSC _____ .JPG
- Bus stop adjacent to the store DSC _____ .JPG
- Parking at the store. Also, note the type of parking, below. DSC _____ .JPG
 - Streetside
 - Parking lot
- Handicapped parking spaces at the store DSC _____ .JPG
- Ramps / curb cuts that promote handicap accessibility DSC _____ .JPG
- Evidence of walking access to the store
 - Sidewalk leading to store DSC _____ .JPG
 - Crosswalks DSC _____ .JPG
- Sign or poster that states the store hours DSC _____ .JPG
- Sign or poster that states that the store takes SNAP, EBT or Oregon Trail DSC _____ .JPG
- Sign or poster that states that the retailer is a WIC-authorized vendor DSC _____ .JPG
- Other access feature (Describe: _____) DSC _____ .JPG

Food Retailer Description: Please categorize this food retailer, by answering the questions below to the best of your knowledge.

Is a membership required to shop in this store (e.g., Bi-Mart, Costco, Sam's Club)?

Yes No I don't know

Can you purchase products in bulk in this store?

Community Audit activities yield rich attribute data that can be associated with resource photos and tracks. Community members collect this information while mapping by using a survey that integrates two research-based measures: the rural active living assessment and the community food security assessment. OSU researchers included additional items known to be influential in the rural food and physical activity systems, such as hunting, fishing, and foraging supports.

Rurality and Weight Health



Many risk factors have been associated with childhood obesity, including rural residency

- Overweight/obesity prevalence is higher among children living in rural (36%) compared to urban (30%) areas
- Weight health and habits carry over into adulthood
- Rural communities face unique environmental challenges that can impact residents' healthy eating and physical activity lifestyle patterns
- Environmental strategies found to prevent obesity have focused on more urban areas

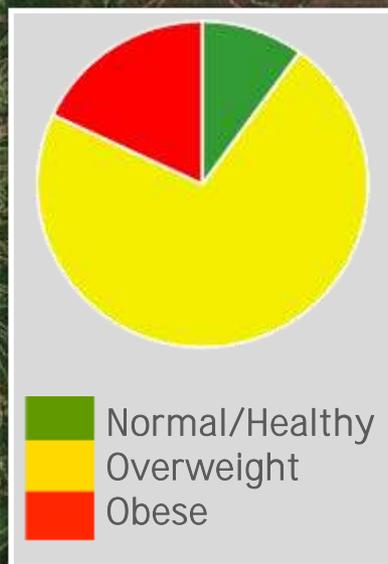
Chiloquin Community - Adult Weight Health (BMI)

Visualizing weight health in Chiloquin was enabled by the *Oregon Environmental Public Health Tracking Program

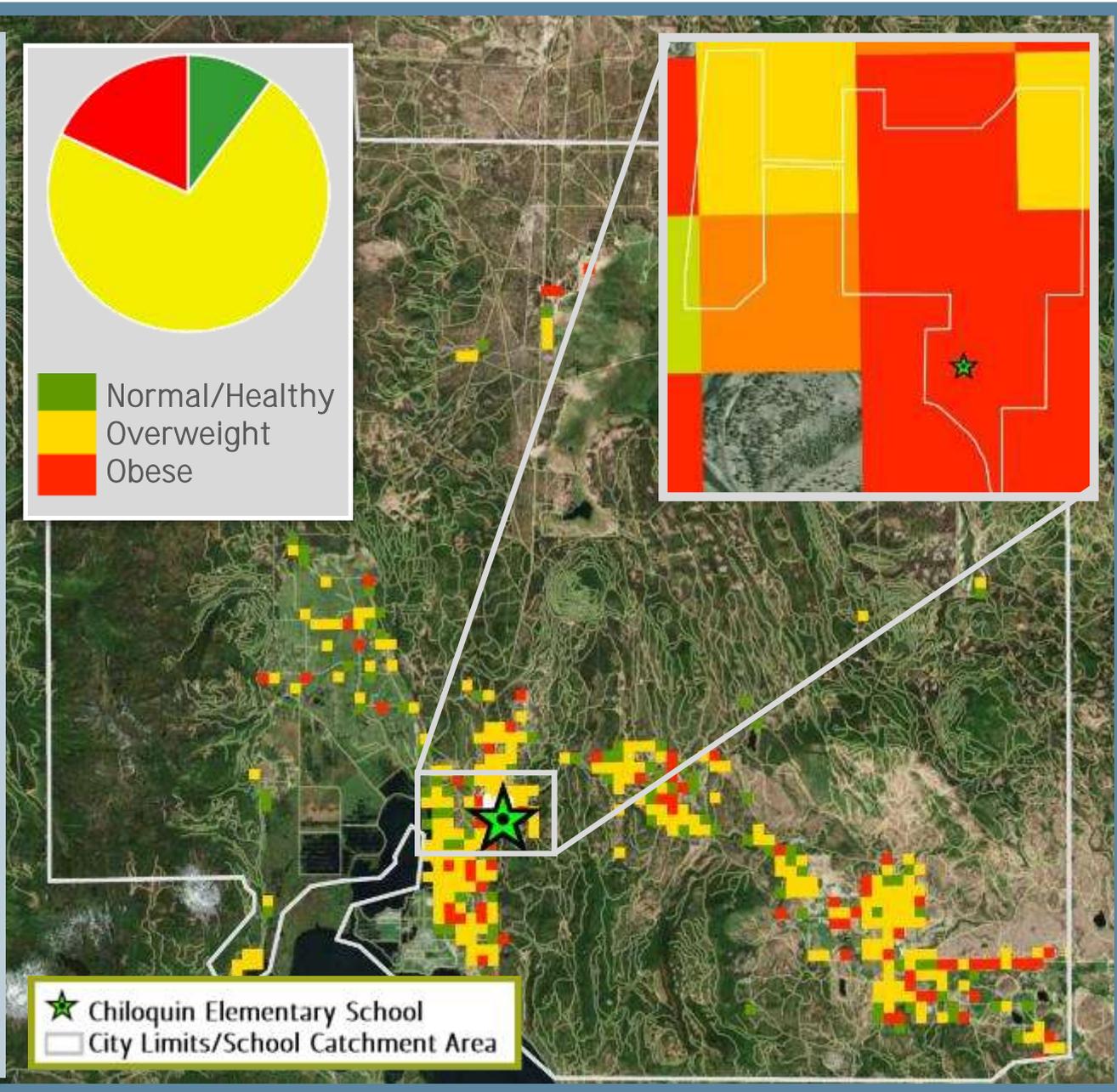
Adult Body Mass Index (BMI)

- 10% Healthy (BMI 18-24.9)
- 72% Overweight (BMI 25-29.9)
- 18% Obese (BMI >30)

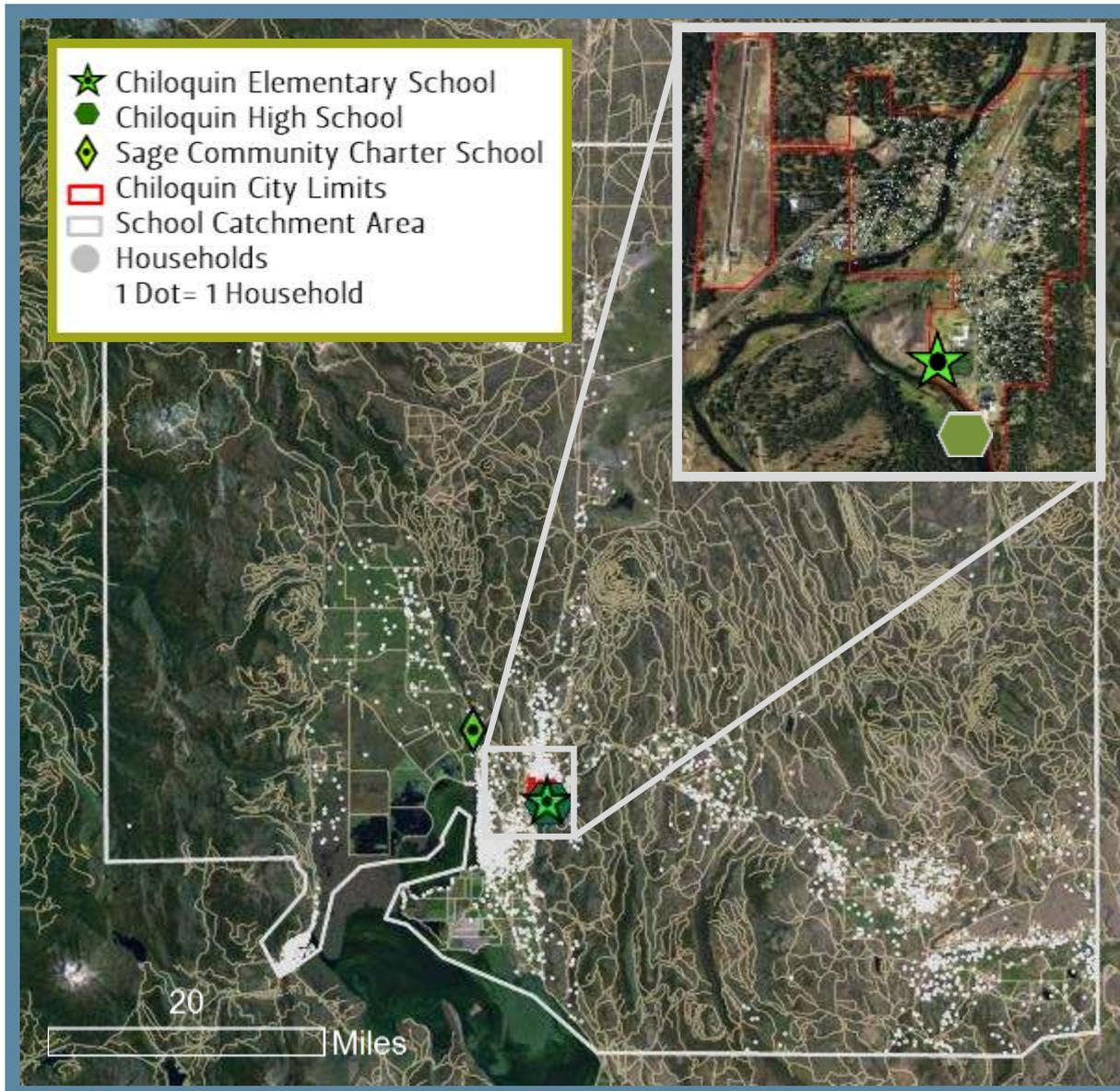
*DMV records used to calculate BMI reliably illustrate the BMI distribution despite underestimation



Legend for BMI categories:
Green: Normal/Healthy
Yellow: Overweight
Red: Obese



Where people live matters for easy access to resources



Community boundaries include the School District catchment for three schools and city limits

Chiloquin has 4593 people living in 3048 households (2010 census) spatially dispersed in an area of about 1900 sq. mi.

