

# Red Sand Cottage Permaculture – Site Survey

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## Our Goals and Objectives

- Sustainable living (environmentally, financially, healthily)
- Eat home or local produce, organic, fresh food, low or no food miles
- Work from home producing sustainable products
- Produce interesting craft items, enjoy the creativity and the making
- Plenty of leisure time to enjoy nearby beach and the woods
- Easy to maintain property, easy to heat, low impact & costs
- Live in beautiful surroundings
- Enjoy community connections and activities

## Site Survey

Observation methods:

- *Random* (just looking around to see what is happening)
- *Record* keeping
- *Searching* for specific information (e.g. wind direction)
- *Measuring* things
- *Experiencing* the site, i.e. getting a feel for the ambiance of the place

## What Next?

This information has been used to carry out:

- Zone and Sector Analysis
- Flow Charts for Functions
- Elemental Analysis
- Functional Analysis
- Placements
- Prepare Base Plan
- Prepare Concept plan (base plan plus 2 overlays)
- Prepare Detailed Design in 3 stages.

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## Site Survey Findings

Size of Property	25 acres
Location	Lot 1, Prince County, Western Prince Edward Island, SW of North Point 46 <sup>0</sup> 59' N 64 <sup>0</sup> 03' W
House type	36 yrs old Bungalow 1250 sq. ft. Beige cladding Views towards south (rear) Passive Solar Design
Aspect	South Facing House in cleared area to north of site House to north of cleared area
Elevation, Slope, Topography	Coastal property 18-25m above sea level Flat property with v. gentle south-facing slope Maximum insolation in the summer Contours on map Slopes 6.5 m in 830 m, Slope on design area 1:75
Surrounding Area	Rural, Farming and Fishing 1 mile to Sandy Ocean Beach
Nearest Town	Tignish
History of Use	Sheep and Blueberry farming, let go to old field forest
Average Wind Speed	8 m/s, Rated 'Excellent to outstanding' by the wind energy institute of Canada Large wind farms nearby at the North Cape
Prevailing Summer Winds	S, SW - light, additionally...cooling sea breezes from the NW during the summer months. Hurricane season
Prevailing Winter Winds	N, NW , Strongest winds during the winter months Also subject to potentially damaging strong Nor'Easterlies in the winter
Summer Sun	Summer Solstice: rise 54 deg NE, set 306 deg NE solar noon altitude 67 deg Some shade from trees to west, house and animals require summer shading & protection
Winter Sun	Winter Solstice: rise 124 deg SE, set 236 deg SW, solar noon altitude 20.2 deg Some shade from trees to west, house has passive solar design for heating and lighting
Average Daily Temperature	(1971-2000), Jan -8.5 deg C, June 18.6 deg C

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Water and water flow	<p>Average annual rainfall 804.6 mm/year, direction of rainfall generally from the west. Average snowfall 301 cm/year Bog land at back of woods Very flat site reduces water loss, erosion and run-off as does East-West drainage ditch Water is from a well drawn from groundwater. Groundwater on PEI is in good supply and measured constantly. We use only 2% of the total recharge amount. Biggest recharge in spring when the snow and ice melts and it is still cold so none is lost through evaporation or uptake by plants. In the summer there is little recharge, even in periods of quite heavy rain, as the ground water is used up by plants and evaporates in the summer heat.</p>
Existing Vegetation & weeds	<p>Woodland (Acadian Forest), blueberries, dogwoods, lawn areas</p>
Fire risk and sector	<p>Fire Risk from woods (and possibly forested neighbours) direction of S/SW summer winds, Very flat site reduces risk somewhat. PEI has average 22 forest fires per year (lowest in Canada) 58% forest fires caused by people, 42% caused by lightening Fire Season is March 15th - November 30<sup>th</sup>, Average burn area = 0.1 Ha</p>
Fauna and movement (energies)	<p>Woodland = Feral animals, Rabbit (showshoe hare) - destructive to trees Coyote (potential predator), Fox (predator of poultry), Eagle (predator of poultry) Crows (can threaten chicks, compete for hen food but also warn against predators like eagles and foxes), smaller native birds to encourage for pollination and insect-eating, including Hummingbird (pollination), Bees (pollination)</p>
Soil type	<p>Acid (blueberries. Red, Sandstone</p>
Drainage	<p>Good, drainage ditch prevents run-off and erosion</p>
Roads and Access	<p>On Route 14, Year Round Access Driveway part gravel, woods path winter access by showshoe only</p>
Municipality and zoning	<p>Nail Pond is a Rural Community North of Tignish, officially a 'populated' locality, population 250</p>
Lake	<p>Nail Pond is a lake</p>
Ocean	<p>Average July and August sea temps 18-20 deg C Sea freezes Dec - May Tides mix of weak diurnal and strong semi-diurnal (2 highs and 2 lows per day)</p>