

FREE
MAGAZINE

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THE FOOTPRINT PRESS



Passages from
Silverdale, Mission,
Abbotsford
and beyond.



Message from the Editorial Committee

Nature is, and always has been, the source of our survival. She provides for all of our needs; clean fresh water, the air we breathe, and everything we eat. These essential elements of life come from the rich tapestry of plants and animals with which we share planet Earth. The more we learn about Nature, the more we come to realize the deep wisdom of natural systems. We have just started to appreciate how keystone species, such as bees and salmon, fuel entire ecosystems. Surprising and complex relationships are being revealed between salmon and forests and between plants and pollinators. Nature provides her services to us as a gift of life and asks nothing in return. Human beings have flourished within this system. But with the advent of technology, we have become so powerful that we are literally tearing apart Nature's web of life. We hold the misguided view that we are separate from

Nature, and have the right to enslave and dominate the natural world. Our ignorance of the complexity of natural systems brings with it very dark, often unintended consequences. Destruction of Milkweed with herbicides such as Roundup, has been implicated in the recent crash of the Monarch butterfly, a creature which has survived epic cross country migrations for 1000s of years, but has been devastated, in less than a decade, by the poisons that many rely upon to grow food. Farmed Salmon feedlots release lice and other pathogens into the ocean, and are now being implicated in plummeting wild salmon populations, taking the eagles, the bears and the orcas with them. Some call our destructive habits "progress". But how can there be progress when what is lost can never be replaced?

Footprint Press



The Ecological and Economic Value of Native Pollinators



Pollination among flowering plants results in fertilization and the production of new seed. The new seed will grow and develop into a new plant, and the blossoms of the new plant will provide food for the pollinators. This biological relationship between animals and plants has evolved over millions of years, each dependent upon the existence of other species in shared terrestrial habitats. In our ecological inter-dependant world, bees for example, require nectar and pollen from plants to reproduce and produce more bees. Likewise, the plants need bees to pollinate them if they are to reproduce and produce more plants. In a thriving “ecosystem”, humans, plants and animals all live and support each other; every species serving an important role or purpose in their community.

Of the 200,000 different species of animals which provide pollinator services, 1,000 are vertebrates. Vertebrate pollinator species are comprised of bats, birds, non-flying mammals such as rodents, and, to some extent, all wild animals. The rest are invertebrates and include bees, moths, flies, spiders, wasps, beetles and butterflies. The honeybees we are familiar with are not native to North America. They were introduced by European settlers in the 1600’s. The “wild” honeybees we see buzzing around escaped from colonies of domestic hives. There are over 800 species of native bees known to exist in Canada, the majority of which are solitary nesting bees, meaning they don’t assemble in hives or colonies. Solitary bees seek out homes in niches such as soft, hollow stems and twigs, abandoned beetle



burrows and mouse nests, termite holes and tunnels in dead standing trees. Almost 90% of flowering plants rely on insect or animal pollination in order to bear fruit or seed. One of four mouthfuls of food and drink we consume, is sourced from plants pollinated by insects or animals. Seeds, nuts, berries, fruits, vegetables, medicines, spices and even cotton, all require pollination. In the meat and dairy industry, substantial amounts of grain, corn, alfalfa and hay, are required to feed managed animals. Pollination also plays a critical role in open wild rangelands, meadows and forests where plants provide essential foraging for native wild animal and bird species. In vast monoculture systems, managed honeybees are heavily relied upon for crop pollination and honey production. Crops pollinated by honeybees such as blueberries and cranberries blossom for only two or three weeks. When the flowering time is complete, honeybees are still actively looking for a source of food. Huge areas dedicated to single crops pose one

of the most potential harmful impacts on pollinators because bees require a continuous source of food for the entire growing season. While managed honeybees pollinate certain crops, wild bees, flies and wasps cover a broader spectrum of plants, and thus are considered the more important pollinators. Adjacent hedgerows and fields of diverse plants create habitat and food for native pollinators, the necessary link for successful and productive agricultural systems. The demand for agricultural pollination is growing more quickly than the supply of honeybees; a situation which has the potential to affect crop yields, the economy and threats to the environment through decreased plant diversity. Furthermore, current declines of honeybee populations due to Varroa mite infestations and Colony Collapse Disorder mean honeybee pollination will not be sufficient to meet the demand for crop pollination requirements. Some pesticides used on food crops are known to contain neonicotinoids, a nerve poison triggering Parkinson’s and



