

Designer's Checklist: A Guide to Comprehensive Site Assessment

General Information

Name of property or project
Location
Property size
Address, phone, fax, email

Name of clients
Legal description
Ownership

S i t e O b s e r v a t i o n

Permaculture design rests on a solid foundation of thoughtful and protracted observation. Before beginning the thorough analysis that follows, explore the site. Observe it using all of the senses. Don't be limited by sight alone. Touch, taste, smell and the bodily feelings are all important sources of information about a site. Begin by making no judgements about the site. Allow the site to suggest avenues for further questioning. Approach everything with an open mind. Spend as much time on site as possible. Observe it during the day, and at night. Be with the site over all the seasons.

S i t e I n f o r m a t i o n

Climate

Sun

What does the sun do on the site? Where is it and what effects does it have? Identify: aspect, seasonal angles of incidence, apparent sun movement, shading effects, number of days with sun, hours of sun per day, etc. Does the pattern of sun movement across the site suggest suitable strategies for siting structures? Microclimates.

Temperature

Identify: average highs and lows for each month, lowest possible temperature, USDA Plant Hardiness Zone, if in the Western USA, the Sunset Climate Zone, highest possible temperature, heating degree days, cooling degree days, shading effects on temperature. Microclimates.

Wind

Where does the wind come from seasonally? How fast? For how long? What effects does it have? Examples include: plant flagging, soil erosion, seed dispersal, where animals including yourself find it comfortable. Is the wind flow ever damaging? Does the flow of wind across the site suggest strategies for the suitable siting of structures? What are the possibilities of harnessing the wind for home power? Get the wind rose for the area and surrounding areas. Microclimates.

Cold Air Drainage

Identify: main drainages, areas of pooling, obstructions, deflections, other factors that may affect drainage. Siting structures? Microclimates?

Weather Extremes

When are major seasonal storms? What effects do they have? What are the features of such storms? Hail, lightning, flooding, severe winds, plague of locusts, etc.

Microclimates

Identify all possible microclimates on the site. Identify regional microclimates and the factors that create them.

Landform & Orientation

Create a base map with the following: compass directions, true south, contours with elevations, current legal boundaries, neighbors, proximity to main roads, towns, cities, ports, industries, large bodies of water, the ocean, etc.

Identify: slope, keylines, ridgelines, catchment areas, aspect, improvements, buildings, access, fences, utilities, right-of-ways, possible dam sites, ridge sites for wind power, subdivisions on the land, how aspect creates microclimates. Siting structures?

Water

What is the watershed or catchment area? Is it healthy? When is the area subject to flooding and drought? How often? For how long? Where? Identify: quantities, quality, and distribution of rainfall, snow, dew, hail, fog, etc; seasonal, intermittent, and year-round watercourses and drainages, springs, other water that is on the site or flowing through it; depth, quantity and quality of wells. How are neighboring wells performing? How does shade, aspect, or mulch affect moisture on the site? Where is there erosion? What is the severity? What are the causes? What creates differences in erosion patterns? Why? Look at how water interacts with slope, aspect, soil differences, vegetation, etc. What are the possibilities of increasing water harvest on site? What are the regional strategies for using water? Siting structures? Microclimates?

Access, utilities, rights-of-way

Locate and identify: current access, maintenance requirements and authority, frequency of traffic, heavy or light vehicles, pedestrian traffic ways, utility lines including electric, telephone, gas, and maintenance authority, rights-of-way (to whom, for what reason, and what duration), historical areas, archaeological sites and special provisions. Siting structures? Does any of this create any special microclimates?

Biological Systems

Create a Plant Species List: what plants are present, where are they growing, what other plants are they in association with, in what conditions, possible microclimate conclusions. What species and crops are used locally? Research heritage and traditional species that might appropriate for the area. Create lists of suitable companion plants.

Create an Animal Species List: what animals are present, where are they living, what other animals are they in association with, in what conditions, what are they eating, where are they getting water, what are they using for cover, what paths do they use, possible microclimate conclusions, also consider animals previously present on the site or in the region and ask the above questions. What domestic animals might be appropriate for the area? What are local people using? Research possibilities for heritage breeds that might be appropriate for the area.