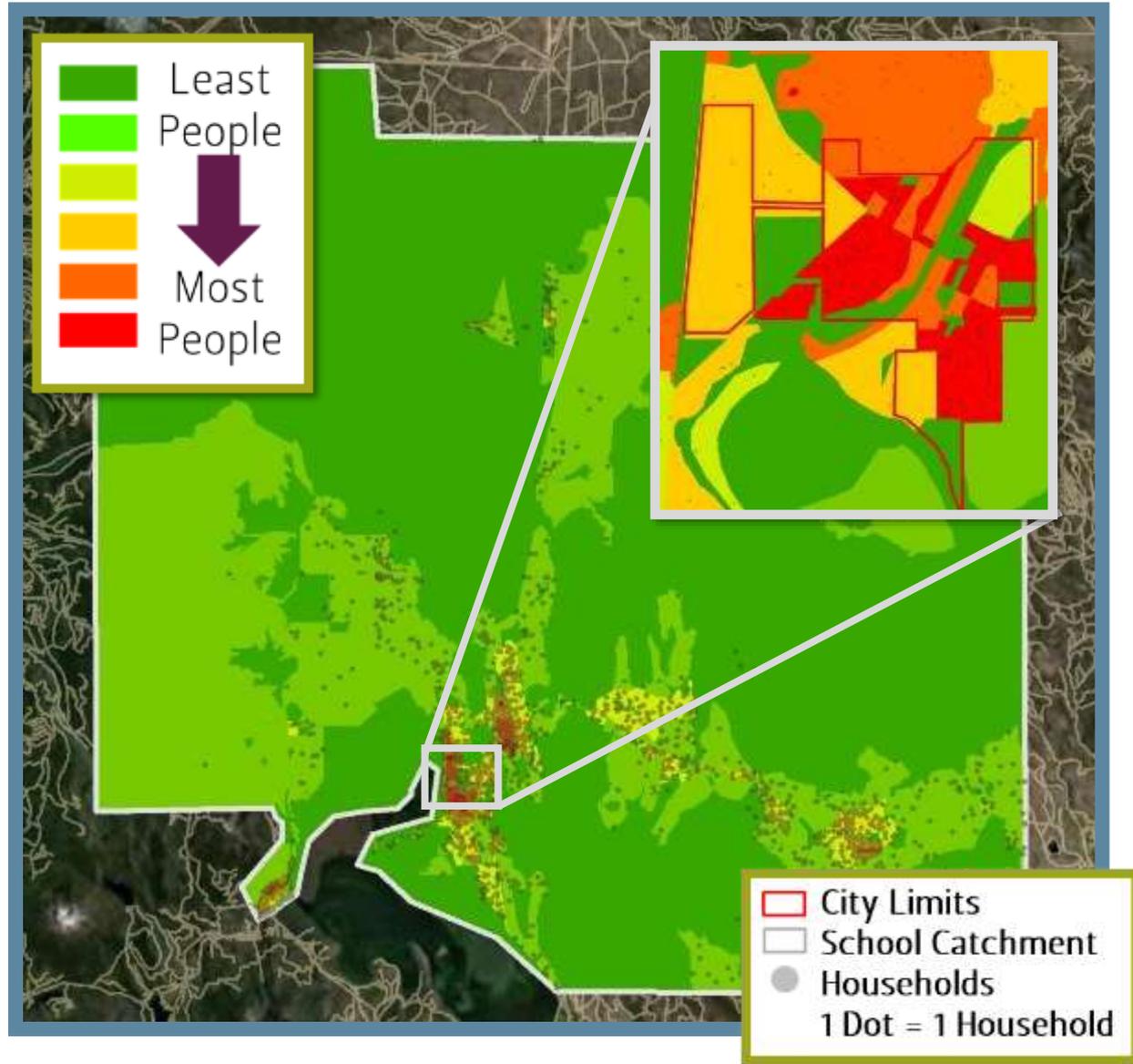
Easy access to locally available resources is determined by proximity, transportation mode, ability to drive, cost & household income, etc., which will vary among families

Using Maps to Show Where Most People Live...

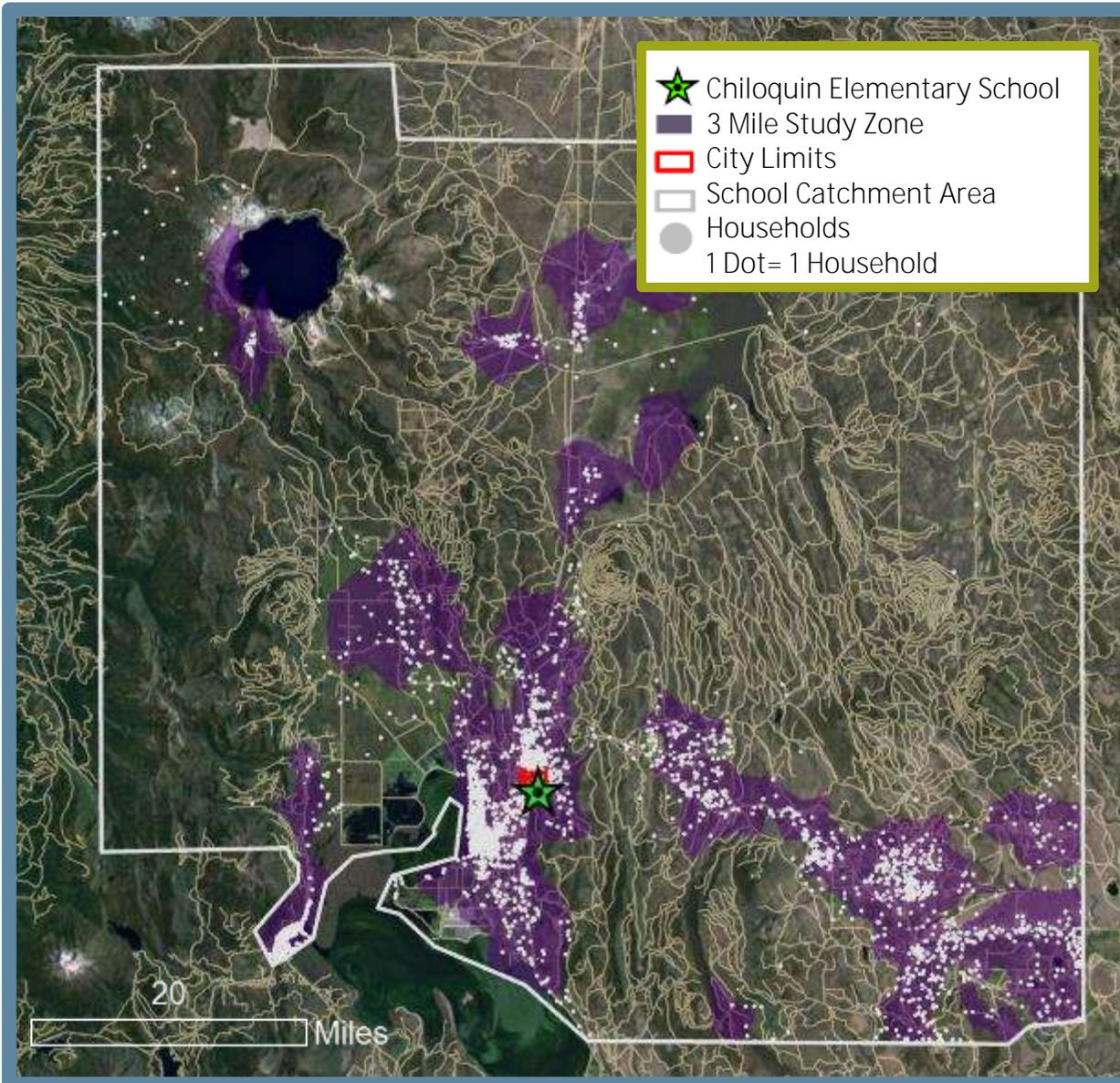
Within audit boundaries, we calculated statistically significant clusters of population based on population density

The geographic centers of these clusters were used to create network buffers, ranging in size from 2 to 5 miles, that captured 85% or more of the community population

The yellow to red areas are the most highly populated; Chiloquin is sparsely populated (greens) throughout much of the boundary area.



Using Maps to Show Where Most People Live: Study Zone



The most populated areas were used to define the “study zone” to determine the food and PA resources relevant to where most people live

The study zone (purple) is captures 98% of Chiloquin’s population

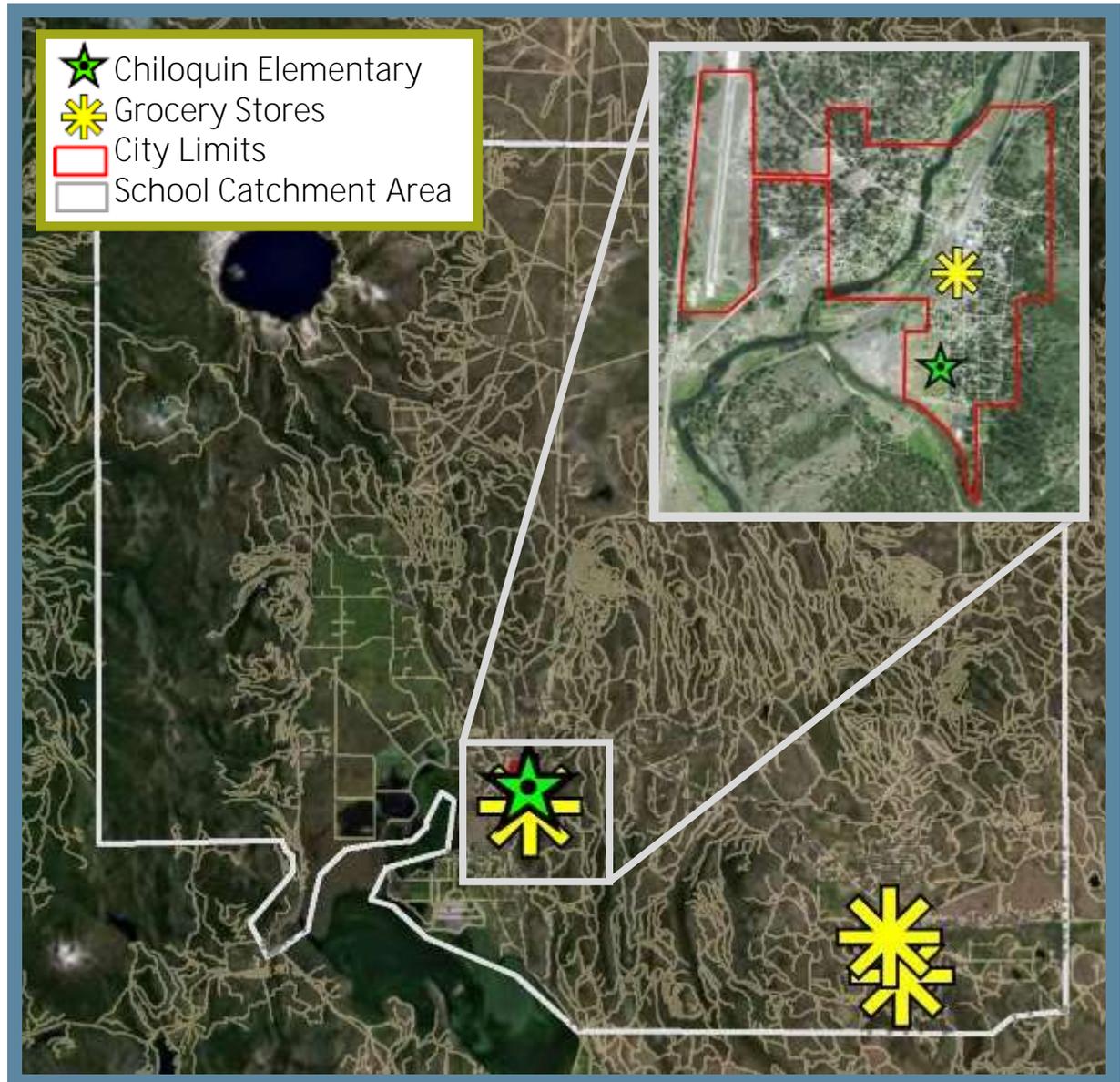
Defining the study zone helped limit time and travel distance for Chiloquin community members who mapped resources and collected survey data, while not limiting the ability to capture data that is important to the community.