Alzheimer’s disease in humans. “Neonics” are taken into the vascular system of plants, contaminating pollen and nectar ingested by bees, and are suspected in disrupting homing capabilities (disappearing bee syndrome). Bees unknowingly kill offspring by storing pollen and nectar contaminated by slow-acting toxins, ingested by the larva. Solitary bees who gather nest building ingredients of leaves, mud, and plant materials from “treated” fields inadvertently contaminate their nests and larval chambers. Subjected to small doses of insecticides, bees are unable to navigate their way back to their nests. They become too sick to fly and suffer behavioral changes, making it difficult for foraging and nest building, ultimately leading to premature mortality of the bees and their offspring. The use of herbicides has caused the destruction of wildflowers and has caused animal starvation due to habitat loss. The World Conservation Union considers 185 species of pollinators to be threatened or extinct, and at least 2 bat and 13 bird species listed as endangered, are pollinators. Bayer CropScience, Dow and Monsanto, to name a few, continue to promote their products, blaming human error and misuse of their products for the negative effects resulting from their use. Five billion pounds of pesticides are applied annually on food crops, leading to a succession of linked extinctions and consequential human health problems, and driving up health care costs. The ongoing loss of suitable habitat for native pollinators, due to sprawl and related land-use changes, intensifies the potential risk to species when there is no consideration given to the consequences arising from the demand for growth.

Monarch butterflies and some bat and hummingbird species are migratory pollinators requiring three types of habitat: Summer breeding and foraging sites, safe overwintering sites and, in between, nectar corridors. Many of these corridors are no longer intact and the remaining scattered habitats contain insufficient nourishment for migratory species to complete their journeys. Lack of food along these migratory routes is to blame for the dramatic declines of migratory pollinator populations. Native pollinators are the keystone species in the pollinating process, creating an “insurance policy of diversity” for sustaining food crops with direct links to our agricultural systems. In the face of looming food shortages, it is imperative that all agricultural organizations and government bodies appreciate the ecological and economic benefits of pollinator conservation, along with initiatives to protect soil, water, and air quality for the enhancement of wildlife habitat, as well as our own quality of life. What conservation biologists fear most is human insensitivity to the needs of the rest of nature, simply because fewer people experience it. Natural habitats bestow upon us all the free benefits of its services. Without these services, many interconnected species and processes functioning within an ecosystem would collapse. If you were to attach an economic value to these ecological services, a conservative cost would be \$33 trillion a year, an amount surely justifying greater investment in their conservation.

