

ENVIRONMENTAL STEWARDHIP AWARD 2009

As a small, young company, Heike Designs is focussed not only on creating attractive landscapes but is dedicated to an environmentally friendly vision, with the ultimate aspiration of having zero impact on the environment. Heike Designs' goals can be described in relation to the steps outlined in the Whistler 2020 sustainability plan which uses the "Natural Step" framework as a conservation agenda:

1. Do not extract materials from the Earth's crust faster than you replace them.
2. Reduce/eliminate concentrations of substances produced by society (e.g. CO₂).
3. Minimize physical degradation.
4. Ensure society is equipped to meet these goals.

Heike Designs endeavours to accomplish these objectives in all aspects of the company and has taken concrete steps towards achieving them. For the purposes of this award we have highlighted specific projects and practices to showcase the realization of these goals.

Our office keeps use of paper to an absolute minimum. Contracts, invoices, communication, ordering, banking and photography are electronic and any paper that is used is recycled. Work trucks are outfitted with recycle bins and staff are trained to sort and recycle any waste from jobsites.

Every landscape design makes use of all natural, local materials such as mulch and stone that are gathered as much as possible from the actual site that they will be used on. Existing plant material is transplanted into the new design and areas that have been destroyed by other construction work are re-naturalized.¹ Natural objects such as logs and stumps are not removed from the landscape but are incorporated as design elements and turned into features in new landscapes.² Gardens are integrated into the natural landscape through the use of native (or closely related cultivars of native) plant material. Such plants thrive in the harsh conditions of Whistler and therefore require minimal additional care. They also encourage other local flora and fauna into the garden. Plant choices and their locations in sun or shade, wet or dry areas, etc. are carefully selected with regard to self sufficiency so as to minimize their drain on additional water and nutrients.³ A further challenge is posed by the threat of heavy winter snow pack and resistant plants are chosen. All landscapes are designed to re-generate over time.

Natural forest floor areas feature prominently in many of Heike's designs, identifying and keeping existing plants while taking care to keep out invasive species (Heike Designs is a member of the Sea to Sky Invasive Plant Council).⁴ These areas require minimal maintenance, as layers of needles protect the earth and retain water and nutrients in the soil. Care must be taken, however, to remove enough debris to minimize the fire hazard in summer, and most weeding needs to be done by hand to avoid damage to the forest floor by rakes and hoes.

Natural drainage patterns are analyzed and enhanced rather than disrupted. The flow of water (both rainwater and snow melt) is adapted into designs and enhanced into water features in many cases.⁵

Heike Designs promotes and encourages the installation of automatic irrigation systems for efficient watering.⁶ Water can be reduced by up to 50% by watering more precisely at the right times, eliminating wastage and conserving water. Programmed to water at the best times, a sprinkler system delivers gentle, precise, even watering for a more consistent, thorough soaking, virtually eliminating run-off and wasted water.

Emissions are kept to a minimum by maximizing the use of delivery and work trucks. Whistler's location is a challenging distance from many suppliers. Heike Designs makes use of co-ordinated deliveries from Vancouver and schedules them carefully with other local companies to ensure that a truck only comes to a jobsite once. The schedule of deliveries and dumps and maintenance routes are planned to reduce driving time and therefore emissions and fuel use. We employ environmental labour practices and minimize the use of power tools. Hand tools are used where possible to reduce stress on flora and fauna, and Heike Designs also has a low emissions blower and a four stroke trimmer for less noise pollution, lower emissions and lower fuel consumption. We also use a small mulching mower which requires more labour but reduces the impact on the environment. The use of any truck or power tool is governed by a strict no idling policy and crews are trained to take great care to avoid spillage when refuelling.

Workers do not leave any inorganic substances in the ground when planting. Great care is taken, for example, to remove all plastic from trees. No chemical fertilizers are used. Nutrients are returned to lawns, garden beds, pots and planters through top dressing with compost generated from the actual site or locally produced composted top soil (to help encourage the new Whistler composting facility). Organic waste is delivered to the local composting facility and dump trips are always combined with collections.

Tools and trucks undergo a weekly maintenance program to ensure they are operating to maximum efficiency and have a long life span so they need replacing less frequently. Machine access to sites is restricted so as to minimize physical degradation to the landscape, but any unavoidable damage is promptly repaired and re-naturalized. The large amount of planting done each year easily offsets the emissions and fuel consumption by the company.

Education is at the heart of Heike Designs' environmental strategy, with the hope of propagating good practices throughout the community. Education starts from within and Heike regularly attends industry seminars and meetings and talks frequently to other professionals. Heike believes that a full understanding of processes is essential in working effectively towards improving them. A good attitude towards environmental conservation is essential in all staff, and this is compounded through constant education of all Heike Designs employees, all of whom have access to various industry publications (e.g. BC Landscape Guide, Environmental Guide, Municipal Bylaws, etc.).