Grocery Store Locations

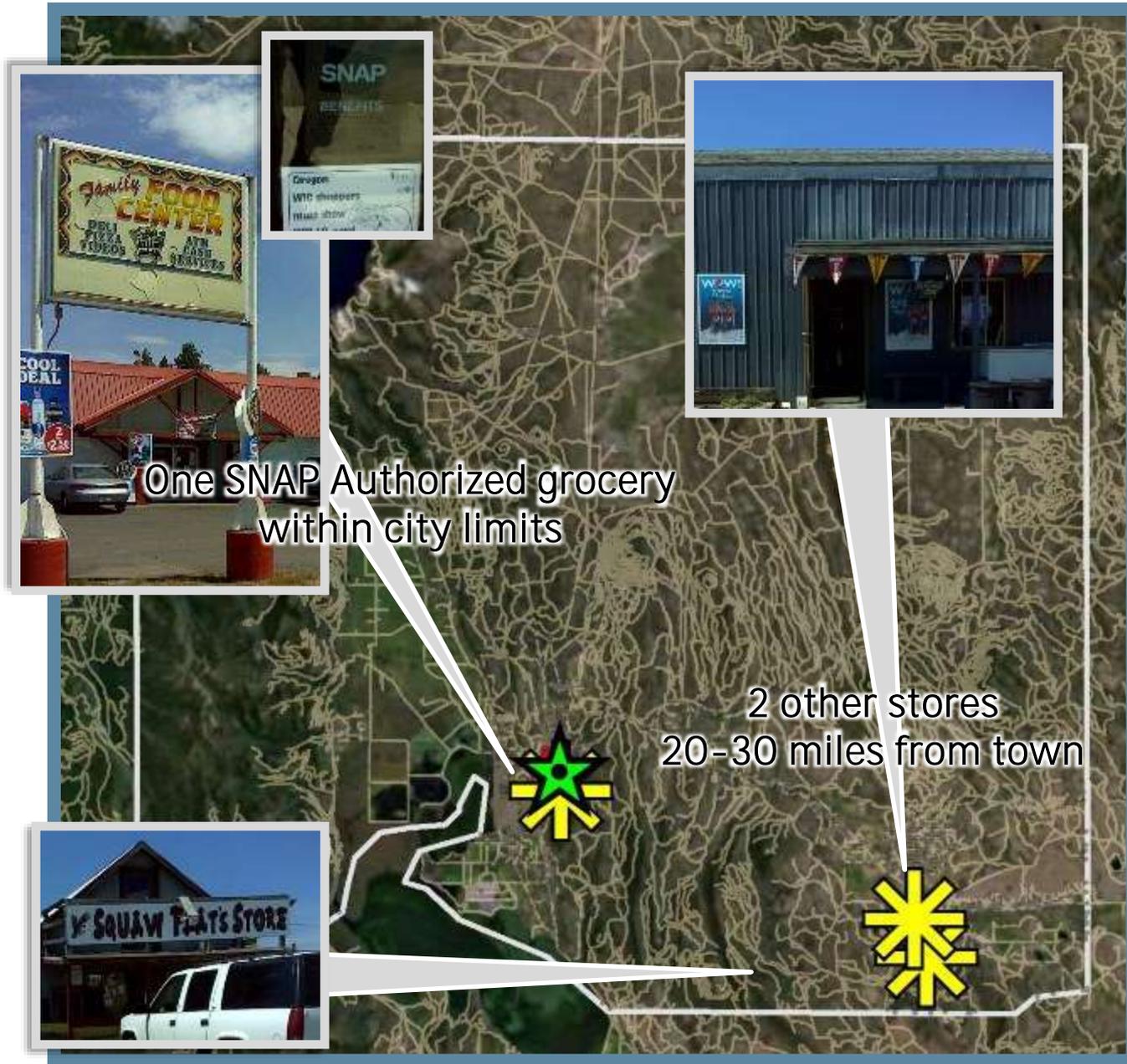
According to the Healthy Food Financing Initiative, a food desert is an area where a larger proportion of people have low or no access to a supermarket or grocery store

Chiloquin has a small grocery store in town and other smaller “country” stores located well outside of city limits. However, Chiloquin is still considered a food desert.

Based on a measure of availability of healthy food options, the “Modified Retail Food Environmental Index,” Chiloquin scored “0” on scale ranging from 0 (no access to healthy food) to 100 (only access to healthy food)



Resources for Groceries Shown by Location



One SNAP Authorized grocery within city limits

2 other stores 20-30 miles from town

The Family Food Center is a small grocery store located within city limits and it is one of Chiloquin's SNAP retailers.

SNAP, or the Supplemental Nutrition Assistance Program, is a federal program that offers nutrition assistance to income eligible families and individuals

Limited access to affordable fresh produce is a barrier to healthy eating for people living in Chiloquin

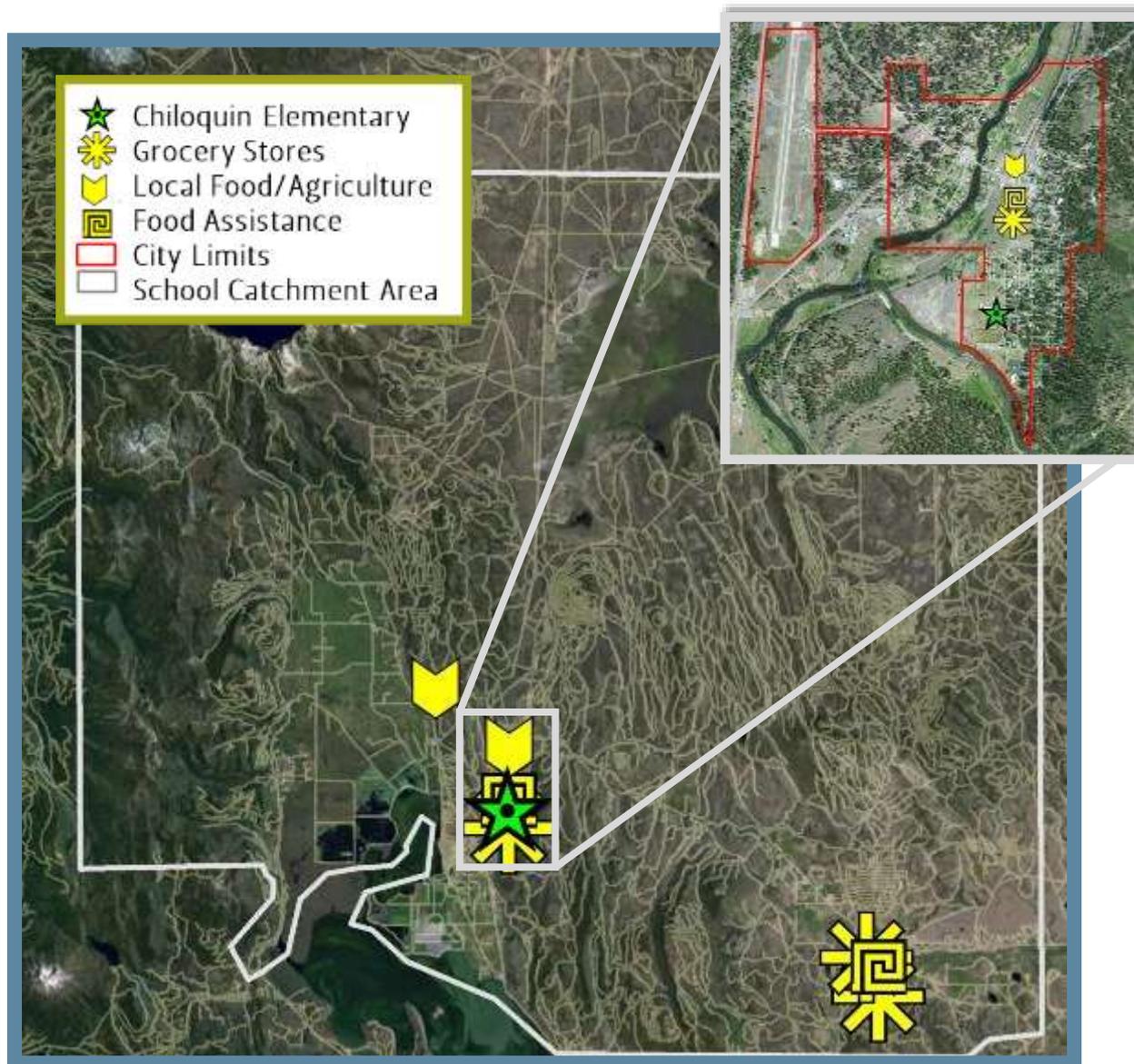
The closest full service supermarket is 30 miles south of Chiloquin, meaning grocery access is car dependent, for most of Chiloquin

Local Food, Agriculture, & Food Assistance

Chiloquin has a number of “Local Food, Agriculture, and Food Assistance” resources.

Local Food and Agriculture includes farm stands, u-picks, home-based food retailers, farmer’s markets, and hunting/fishing/gleaning supports.

Food Assistance includes food banks, summer lunch programs, community meals and other supplemental food support programs.



Resources for Local Food, Agriculture & Food Assistance Shown by Location



There are two resources that lie outside of Chiloquin city limits: the garden at Sage Charter school and a Food Bank/Pantry that offers the community members food assistance.

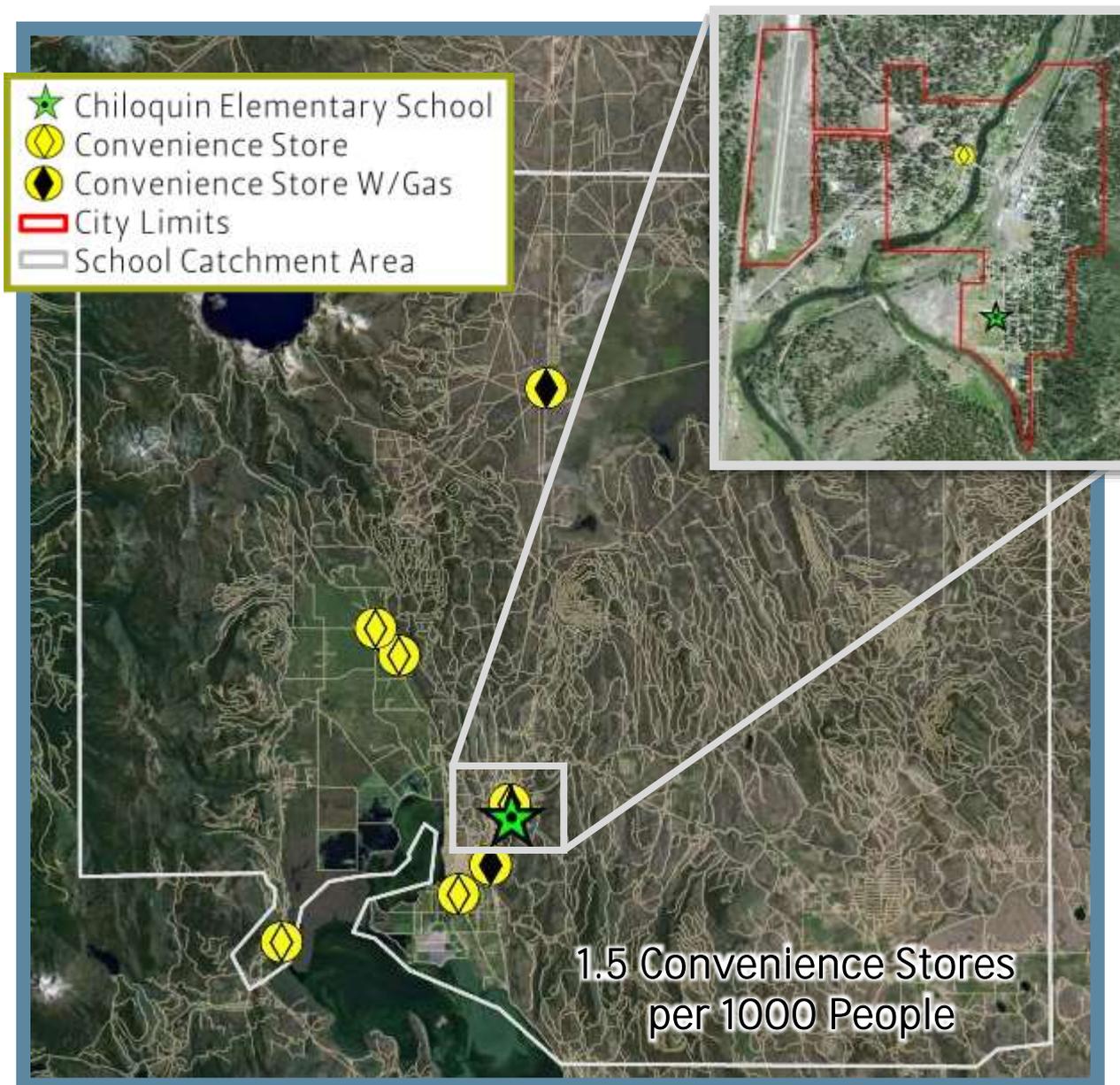
- ★ Chiloquin Elementary
- ☀ Grocery Stores
- 🏠 Local Food/Agriculture
- 🌀 Food Assistance
- 🏠 City Limits
- 📏 School Catchment Area

Resources for Local Food, Agriculture & Food Assistance Shown by Location



Within Chiloquin's city limits, there is a seasonal Farmer's Market as well as a Food Bank/Pantry that offers food assistance to community members.