Phyllis Young, Mission

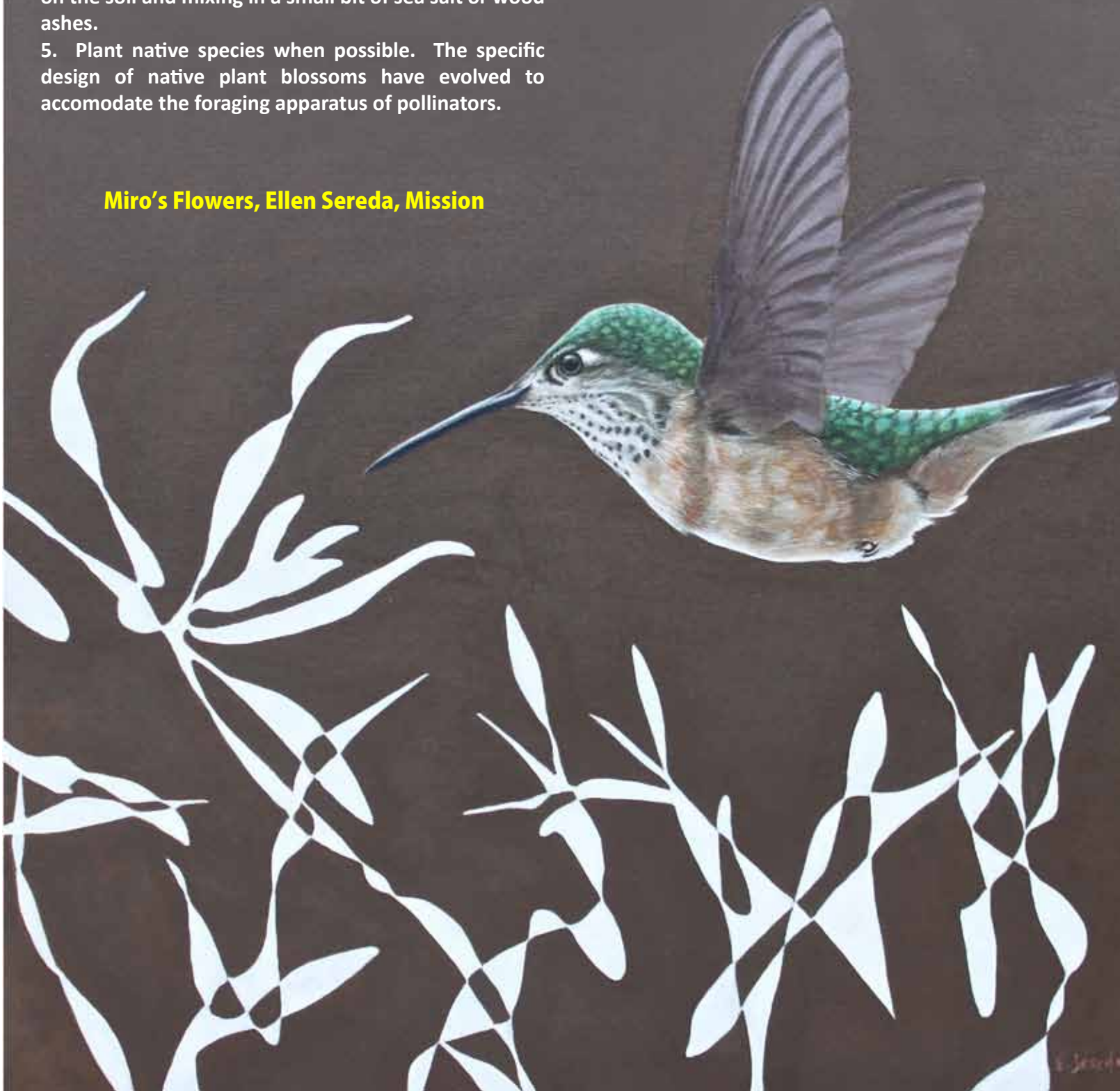
How to help native pollinators

1. Avoid using landscape fabric and other materials which obscure the soil surface. Ground nesting bees are unable to get through these obstructions.
2. Float pieces of wood in the water you provide for your visiting pollinators so they don’t drown.
3. Double flowering plants usually means they were developed with extra petals instead of anthers so little or no pollen is provided for pollinators.
4. To provide butterflies and bees with mineral requirements, create a salt lick by dampening an area on the soil and mixing in a small bit of sea salt or wood ashes.
5. Plant native species when possible. The specific design of native plant blossoms have evolved to accomodate the foraging apparatus of pollinators.

Attracting pollinators to your garden

Bees are attracted to blue, purple and yellow. Flowers attracting hummingbirds have evolved to be red and tend to have deep tubes. Butterflies are also attracted to similar flowers. Moths like deep-tubed white flowers, usually producing scent at night. Bees are more likely drawn to flowers with short or no tubes such as members of the daisy family, cosmos, zinnia, dahlia and sunflowers. Mason bee “hotels” can be made from drilled wood blocks, paper tubes or reeds or even straws tied into bundles.

Miro’s Flowers, Ellen Sereda, Mission



The trials and exhilarations of starting a small farm



When starting a small farm I had this romantic idea of how it was going to be. I pictured it being a half acre, having some chickens, and maybe a couple of cows. Let me tell you, this is not realistic! I'm the kind of person who likes to think things through but when encouraged by family members to dive into my venture, and learn through trial and error, I was going to either sink or swim.

I started the farm in the summer of 2010. Having the romantic idea in my head of a "small farm" I started out with a half acre. Having some prior knowledge of what it took to start a farm, I thought to myself, this should be manageable, and it was to some degree. When you get into farming some of your best resources are talking to other farmers and observing their practices. What do you need to grow vegetables? Nutrients! What kind of nutrients? Manure! Well, that sounded like a great idea, so we acquired some chicken manure from a family member and spread it on the land. What I failed to realize was, this manure was not fully composted. While perfectly safe to use on the soil, the manure was full of weed seeds. Reflecting back on our first season, we grew an amazing crop of mixed vegetables, but not without great difficulty from weed competition. The next season was going to be different, something us farmers say while working the kinks out of our operation.

In Spring 2011, I had completed a month of work experience at a small farm in Pemberton, B.C. There they farmed 8-10 acres, sold their produce through a CSA (Community Supported Agriculture) and attended farmers' markets in Vancouver. Their operation gave me the model I was looking for. On returning home with my

eyes wide open, I decided I was going to market my produce through a CSA model and start attending the Mission City Farmers Market. This was the pivotal moment that changed the farm to what it is today.

After a short trip away during the winter of 2012 and some thorough research, I knew we were going to have to expand the farm. The goal was to expand it to five acres, 10 times its original size! Did I bite off more than I could chew? Yes, I did. After some careful thought I decided to scale it back to 2.5 acres, and built three 20' x 80' cold frames with help from some awesome friends. For the season of 2012, I attended every summer farmers' market here in Mission and expanded our CSA from 12 members to 40 members! Had we been successful? Maybe not economically, but it gave me the encouragement to keep moving forward and not give up on the venture.

This year our goal is 50 CSA members and to continue supporting the Mission City Farmers Market. Some other plans I have are to expand my egg production and to build a farm gate stand at the end of our driveway to sell our eggs and produce.

Starting up a small farm is no easy task. You need capital, family, friends, volunteers, and a ton of determination. It's a lifestyle where you need to be ready to make sacrifices, and work everyday during the growing season. Nothing comes easy in farming, but the reward is being able to provide people with local food, grown in the most ethical ways possible, which in turn is helping them to offset their footprint on this planet. That, my friend, is a pretty good feeling.