Heike Designs believes in building relationships with local contractors and suppliers, educating them and encouraging green practices. Allan Dennis quotes Heike in his article "Slow Progress for Green Landscape Certification" in the June 2008 edition of Landscape Trades magazine⁷, "Stippler has been working to educate the contractors with whom she works. "I find many are not aware or do not care as

much about environmental standards yet.... Awareness, information and education for contractors and customers is needed... I personally try to design with as many native plants as possible push for using less water and smart irrigation, keep as much material (that is already on-site) as possible and do not use pesticides, herbicides or other chemicals". It is the firm belief of the company that promoting association membership and sharing experiences with other professionals is a major way to make information available and Heike Designs is an active member of the BCLNA, Sea to Sky Invasive Plant Council, Garden Design Group, Whistler Chamber of Commerce and an associate member of the BC Society of Landscape Architects, among others. Clients are also taught about green practices. We build composting bins in our landscapes⁸ and owners are provided with an information booklet to assist them in taking the best possible care of their gardens. The website, www.heikedesigns.com has a regularly updated resource section dedicated to education in all aspects of environmental gardening practices and a page of links to further information.

¹ See photos 8, 9 and 11.

² See photos 3 and 4.

³ See photo 7.

⁴ See photos 1 and 2.

⁵ See photos 5, 6 and 7.

⁶ Article at <http://www.heikedesigns.com/irrigation.html>

⁷ <http://www.landscapetrades.com/display.php?articleID=364>

⁸ See photo 10.

ENVIRONMENTAL STEWARDSHIP AWARD PHOTOS



Photo 1 – Green Lake Project

Garden beds in a natural forest-like setting. Needles and moss are retained where leaves and debris are removed to combat fire hazard and to give a natural yet tidy look. Native plants have been used to give a look continuous with the surroundings and to minimize the level of additional water, nutrients, care and maintenance required.



Photo 2 – Green Lake Project

The natural undulating terrain has been preserved in this forest floor area. The inset picture shows a Rattlesnake Plantain Orchid plant (*Goodyera oblongifolia*) which was identified growing naturally here and conserved and encouraged. The gravel driveway allows water to drain on site.



Photo 3 – Green Lake Project

In this project stumps have been incorporated into the design as a feature instead of causing physical distress to the environment by removing them. They provide a good habitat for native fauna and flora such as this moss and *Cornus canadensis*, growth of which is encouraged.



Photo 4 – Whistler Ridge Project

Planting this *Lysimachia nummularia* inside the dead stump is a quirky design feature but more importantly allows the seedling plant to feed off nutrients contained in the stump, giving it a much higher potential to survive and mimicking the natural occurrence of such phenomena in forest flora.



Photo 5 – Crabapple project – Before

In this project, the rainwater and snow melt on this property was collecting in this deep, stagnant pool which was put in manually by the previous owner and had disrupted the natural drainage situation. It was also a health risk and mosquito attractant. The natural drainage pattern was analyzed and restored, enhancing the garden both visually and environmentally.



Photo 6 – Crabapple project – After

Water now drains into this riverbed feature. The flowing water is healthier and less attractive to mosquitoes. The water flows to a restored pre-existing drainage ditch and from there into a well on site where it is recycled for irrigation.

Whereas the irrigation system was already in place and linked to the on-site well, Heike Designs worked closely with the irrigation company to adjust it to the new landscape to ensure that the water is used to its maximum potential.



Photo 7 – Alpine Water project

Water is re-circulated through the water features in this garden, and is taken from natural sources. Excess water drained from the slope is diverted into an existing creek.

Plants are native or closely related cultivars that thrive with little to no maintenance. Many have been transplanted from the original garden on site. Strategic planting has been employed to maximize use of the water, with the less drought resistant plants placed closer to the natural spray of the waterfall.

Keeping the water above ground as much as possible is a useful, visual way to educate people about the water cycle and make them aware of the process.



Photo 8 – Alpine project – Before

In this project the installation contractor created this machine access road to the back of the property, destroying most of the area. Heike Designs strives to forge relationships with contractors and educate them to rebuild and re-naturalize construction areas.



Photo 9 – Alpine project – After

The rebuilt area. Heike Designs suggested that the lawn be replaced by ground cover from native plants which would thrive relatively care-free in this shady spot but the owners opted to keep the lawn. The company strives to take the environmental route in every decision, but is occasionally prevented from doing so by events beyond its control. Additional plant material was chosen to re-introduce natural elements to the area.



Photo 10 – Green Lake project

This composting bin was constructed from recycled lumber and screws and built to contain organic waste. The compost provides mulch for re-use on site and lowers the volume of waste.

Care is taken when using compost to minimize the spread of invasive plants by excluding them from the compost bin. Maintenance staff and owners are educated accordingly.



Photo 11 – Jordan Lane project

Re naturalization has begun on this project to reconnect the site to its neighbouring forest, both visually and by using plant material found growing naturally in the forest. Stumps and logs have been left and are already being covered by moss. Native ground cover is beginning to establish and a small hemlock tree is growing. This area is left to flourish naturally to help the re-connection to the forest without disruption through raking or cultivating