Convenience Stores

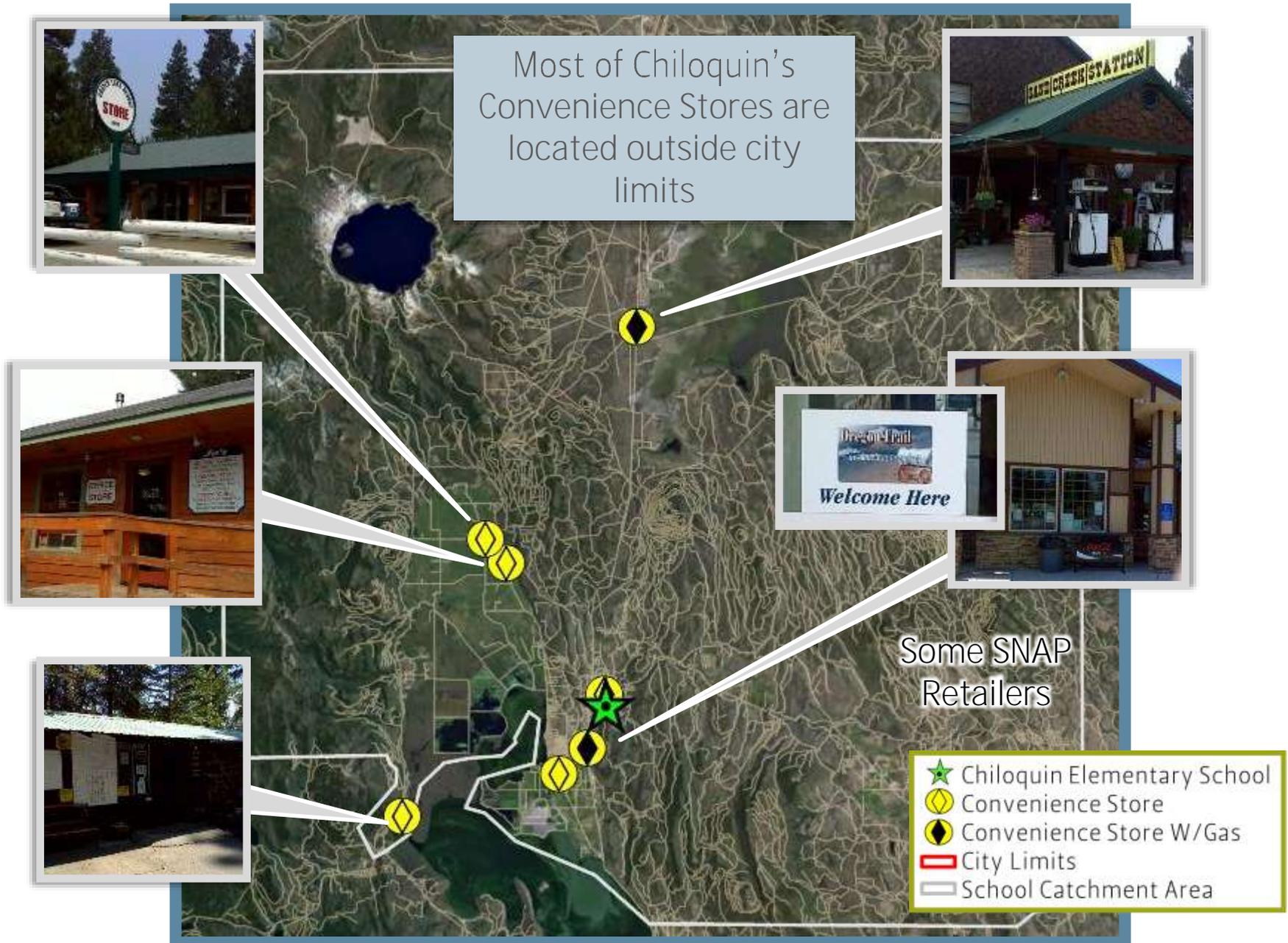


Chiloquin has seven convenience stores

Chiloquin's "Modified Retail Food Environmental Index" score was 0. A lower score indicating a higher number of places that don't typically have healthy food and lower numbers of places that would typically have healthy food options

Comparing the ratio of fast food establishments per 1000 people to the fact that Chiloquin has less than one grocery store per 1000 people, you can see why Chiloquin scores low on this index.

Resources for Convenience Stores Shown by Location



Resources for Convenience Stores Shown by Location

The one convenience store in town is a WIC (Women, Infants, and Children) authorized vendor

- ★ Chiloquin Elementary School
- ⬡ Convenience Store
- ⬢ Convenience Store W/Gas
- ▭ City Limits
- ▭ School Catchment Area



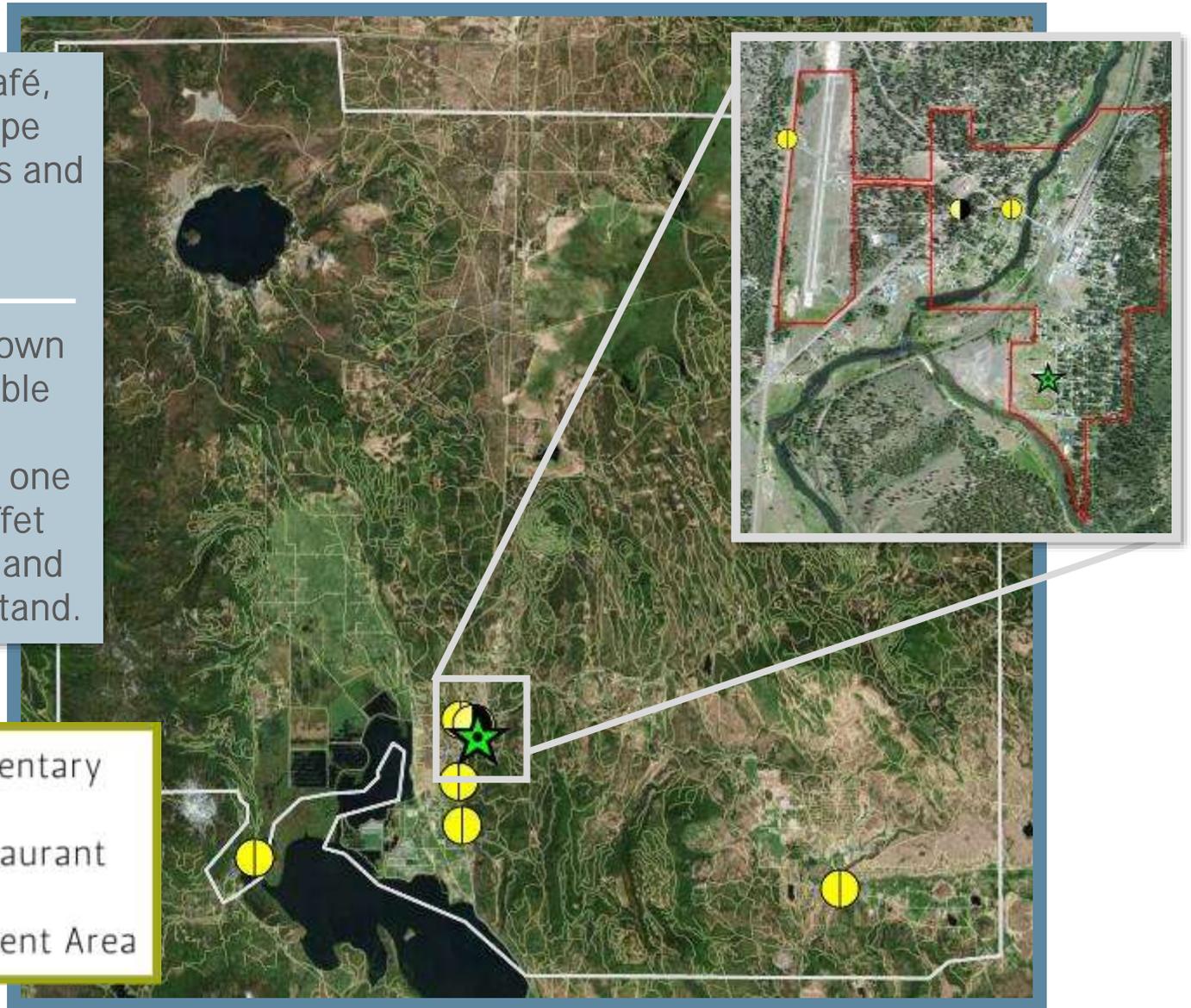
WIC is a SNAP program that provides supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk

Cafés, Delis, Restaurants and Fast Food

Chiloquin has six Café, Deli, Restaurant type eating establishments and one Fast Food establishment.

There are four Sit-down restaurants with table service, one Deli/sandwich shop, one all you can eat/buffet style establishment and one walk up burger stand.