**Taylor McPherson,
Mission**

Adventures in permaculture: Building a permaculture food system in Maple Ridge, B.C.

Farm for Life members Jocelyn Durston, Chris Kasza, Chris Moerman, and Julie Clarke on their property.



The view from our house is not a very typical one for four university-educated, thirty-somethings. Instead of city skyscrapers and suburban townhomes, we look out over a classic red barn, a DIY polytunnel, a variety of fruit and vegetable gardens, and a motley crew of free-range chickens and ducks. Some may call it idyllic. We call it our in-the-making permaculture paradise.

My name is Jocelyn Durston and I'm one of four friends who make up The Farm for Life Project - a homesteading and market gardening experiment in Maple Ridge, B.C. Currently in its third year, The Farm for Life Project has evolved substantially from where it first began. What started out as a personal food-growing venture, now includes a small market garden business, a young food forest, and a variety of learn-as-you-go construction projects. Our gardens feed ourselves, other community members, and serve as a learning space for local school groups and gardening classes. Considering we started with a blank slate of heavily grassed acreage and very inexperienced eagerness, it's rewarding to see where we are now.

Our food-growing adventure began out of shared

concerns about the state of our food and the Earth. After learning about modern industrial agriculture - the heavy chemical use, environmental degradation, inhumane animal treatment, injustices towards small farmers, and the risky business of genetically modified organisms (GMOs), we decided to respond to our concerns in a personal, practical way - by growing our own food.

In addition to myself, project members include Chris Moerman and Julie Clarke (the landowners), and my partner Chris Kasza (fellow renter). Together, we live on 2.5 acres on the Agricultural Land Reserve in east Maple Ridge, and devote a lot of our time to growing food and building strong relationships within the community.

From the beginning, our efforts have been heavily inspired by permaculture. Founder Bill Mollison describes permaculture as, "...the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems". In other words, by looking to nature for inspiration, we can design sustainable food-producing systems that support

human life and all other life on Earth.

With this concept in mind, we have been experimenting with an array of nature-inspired design ideas. Some of the more common gardening techniques we use include lasagna gardening, a no-dig method that builds beds out of layers of natural mulching and compostable materials, as well as livestock assistance, allowing our chickens to fertilize and till our gardens while our ducks keep the local slug population to a minimum. Some of the lesser-known, but exciting permaculture designs we use include: a herb spiral, which is a tiered, spiraling, multi-microclimate garden bed; hugelkultur beds, which are built to mimic the rich, natural soil-building capabilities of forest floors; and a young food forest, which includes nut trees, fruit trees, berry bushes, perennial herbs, vegetables and flowers.

These methods bring different plant varieties together to work side-by-side, enriching the soil and attracting important microorganisms, insects, and birds. Recognizing that diversity brings strength and resilience, as well as the fact that humans have become isolated from nature, we have also been intentional about creating wildlife-friendly zones. We have a small forest that is left mostly untouched, an intentional pile of logs to provide habitat for nesting ducks and other small animals, little hills of stones to attract snakes, and multiple ponds that host a loud chorus of frogs and provide swimming spots for our own ducks as well as two pairs of wild Mallards. In the past three years, we have witnessed an encouraging increase in the variety of pollinators and birds on the property, and have appreciated the presence of bears, deer, coyotes, raccoons, owls, and hawks.

Learning about permaculture and applying it in practical ways in our gardens has helped us feel more connected to the earth and has given us a stronger sense of responsibility for it. We strongly believe that the adoption of permaculture philosophies are an important step in the right direction to provide for human food needs in a way that works with, rather than against, the Earth.

Read more about our permaculture projects at www.thefarmforlifeproject.com and visit our farmer's market booth at the Haney Farmers Market, every Saturday from May to November.

Jocelyn Durston, Maple Ridge



SPRAWL REPORT



Mission's agricultural roots, nourished by the bounty of the rich soil of the Fraser River flood plain, may become severed by Council's "Open for business" mantra, a mantra which appears to mean, push for growth at any cost. CAUSS is very concerned that the District of Mission Official Community Plan Amending Bylaw 5326-2012-4052(27), recently adopted Feb.4/13, may open the door to widespread speculation and eventual loss of viable farming on Agricultural Land Reserve (ALR) properties. The amendment eradicates the previous minimum 8.9 acres needed for ALR subdivision, and replaces it with a vague requirement that the subdivision be at "least as large as larger lots in the area". This amendment ignores Best Practices and effectively throws out the community consultation, which created the current agricultural policies in Mission's Official Community Plan. Numerous ALR subdivision applications would erode our community's ability to produce safe local food. It is possible however, that residents with relatively small properties may now be able to opt IN to the ALR designation by applying to the provincial government (see www.alc.gov.bc.ca). Besides enhancing our community's food security, achieving farm status could save residents thousands each year in property taxes. The "Open for business" mantra also apparently disregards the importance of Endangered Species habitat. On April 16/12 Mission Council unanimously

