

The contribution of

Wild Foods

to diets, food security, and cultural values amidst climate change

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'Wild Foods' are edible plants and animals from surrounding ecosystems that have limited management and domestication.

How WILD FOODS SUPPORT FOOD SECURITY in INDIGENOUS FOOD SYSTEMS

Wild foods contribute to food security of indigenous food systems by introducing a non-market source of nutritious and diverse foods to diets that are available from surrounding forests, fields, and water bodies. Within communities, wild foods support food security by reducing key micro-nutrient deficiencies while supporting cultural, economic, and environmental aspects of sustainable food systems. For example, wild foods offer a non-market source



Traditional Food Systems on the Flathead. Artwork by Sashay Camel

of foods that can supplement diets when store-bought foods are less accessible due to economic limitations.

'Wild foods offer a non-market source of foods that can supplement diets when store-bought foods are less accessible.'

We investigated the contribution of wild foods to diets, food security, and cultural identity with low-income residents of the Flathead Indian Reservation in Northwestern Montana. Findings highlight that hunting, fishing, and harvesting of wild foods is a common practice.

The MOST PREVALENT WILD FOODS PROCURED on the FLATHEAD RESERVATION
 (based on interviews with 40 participants)

Wild Game
 Deer · Elk
 Bison · Moose

Wild Fish
 Trout · Bass
 Pike

Wild Plants
 Huckleberries · Chokecherries
 Bitterroot · Mushrooms

FOOD Security IS

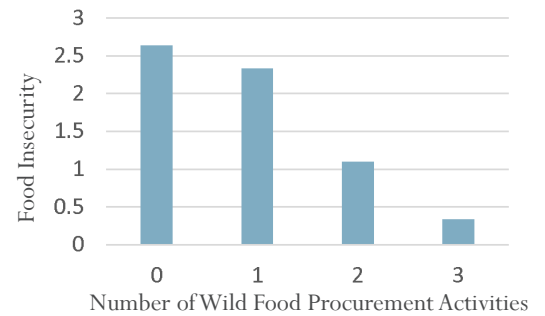
According to the United Nations Food and Agriculture Organization (UN FAO), food security is "the condition in which all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

FOOD Insecurity IS

Food insecurity is the absence of food security. In other words, it is when all people do *not* have access to sufficient, safe, and nutritious food. Global changes, such as a rising population, environmental stress, climate change, conflict, and market variability, contribute to food insecurity.

How WILD FOODS DECREASE FOOD INSECURITY

This graph demonstrates a linear relationship between wild food procurement and food insecurity on the Flathead Reservation. Half of the participants in our study were food insecure. Participants who did not hunt, fish, or harvest wild plants were the most food insecure on average of study participants. Conversely, participants who hunted, fished, and harvested wild foods experienced the lowest food insecurity on average.



Artwork by Sashay Camel

How CLIMATE CHANGE is IMPACTING WILD FOODS and FOOD SECURITY

The most vulnerable populations to environmental stressors and climate variability are those whose food and income is dependent on natural resources. This includes “the world’s 2.5 billion small-scale farmers, herders, fishers, and forest-dependent communities” (Food and Agriculture Organization, 2018).

Interviews with residents of the Flathead Reservation revealed that climate change is perceived by participants to be adversely impacting wild food systems due to increased variability in seasonality and precipitation and increased wild fire incidence. Summers were perceived to be longer, hotter, and drier.

Weather patterns were perceived to be becoming more

variable. Fires were perceived to be increasing in frequency and severity. Wild foods, particularly plant food populations were reported to be declining, primarily due to human over-harvesting.

How FOOD SECURITY is MEASURED

Food Security is measured using various metrics at multiple scales ranging from the household to the global level. Household or individual surveys are the most direct way to measure food security such as the 18-point or 6-point food security module of the United States Department of Agriculture (USDA). The USDA food security questionnaire assesses whether members of a household have experienced limitations to their diet over a 12-month period. Globally, the UN FAO measures food insecurity using a similar survey known as the Food Insecurity Experience Scale (FIES) survey. Community food security can be determined by conducting the USDA food security questionnaire among a representative sample of community members in a specified community.



At the population and global scales, food security is determined using large data sets which act as a proxy for food security including the prevalence of undernourishment in a population, and the percentage of stunting and wasting in children under 5, childhood overweight, adult obesity, and iron-deficiency anemia among reproductive aged women.

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