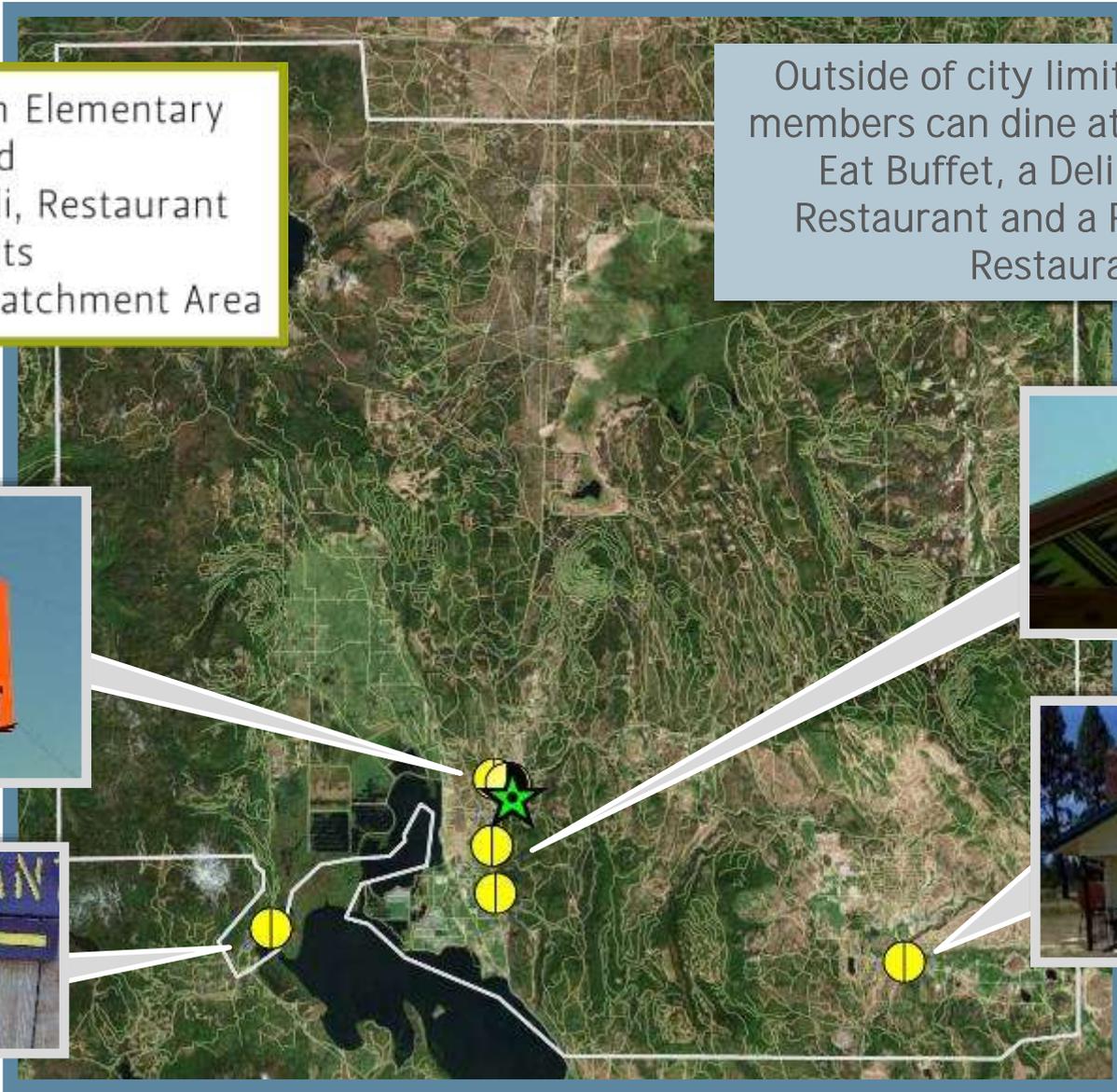
- ★ Chiloquin Elementary
- ◐ Fast Food
- ◑ Café, Deli, Restaurant
- ▭ City Limits
- ▭ School Catchment Area



Resources for Cafés, Delis, Restaurants, and Fast Food Shown by Location

- ★ Chiloquin Elementary
- Fast Food
- Café, Deli, Restaurant
- ▭ City Limits
- ▭ School Catchment Area

Outside of city limits community members can dine at an All You Can Eat Buffet, a Deli, a Mexican Restaurant and a Resort Based Restaurant



Resources for Cafés, Delis, Restaurants and Fast Food Shown by Location



Within city limits community members can dine at the two sit down type restaurants as well as a walk up burger shop.

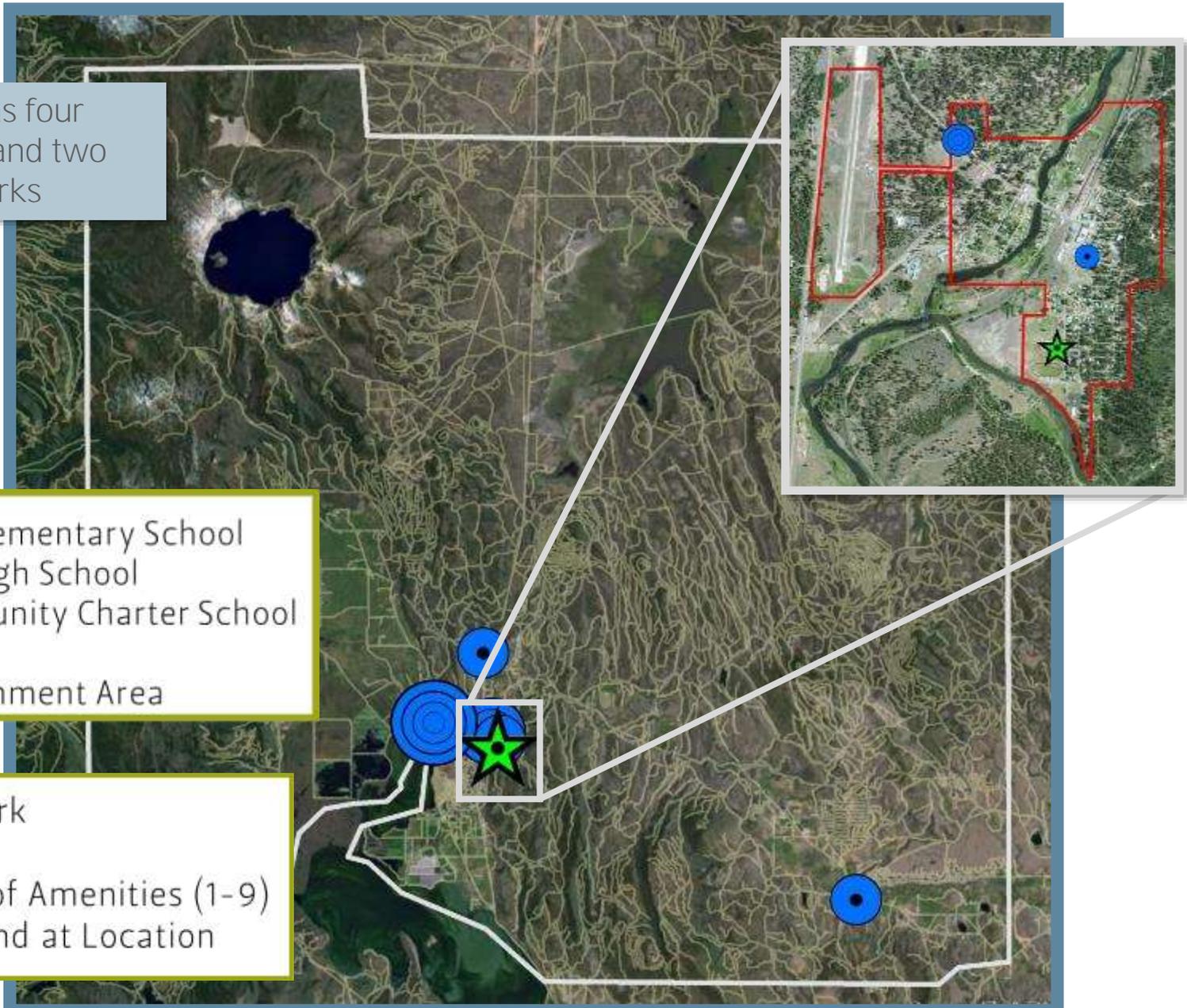
- ★ Chiloquin Elementary
- Fast Food
- Café, Deli, Restaurant
- ▭ City Limits
- ▭ School Catchment Area

City Public Parks and Playgrounds

Chiloquin has four playgrounds and two public parks

- ★ Chiloquin Elementary School
- Chiloquin High School
- ◇ Sage Community Charter School
- ▭ City Limits
- ▭ School Catchment Area

- Public Park
- ⊕ Fees
- ⊙ Number of Amenities (1-9)
- Playground at Location



Resources and Amenities for City Public Parks and Playgrounds Shown by Location



Resources for City Public Parks and Playgrounds Shown by Location

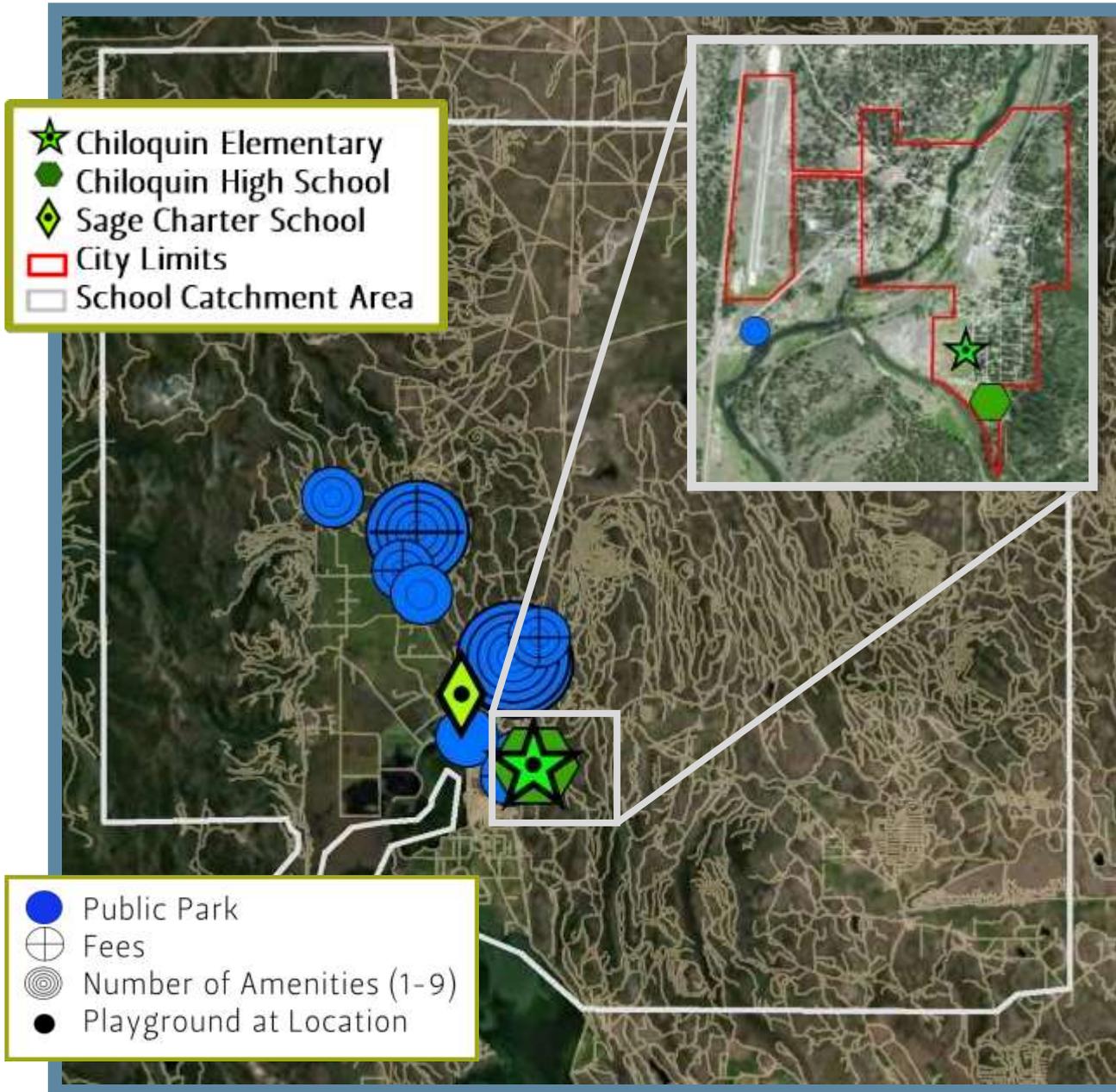


Resources and Amenities include two Playgrounds and Sports/Playing Fields—all of which are free.