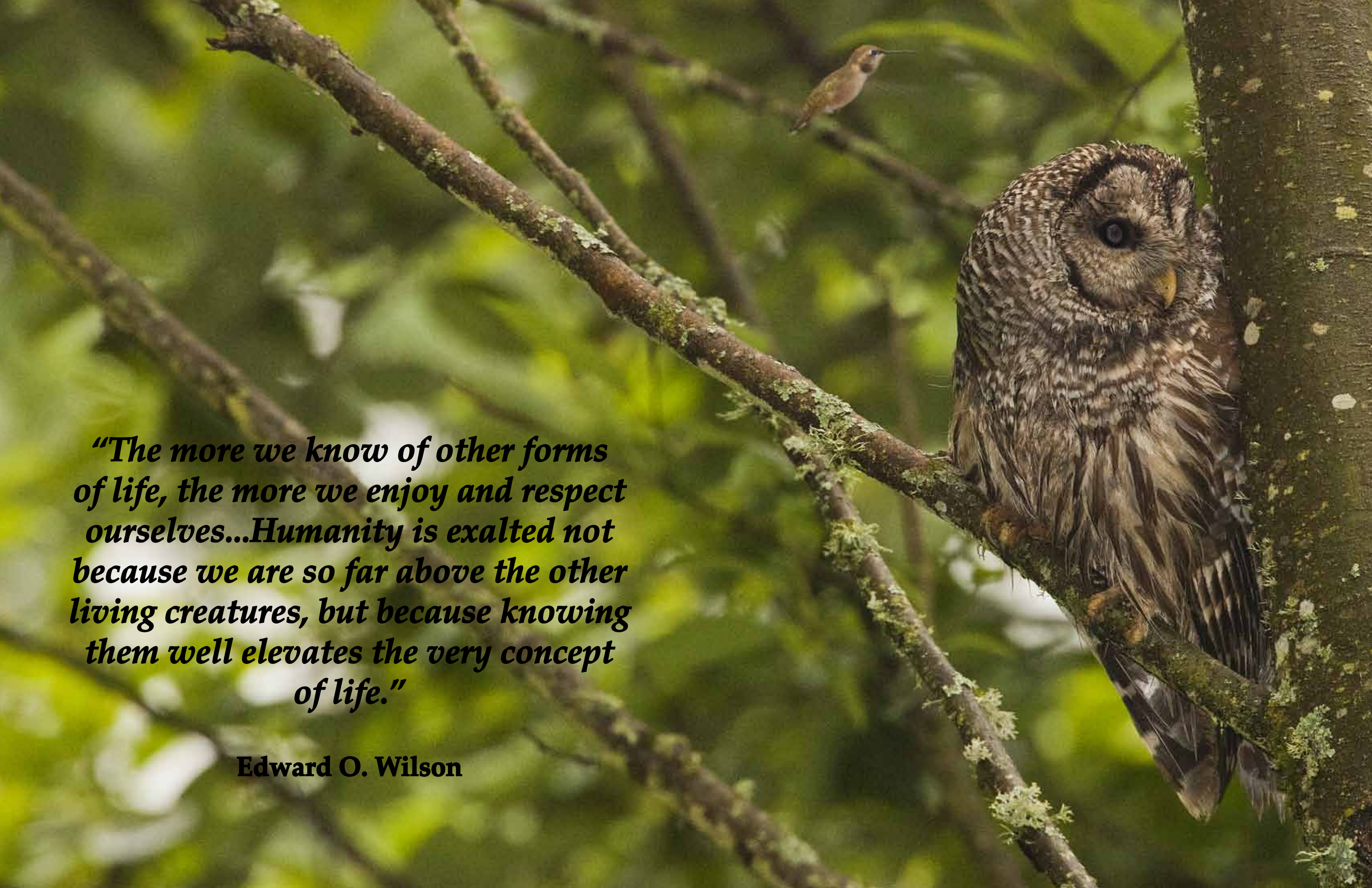
voted for third reading to pass a commercial /residential development between the Silvercreek wetlands and Wren street despite warnings from Environment Canada that urged avoidance (no disturbance) of the area. Many are shocked to learn that a small town council would have the authority to destroy endangered species habitat, habitat which will be lost forever to Mission's wildlife and to its citizens. In a surprise development, according to Mission planning staff, Council never received the required Fisheries Act Authorization to destroy the area streams and consequently, the development

application has not officially been Adopted. The parcel is now being advertised as a court ordered sale. The endangered species living in the ravines would seem to have at least a temporary reprieve. This would be an ideal opportunity for progressive governments to create a community nature reserve.