How would you classify the level of succession on the site? What is the level of energy flow on the site, or, how much solar energy is being captured by photosynthesis? Is it high, medium, or low? What are local strategies for increasing energy flow? Are there any endangered or

particularly fragile species present? Who are local providers for animals and plants? Do the species present suggest suitable strategies for siting structures?

Microclimate

What are the various microclimates on the site? What is the potential for creating additional microclimates? What creates the microclimates that exist now? How can those factors be enhanced or changed?

Pertinent local legal situation

What are the zoning regulations for the site? What are the laws regarding access? How can land be subdivided? Are there special laws governing the use of the land? Specific crops or animals that are prohibited? Water rights? Building code? Any restrictions on house siting? What are the future plans for the area: subdivisions planned, industry, tourism, etc?

Soils

Identify: soil maps, types, underlying geology, susceptibility to waterlogging, flooding, fertility of the soil, possible suitable crops, possible chemical residues, special soil areas - banks of watercourses, clay deposits, accumulated mulch, etc. Where is there evidence of erosion? Why? What is the severity? Where is soil being built? What are the primary factors affecting the accumulation of humus in the soil? Why? What plants or animals seem to be most responsible? Identify possible resources: clay, stone, sand, gravel, etc. What are locally successful strategies for developing soils? Are there areas suitable or not for siting structures? Microclimates?

Natural Disasters/Catastrophe

Identify: type of possible catastrophes: fire, earthquake, flood, wildfire, hurricane, severe cold, nuclear accident chemical contamination, epidemic disease, etc. For each catastrophe identify: periodicity, possible severity, areas of influence, factors of influence, behavior, etc.

Other Sectors

Are there any favorable or offensive views on the site? Is there any noise? Is there light pollution? Are there any significant wildlife corridors? Is there anything else on the site that catches the attention? How does it feel being on the site?

Other Factors

What are the possibilities for alternative energy on the site? What are the resources in the region: mills, factories, hospitals, schools, shops, fire stations, dumps, free plant & seed sources, sand, gravel, timber, mulch, water, fodder, clay, stone, machinery, etc?

The Human Factor

Past Residents

Archeological History

What is the archeological history of the site? What native peoples lived here? What was their life? Where did they locate their settlements? What food did they eat? Were they agriculturalists or hunter-gatherers? What animals did they hunt? Did they have domesticated animals? How many people lived in the settlements and how large were the territories that they harvested from? What were the seasonal patterns of their lives? Did they migrate during the seasons?

Recorded History

Who lived in the area? What were their lives like? Where did the resources of their lives come from? Were they imported? If so, how did they arrive? Answer the questions from above as well. What is the history on this specific site? Who owned it down the years? How was it subdivided? What was the resource use or extraction that happened on site? Were there any enterprises on site? Was it used for logging, grazing, crops?

Native Inhabitants

Answer the questions from above. Are there any remnant populations of the original, native people left in the region? Do they maintain any of their traditional practices? Do they maintain any of their agriculture, such as saving seeds?

Current Residents

Identify for each resident: name, relationship, occupation, lifestyle, age, eating habits, exceptional abilities, any handicaps, desired involvement in landscape, level of self-reliance desired, priorities, wants and needs (may have to help clarify), privacy needs, any unmet needs. What do the residents want to achieve? Do they want to make money from the property? Do they want to be more self-reliant/ethical/environmentally friendly? Why do they want a permaculture design?

Identify by name and address like-minded people and organizations, and old-time residents.

Financial

Identify current inputs for the land: mortgage, taxes, upkeep, utilities, transport.

Identify current returns from the land: crops, animals, timber, mining, rental income, stone, recreation, etc. Is this yield sustainable ecologically, socially, and economically? For whom? For how long? At what cost?

Identify the current financial situation of the residents: Are they able to meet the input obligations? What are the perceived financial limitations? Goals? Is their financial situation changing? How? What is their desired future financial situation? How does the land and its residents give to the community?