- Public Park
- ⊕ Fees
- ⊙ Number of Amenities (1-9)
- Playground at Location

- ★ Chiloquin Elementary School
- Chiloquin High School
- ◆ Sage Community Charter School
- ▭ City Limits
- ▭ School Catchment Area

Other Public Parks



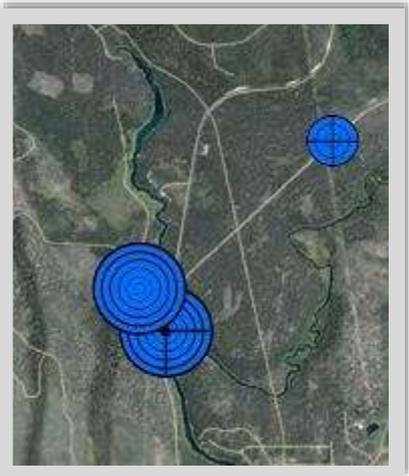
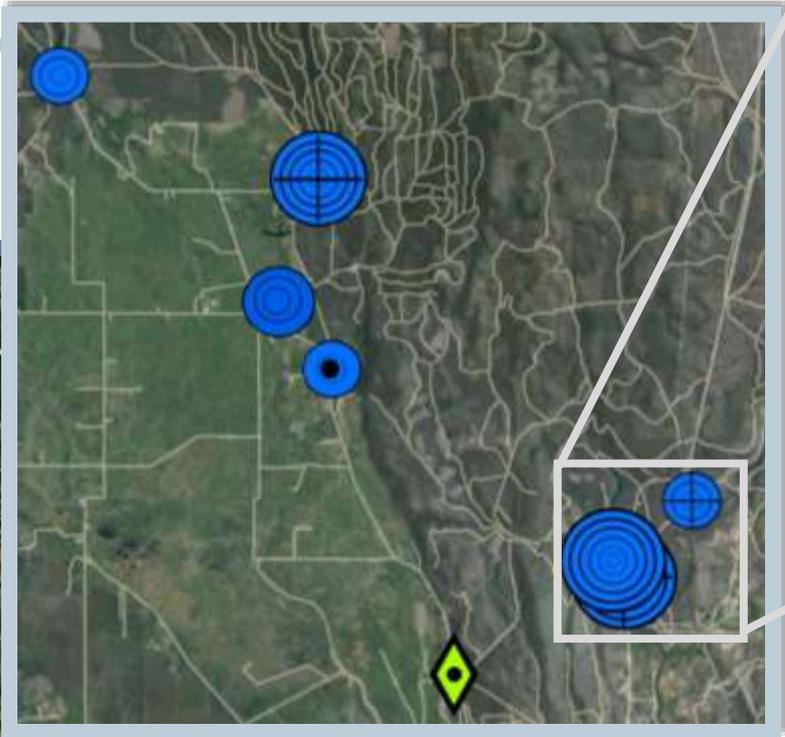
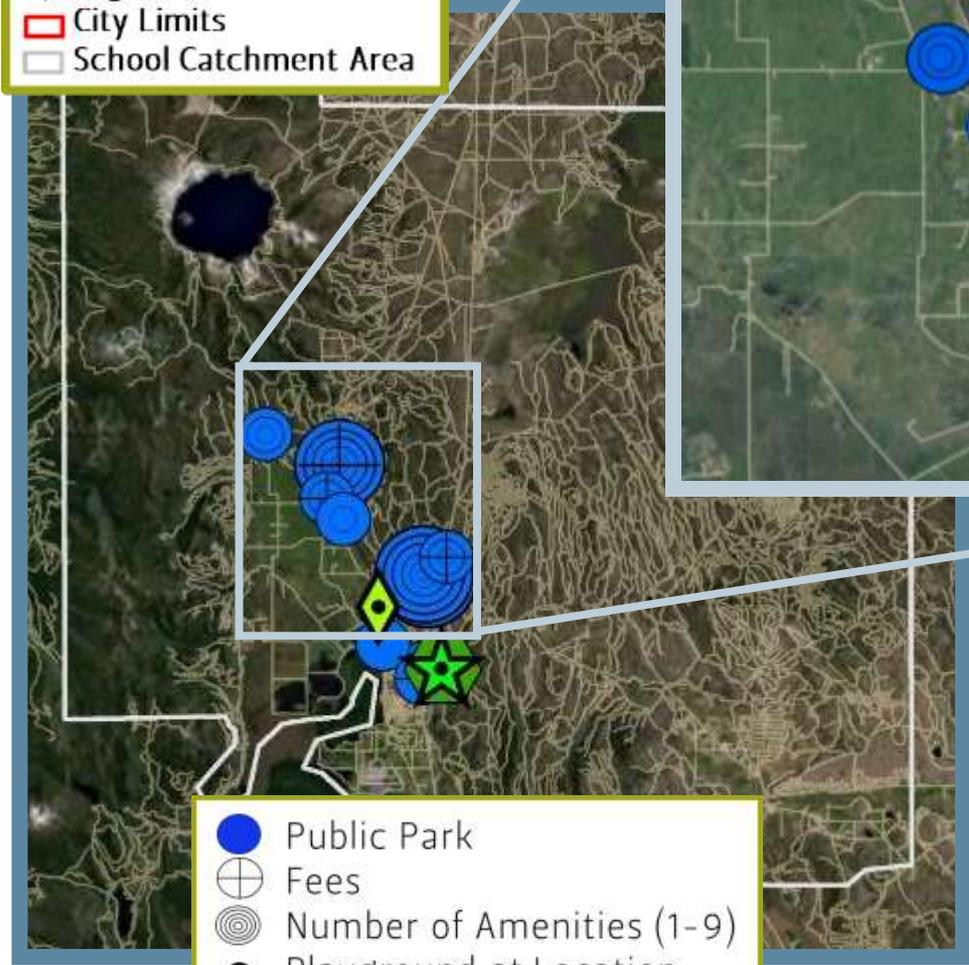
Chiloquin has ten “Other Public Parks” under County, State or Federal administration

All of these parks are located outside of city limits

These parks have nine Unique Amenities/Activities associated with them: Boating, Hiking, Swimming, Horseback Riding, Skiing, Dog Walking, Picnic Shelters, Playgrounds and Camping—fees may be associated with some resources

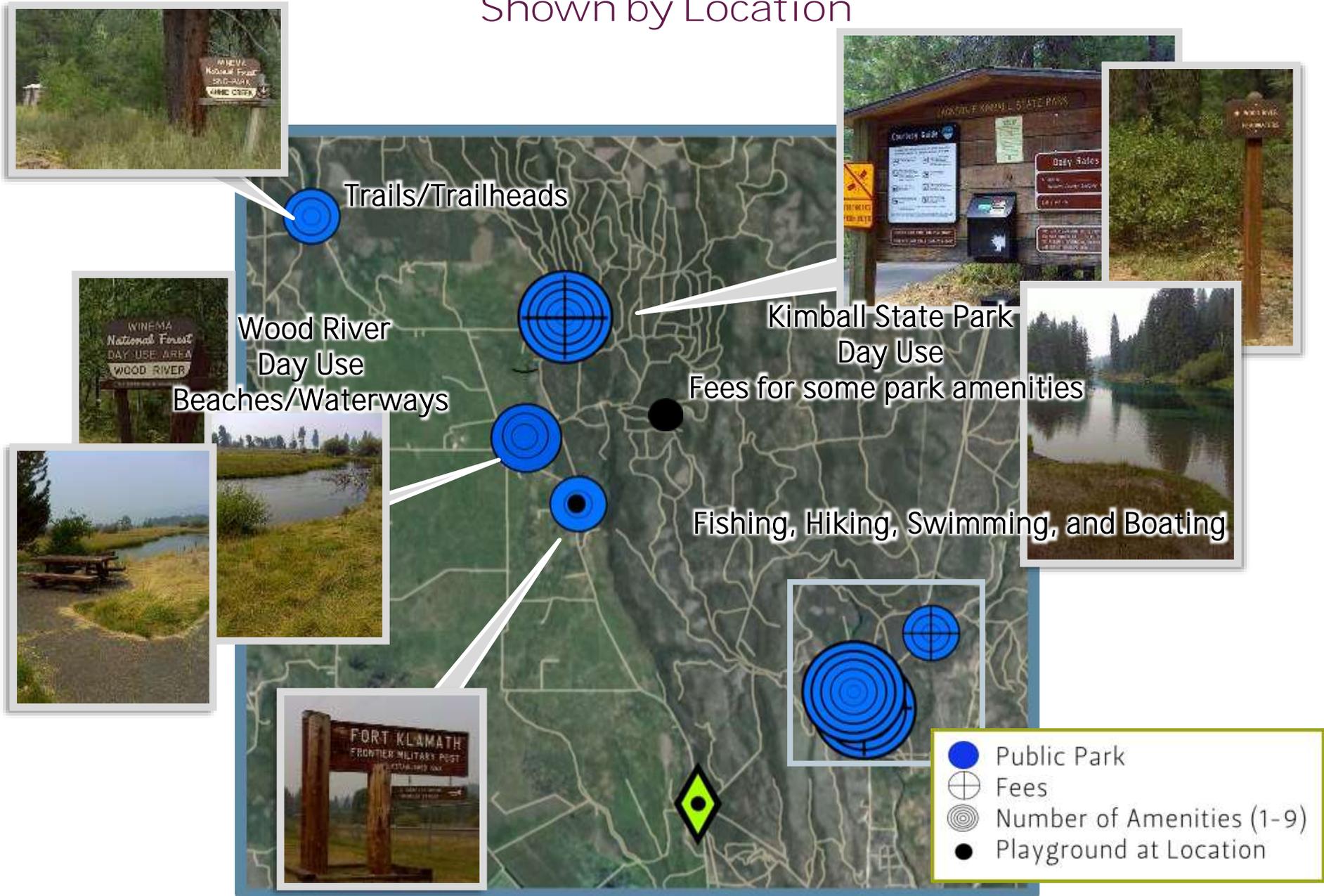
Other Public Parks

- ★ Chiloquin Elementary
- Chiloquin High School
- ◇ Sage Charter School
- ▭ City Limits
- ▭ School Catchment Area

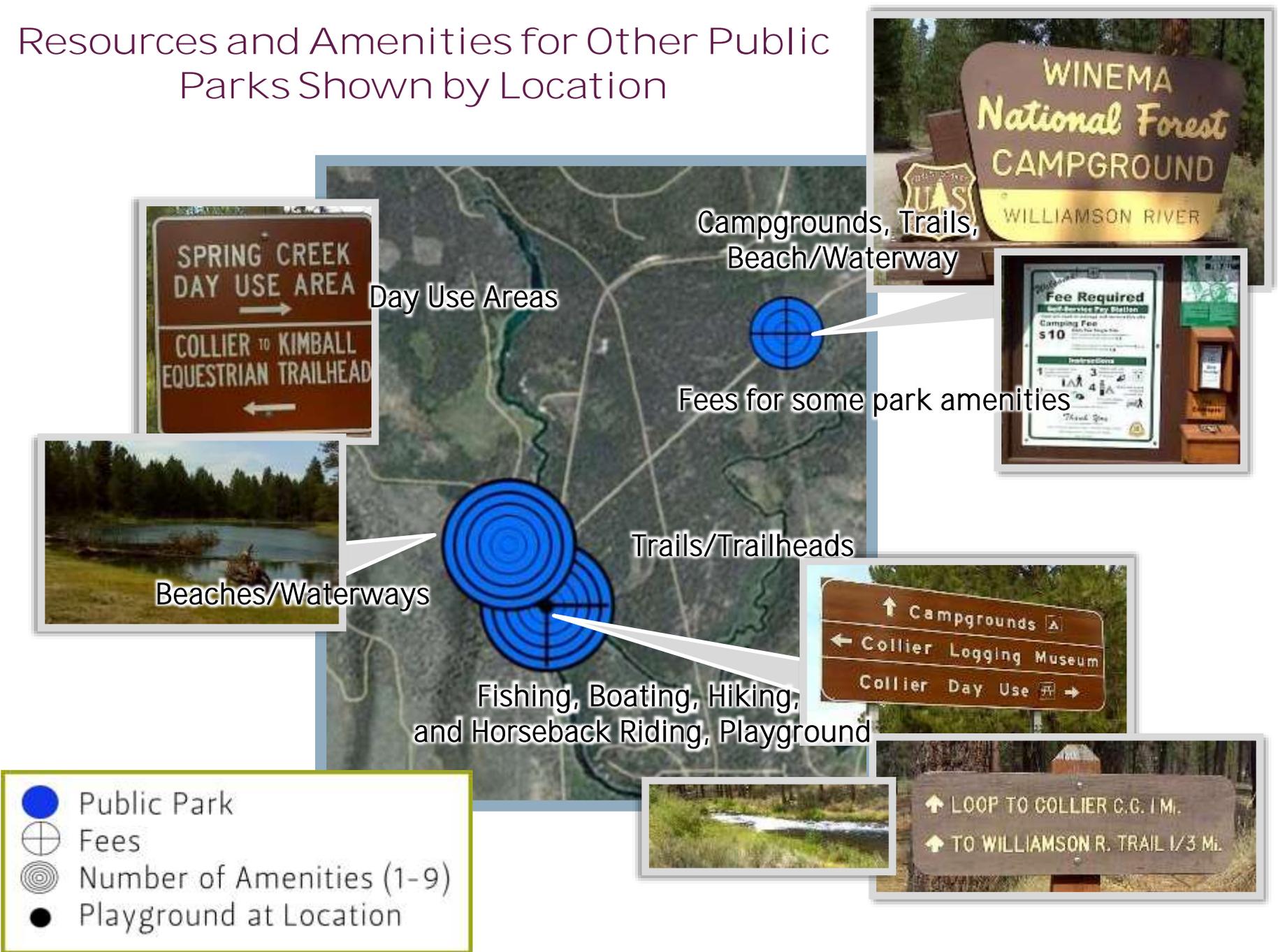


Chiloquin has ten Public Parks that are managed by County, State, or federal entities. All of these are located outside of city limits and allow access to nine unique Physical Activity (PA) Amenities or Activities include: Camping, Boating, Swimming, Dog Walking, Hiking, Horseback Riding, Picnic Shelters, Playgrounds, and Skiing.