A strange turn of events occurred in the close-knit rural Steelhead community. Residents, concerned about a 65-unit subdivision proposed in the heart of their neighbourhood, rallied together and lobbied council to decline the proposal. They were concerned about impacts to their rural lifestyle, to their wells, to their new community hall, and to the adjacent wetland, a highly sensitive and ecologically important area. Hearing the large-scale resistance, the proponent altered his proposal to 31 units. However council voted unanimously not to alter the Official Community Plan for the area and denied the proposal. The proponent countered with an application to mine gravel on the sight. To the shock of many, Council then stated that they were helpless to prevent the mine, that its approval was assured, and urged the Steelhead residents to "negotiate" with the proponent to go ahead with the housing subdivision!

Being open for business can be a positive thing if it encourages a vibrant local economy, but can become a destructive force when it sacrifices the environment and the quality of life of Mission's citizens.

Tracy Lyster, CAUSS

A large owl with intricate brown and white patterns on its feathers is perched on a thick, moss-covered tree branch. The owl's large, dark eyes are prominent, and it has a small, yellowish beak. In the background, a small hummingbird is visible, hovering near another branch. The scene is set in a lush, green forest with many leaves and branches, creating a soft, naturalistic background.

***“The more we know of other forms
of life, the more we enjoy and respect
ourselves...Humanity is exalted not
because we are so far above the other
living creatures, but because knowing
them well elevates the very concept
of life.”***

Edward O. Wilson

SALMON FARMS THREATEN WILD SALMON RETURNS!

In 2009, the Fraser River Sockeye salmon run was a record low, with only one-tenth of the expected 10 million Sockeye salmon returning. Subsequently, an investigation was conducted to determine the cause of the Sockeye salmon collapse. Just last October, Justice Bruce Cohen's report concluded that the Sockeye collapse was multifactorial. Although salmon farming cannot be solely blamed for the 2009 Sockeye collapse, it has definitely contributed. Salmon farms in general are pathogen reservoirs. They are like tiny prison cells comprised of a large group of salmon, ranging in the order of hundreds to thousands. It is a pathogen's dream to live in such a densely packed enclosure full of abundant hosts. So you can expect the disease rates in these salmon to be high. To ensure salmon farms are economically sustainable, a high level of farmed salmon survivorship is required. This is achieved by administering a variety of prophylaxes such as antibiotics and vaccines. Yet, this method is not always successful in fighting off diseases within the farms. Drug-resistant strains of bacteria, parasites, and viruses develop and can diffuse out of the farming site and into the surrounding water.

During migration, wild salmon pass salmon farms and may get exposed to the high dose of endemic, as well as exotic pathogens, leading to infection, impaired functioning, and eventually mortality. To put it into perspective, how would our immunity fare if hundreds of people sneezed on us on our way to work?

One particular type of pest, the sea louse, has been a great nuisance to salmon. The sea louse is a parasite that attaches onto salmon skin, consuming the mucus, skin, and blood of the salmon. Infected with high doses of lice, salmon functioning is severely impaired, resulting in reduced ability to compete for resources. Cohen's report mentions that salmon farms in the Discovery Islands may be a source of sea lice that infect salmon on their trip back to the Fraser River. Salmon downstream from the farms had a higher sea lice infection level than salmon upstream. Sea lice may therefore have contributed to the 2009 Sockeye collapse.

Another problem salmon farms pose to nature is the



potential for escapees. It is not natural for a salmon to remain in a small space so when given the chance they will escape. Escapees can disturb the natural species interactions of the ecosystem. They compete for the same resources as wild salmon, impeding the

recruitment of wild juvenile salmon into adults. With less recruitment, fewer wild adults are available to reproduce, resulting in a decline in the population of subsequent generations. Additionally, escapees add to the abundance of salmon within a specific niche, luring predators that non-selectively consume any salmon on site, thus reducing wild salmon populations as well. Escapees can also mate with wild salmon, producing hybridized offspring that are typically weaker and less adapted to survive in a natural habitat. Studies have shown a variety of hybrid salmon offspring have poor survival rates relative to pure wild salmon offspring. Thus, when wild salmon mate with farmed salmon, valuable offspring that would continue on the species survival are lost. But the more threatening feature of escapees is that they act as vectors of diseases, infecting wild salmon that may not even pass salmon farms. All of these factors have contributed to the 2009 Sockeye collapse, but more importantly, these factors are at play now, reducing wild stock populations as we read.

There are a variety of other plausible mechanisms that may have contributed to the dramatic population decline of returning Sockeyes, yet the important lesson to be learned is not to repeat our mistakes. Despite decades of research showing salmon farming's negative effects on wild fish stocks it took a significant blow to the Sockeye population in 2009 to procure further research funding. Unfortunately the government has not upheld the recommendations that came from the tax-funded multi-million dollar scientific inquiry. It is vital that we do not continue to ignore the scientifically supported facts behind salmon farming and take immediate steps to ensure that we do not continue to kill the environment and its natural inhabitants.

Aurash Yazdgerdian,
U.B.C. Photo courtesy of Salmon are Sacred

Chilliwack Chapter of Atlantic Farmed Salmon Feedlot Boycott



Photo courtesy of Chris Gadsden

In October of last year, Justice Bruce Cohen's report on the decline of the Fraser River Sockeye salmon, raised the specter that salmon farms along the Discovery Islands have the potential to introduce exotic diseases, to intensify the endemic diseases, and thus have a negative impact on Fraser River Sockeye. The recent documentary, Salmon Confidential, tells a shocking story of pollution, transference of sea lice, and importation of deadly European salmon viruses. It is also a story of cover-ups, denials and lies. According to marine biologist, Dr. Alexandra Morton, "Seven labs have detected the internationally reportable EU salmon flu virus (ISAv) in B.C. Only the B.C. Provincial lab reports failure to detect ISA."

Despite denials from our government and the industry, there is mounting evidence that Atlantic salmon feedlots are breeding grounds for sea lice parasites that harm salmon smolts swimming past them. Tons of non-native Atlantic farmed salmon are trapped and grown in open net feedlots. The feedlot salmon are fed food pellets laced with antibiotics to fight a losing battle with mutating European viruses. What goes in must come out. Through the force of gravity, huge amounts of feces settle to the ocean floor beneath, and in addition, uneaten pellets are added to this, creating toxic dead zones. "To hear this industry say they quarantine their Atlantic salmon feedlots whenever they contract this deadly contagious disease would be laughable if we didn't have to worry about this resulting in the extinction of wild salmon," exclaimed wild salmon activist Anissa Reed.

The National Feedlot Boycott of Atlantic farmed salmon was initiated by Anissa Reed of Sointula, and Eddie Gardner of Chilliwack, in response to concerns that the

Norwegian Aquaculture industry, better known as the "aquavirus industry," with full support of current federal and provincial governments, is damaging the ocean ecosystem and threatening the very survival of Fraser River Sockeye salmon. Many concerned citizens have since joined the boycott.

"The Fraser River is the most important salmon fishery on the planet and has always been the life blood of the people who live here. The Sockeye are in decline now, but we have a chance to turn this around if we act right away," said Chilliwack resident Michael Hale, expressing why he is part of the boycott.

"Idle No More! Later is now! It appears we have crossed the red line and entered the danger zone of losing wild salmon. This loss will have a tragic, extreme detrimental effect on biodiversity in B.C.," said Dr. Wenona Victor of the Skowkale First Nation, and UFV professor. "Waiting until later will mean waking up to the day our sacred wild salmon are gone! We can't let this happen under our watch," added Robert Jimmie of the Squiala First Nation. The Cohen Commission is a very serious indication that business as usual is over. Although many of its recommendations are geared to the federal government, the province of B.C. holds a trump card they need to use. It has jurisdiction and authority over leasing coastal waters to the aquaculture industry. So now we have the province acting like a slum landlord and the open net feedlots are like unruly tenants wrecking the coastal ecosystem the Fraser River salmon migrate through each year. "The province needs to do the right thing: revoke feedlot leases and evict the Norwegian feedlots from the coastal waters," said Chilliwack resident Rick Zaleski. "We need a party that will be a true champion of wild



Photo courtesy of Anissa Reed, Salmon are Sacred

salmon. The quality of leadership can be the deciding factor as to whether we will have wild salmon or not,” said fellow boycott member, Chris Gadsden.

In the meantime, the salmon feedlot boycott needs to intensify across B.C. and Canada. “Fish farming is a disgrace and must be moved out of our coastal waters under the precautionary principle,” said Carrie Lynn Victor of Cheam First Nation. The Chilliwack chapter recognizes Price Smart, Save-On-Foods, and Coopers, for not having Atlantic farmed salmon on their shelves. We also acknowledge Bravo Restaurant and Lounge, and

Jackson’s Steak and Grill, for not having farmed salmon on their respective menus. We are urging Wall-Mart, Superstore and Safeway to follow this kind of leadership in environmental stewardship.

Eddie Gardner, Chilliwack

For more information on the Boycott, please contact Eddie Gardner at singingbear@shaw.ca, or Tel: 604-792-0867. Eddie Gardner is a Skwah First Nation elder and leads the Chilliwack Chapter of the Salmon Feedlot Boycott.

On Silent Wings

Hovering like a helicopter, during its nightly forays, then silently swooping down on its unsuspecting prey, this bird is aided by superior hearing, and long, sharp talons, extended to secure its prey with deadly accuracy.

The Barn owl is the world’s most widely distributed bird, belonging to 1 of 2 main owl families, (Tyto idae), the other being the True owl, (Stregidae). Our local Barn owl, known as the Common Barn Owl, is also 1 of 2 subspecies of Barn owls.