Resources and Amenities for Other Public Parks Shown by Location



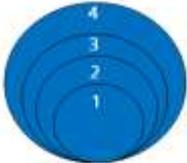
Resources and Amenities for Other Public Parks Shown by Location



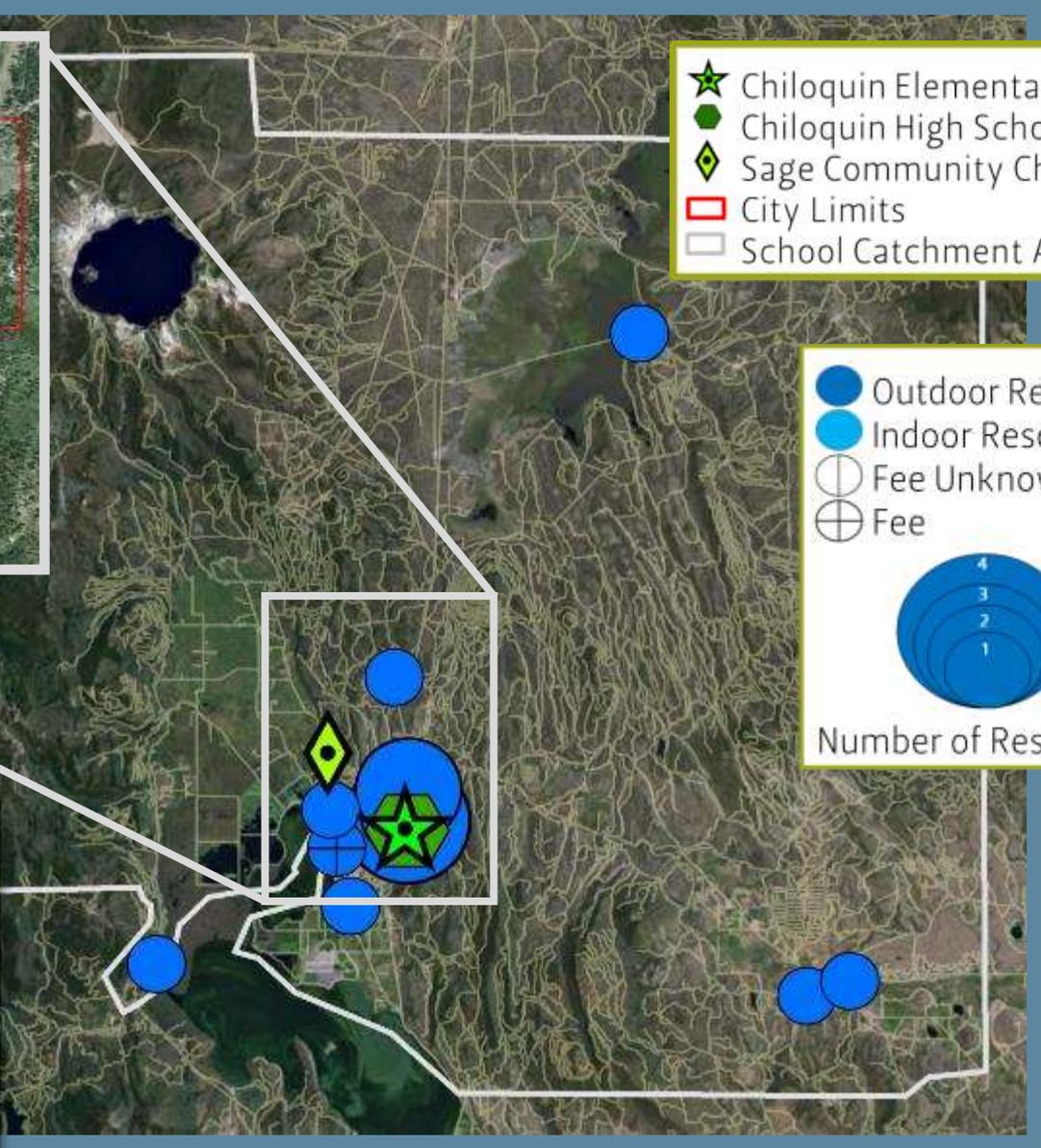
Other Physical Activity Resources



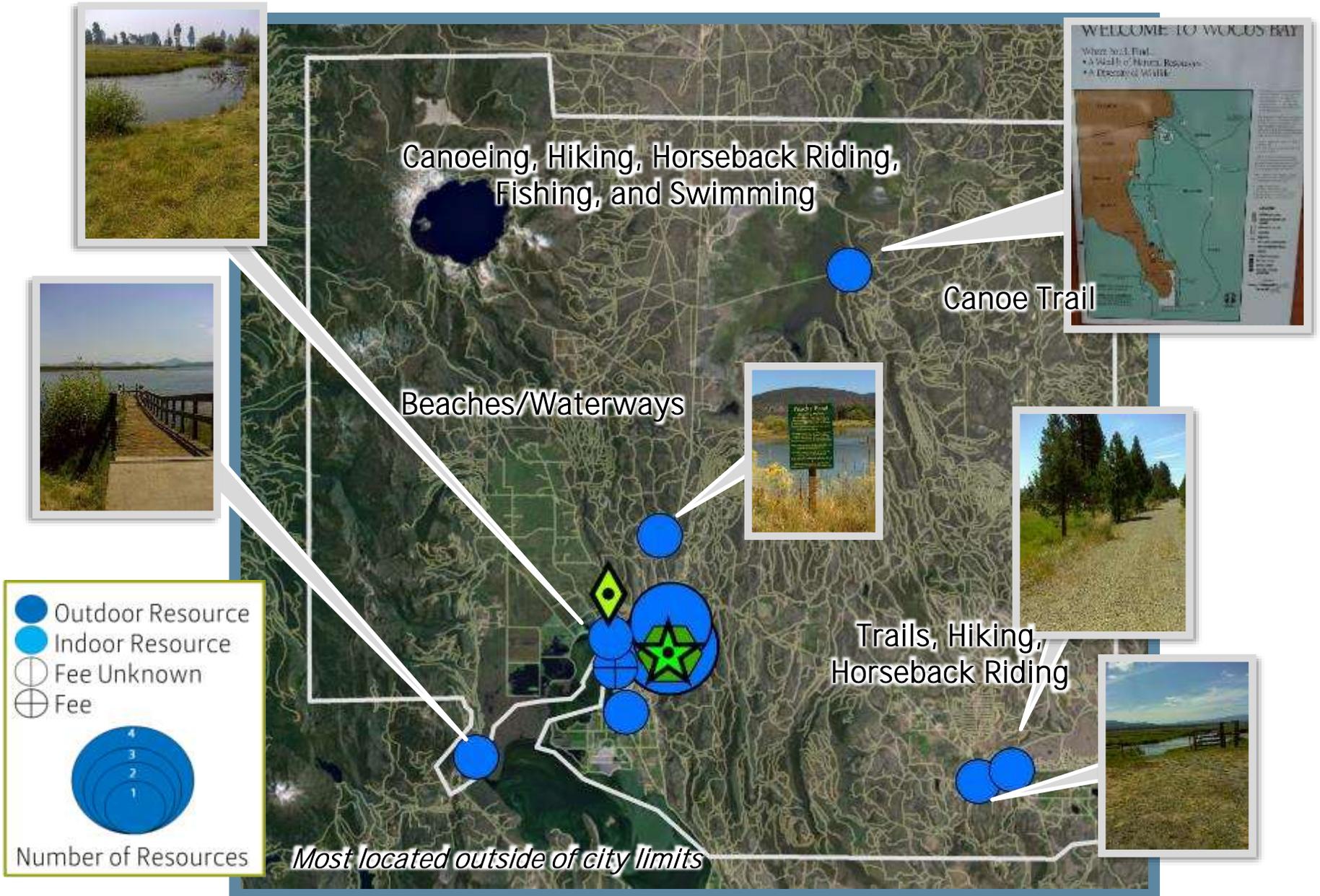
- ★ Chiloquin Elementary School
- Chiloquin High School
- ◆ Sage Community Charter School
- ▭ City Limits
- ▭ School Catchment Area

- Outdoor Resource
 - Indoor Resource
 - Fee Unknown
 - ⊕ Fee
- 
- Number of Resources

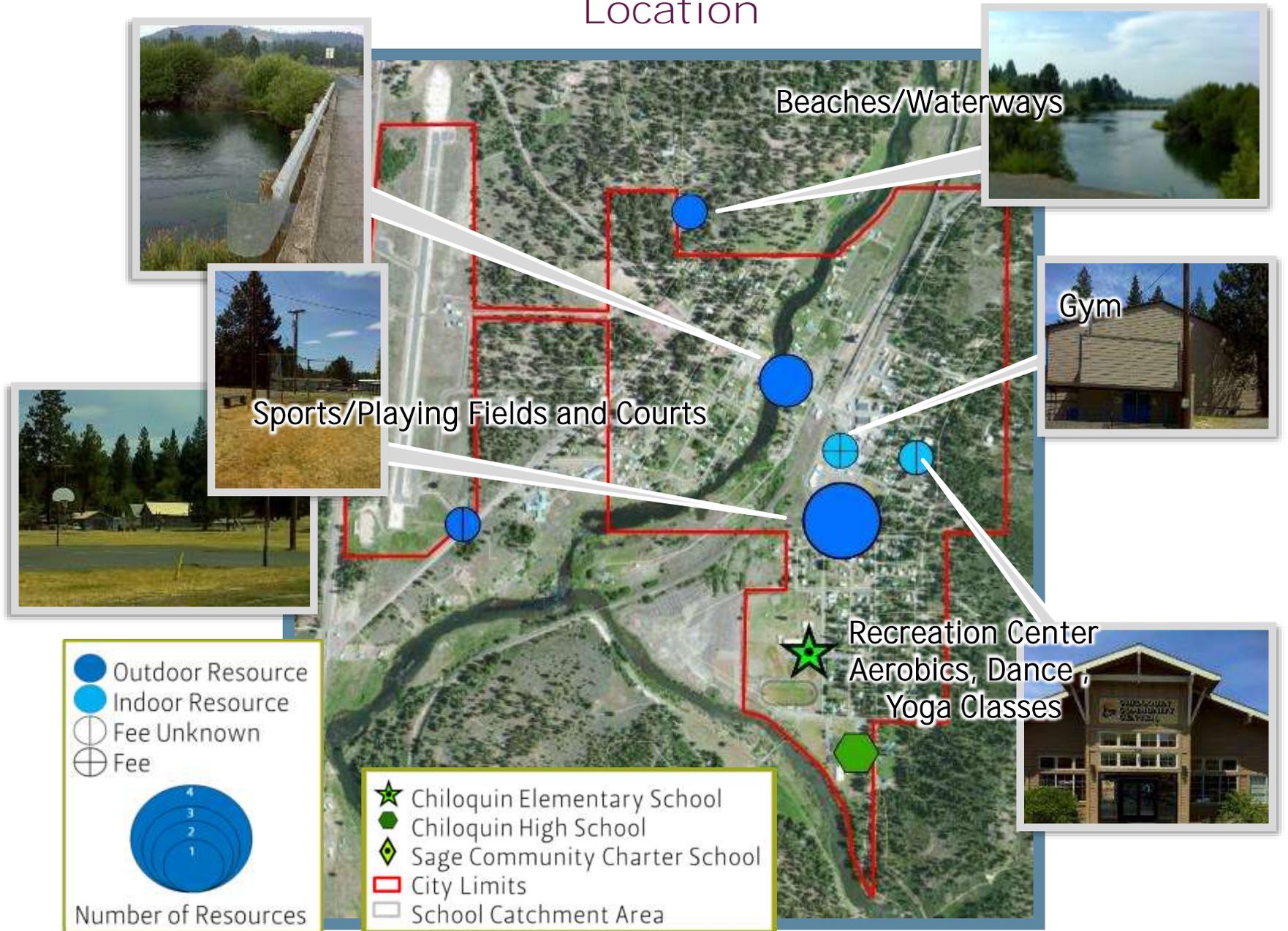
Chiloquin has a variety of other physical activity options that take place both indoor and out, and may or may not require fees



Resources and Amenities for Other Physical Activity Shown by Location



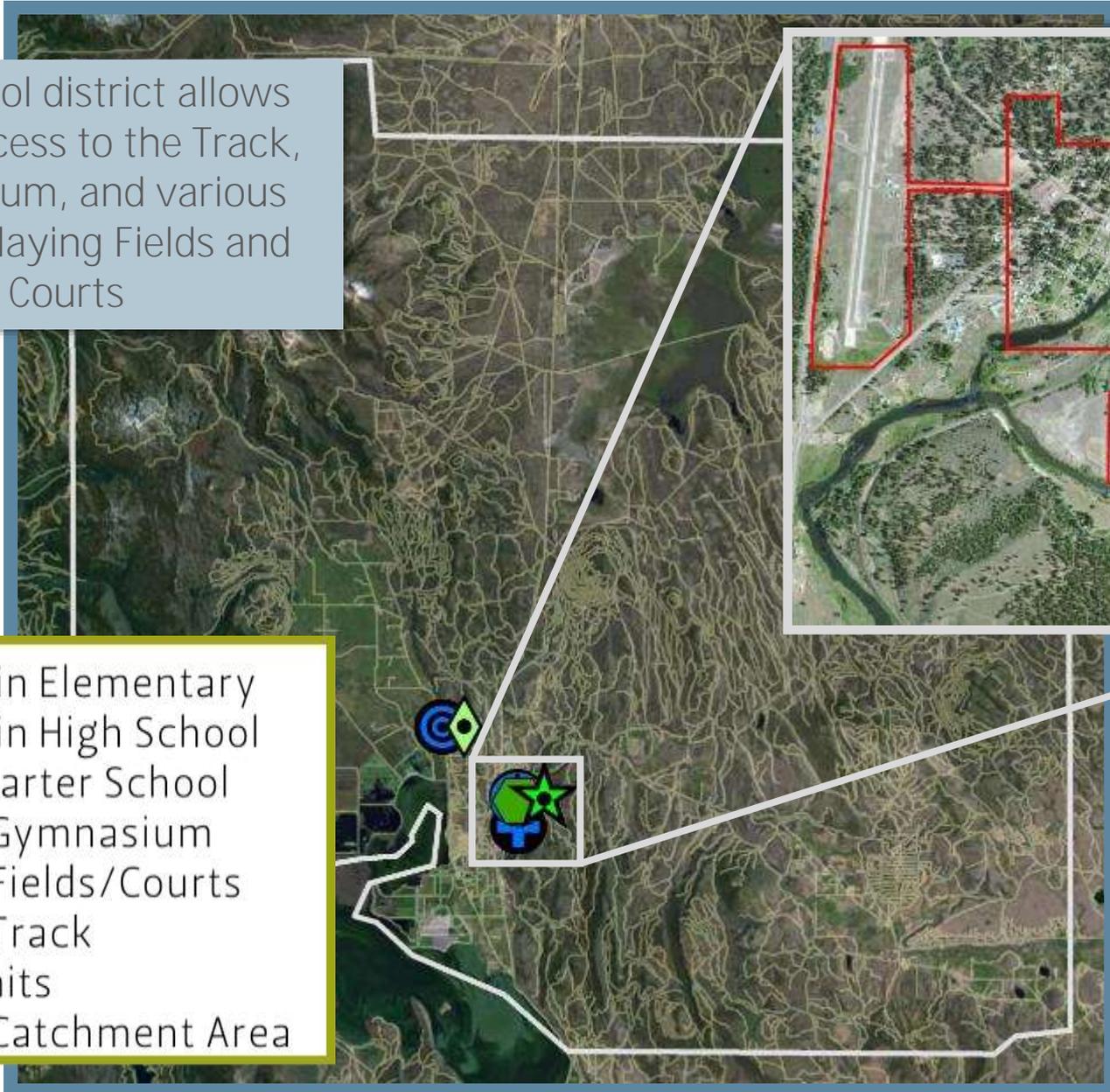
Resources and Amenities for Other Physical Activity Shown by Location



School Physical Activity Resources

The school district allows public access to the Track, Gymnasium, and various Sports/Playing Fields and Courts

- ★ Chiloquin Elementary
- ◆ Chiloquin High School
- ◇ Sage Charter School
- ⊕ School Gymnasium
- ⊙ School Fields/Courts
- School Track
- ▭ City Limits
- ▭ School Catchment Area



Resources for School Physical Activity Shown by Location

- ★ Chiloquin Elementary
- Chiloquin High School
- ◆ Sage Charter School
- + School Gymnasium
- ⊙ School Fields/Courts
- School Track
- ▭ City Limits
- ▭ School Catchment Area



Ease of Access to Resources

- Spatial Accessibility is relative: if you have a car and gas money, your spatial access to resources is potentially only limited by how much time you want to spend in the car. As our goal is to include all potential community members, not just those with a means of transportation, we analyzed the proportion of community members who have “Easy Access” to resources.
- We described Easy Access as being located within a ¼ mile distance to a resource category.
- While Chiloquin does have some food and physical activity (PA) resources located close-in, the bulk of the PA and Local Food resources are located outside of city limits.
- Resources have been aggregated into 6 categories: ○ Low/No Cost Outdoor PA, ○ Low/No Cost Indoor PA, ○ Fee-Based Outdoor PA, ○ Fee-Based Indoor PA, ○ Local Agriculture, Grocery and Food Assistance, ○ Fast Food/Convenience Store and Restaurant

Low/No Cost Resources

Community Centers
Public lands/Parks & Playgrounds
Sports Fields/Courts

Fee-Based Resources

Golf Courses
Equestrian centers
Exercise/Fitness centers

Local Agriculture

Farm stands/U-picks
Farmer’s markets
Home-based sales (Eggs, Milk, Veggies)
Hunting/Fishing/Gleaning Supports

Ease of Access to Resources

Analyzed via a ¼ mile network buffer: approximately a 5 to 10 minute walk

Low/No Cost Resources

Community Centers
Public lands/Parks & Playgrounds
Sports Fields/Courts

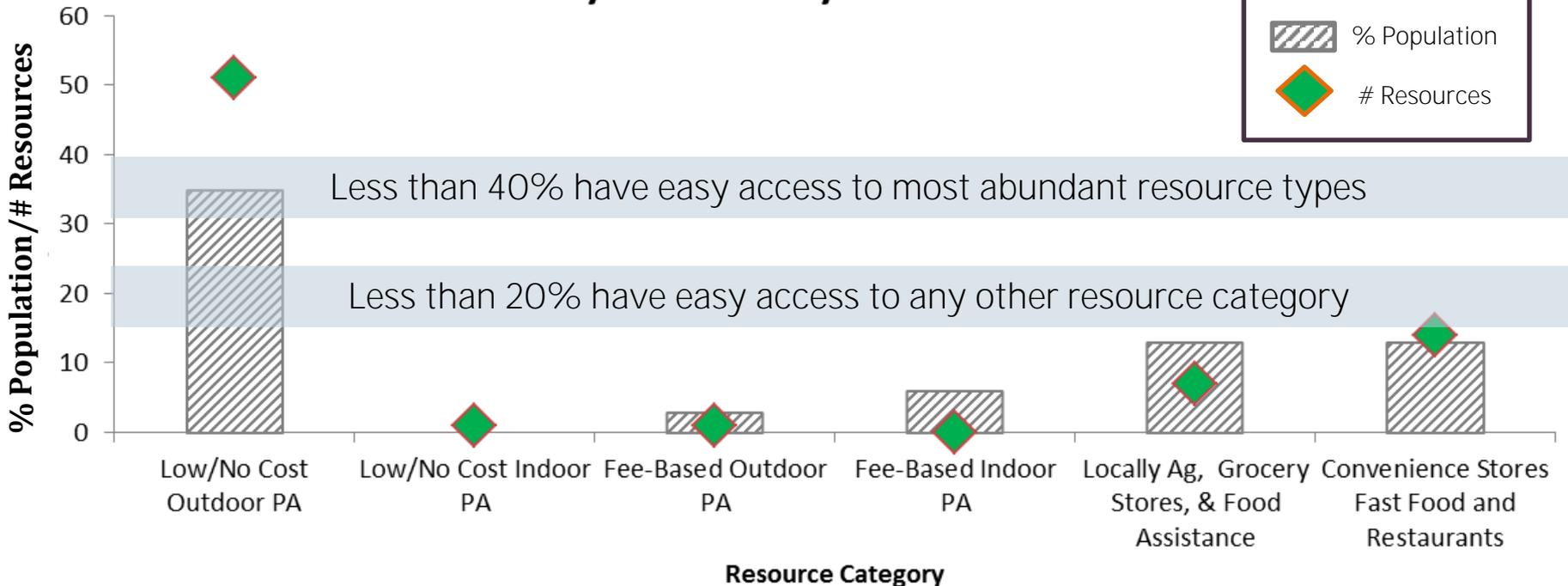
Fee-Based Resources

Golf Courses
Equestrian centers
Exercise/Fitness centers

Local Agriculture

Farm stands/U-picks
Farmer's markets
Home-based sales (Eggs, Milk, Veggies)
Hunting/Fishing/Gleaning Supports

Proportion of Chiloquin Population Within 1/4 mile of Food and Physical Activity Resources

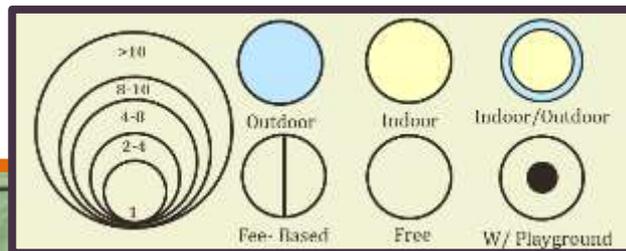


Conclusions

In rural communities, a lack of available resources and accessibility to existing resources may make developing and maintaining healthy dietary and activity habits difficult.

Food Resources

Resources are available, but spread out and often located far from the town center, making them inaccessible to those without a means of transportation. Supports need to be affordable and accessible from where people live and work



PA Resources