Found on all continents, except Antarctica, and generally other areas of extreme climate patterns, the Barn owl nests in only 2 specific Canadian provincial areas. Only 5 pairs of these owls reside in lower south Ontario, while 1000 Barn owls inhabit B.C.; in southeast Vancouver Island, and the Fraser and Okanagan valleys.

Habitat preferences of this nocturnal owl vary. In B.C., wetlands, grasslands, estuaries, quiet, old wooden barns, silos, and buildings, as well as tree cavities, or holes in cliff sides, are deemed suitable for roosting and nesting. Physically, the Barn owl is easily distinguished from other owls. Having a white, heart-shaped face, bearing no ear tufts, and having oblique-shaped eye slits, with “fixed” black eyes, it seems to possess a somewhat startling alien-like appearance.

As a mid-sized owl, the Barn owl measures 35 cm to 45 cm, (14 in. to 20 in.) lengthwise, and weighs 460 gr. (16 oz.), with the North American, and the females of this species, being the largest.

The plumage of the B.C. Barn owl is rusty brown, with dark grey often appearing on its head, back, and outer wings. Chest, and white or light abdomen areas, are dotted with dark “freckles”, the males generally



Barn owl, Betty Joe, Mission



**Finding Home,
Ellen Sereda, Mission**

showing fewer spots than the darker females. Females sporting abundant speckles, have superior parasite and disease resistance. Incapable of moving its eyes to see objects to its side, and behind itself, the Barn owl must turn its head to view anything beyond its frontal sight. Ear position and facial shape also defines this owl. One of two ear openings is in a higher position than the other, while the face shape reflects sounds heard into the ear, allowing it to determine the location and direction of its prey. Added to this, is an uncanny ability to memorize sounds made by specific prey. Unlike other owls, the Barn owl does not hoot, but emits a few other notable sounds. Aside from its characteristic, and unsettling “shree” sound, it can also voice cries, snorts, and snake-like hisses. Another distinctive trait of the Barn owl, is its silent, wavering motions on its 1meter (3 1/2 foot) wingspan. The Barn owl diet consists mainly of rodents (mice

forming 75% of their diet), squirrels, voles, and shrews, occasionally supplemented by other small prey. These food items are swallowed whole, while larger prey is torn into suitably-sized pieces. Through the collaboration of 2 stomachs, and digestive juices, the owl’s digestibles are processed, while the indigestibles, like bones, hair, and nails, are spat out in the form of owl pellets. In our local area, breeding season is generally triggered when ample prey abounds, beginning around late March to early April. This event begins when Barn owls are approximately a year old. Heralded in by the male Barn owl’s shrill twitterings, courtship begins, followed by the mating process. The mating activity continues throughout incubations, and the nesting season. The rudimentary nest, prepared by the female owl, is lined with pellets and other debris, ready for the 1st of 2 cycles, when 4 to 7 eggs are laid. They are kept warm by the female bird, while the male provides her and the future nestlings with food. Termed “site fidelity”, the





The Last Roost, Ellen Sereda, Mission

nest is lived in year-round, with the monogamous Barn owl pair usually dwelling in it, year upon year. After 29 to 34 days of incubation, the eggs hatch, and shortly after, white, fluffy, down-covered chicks, showing the distinctive heart-shaped face, are cared for by their mother. Days later, the white down is replaced by a light brown covering, then within 50 days, wool-like feathers emerge. Following the owlets fledging around its 10th week, a 2nd clutch of eggs is laid. Depending on whether it is wild or captive, Barn owl life expectancy ranges from 1 year to 17 years in B.C. Statistically though, the average lifespan for the wild bird is between 2 and 4 years, due to factors ranging from predation to accidents. The Barn owl faces many dangers during its short lifespan. Its predators vary widely from foxes, raccoons, wild dogs, domesticated and feral cats, opossums, large raptors, including the Great Horned owl, snakes,

and humans, which are their biggest threat. Sadly, it is estimated that only 1/3 of all young Barn owls survive to their first attempts to breed. In B.C., the Barn owl population is declining, and faces a Blue listed, (threatened) status. The reasons for this are varied, however, they are almost entirely due to human interference. Being victims of past and present superstitious persecution globally, including continuing victimization by those unaware of the benefits derived from Barn owl rodent predation, Barn owls were also the direct and indirect victims of DDT and “rodenticide”. These poisonings either killed them, or caused reproduction problems. As urbanization increases, Barn owl populations decrease. Past habitats are lost. Many old, wooden barns, silos, and other antiquated buildings, are now being replaced by modern, “bird-proof” structures. With

these changes, prey, particularly in the form of rodents, has also become scarce. Added to these threats, are the road kills of the owls by ever-increasing, fast-moving traffic.

In Canada, the federal Species at Risk Act, (SARA), offers some protection to Barn owls, while Recovery of Nationally Endangered Wildlife, (RENEW), also provides help. However, as concerned citizens, our help is invaluable in many ways. We can: report locations of Barn owl nests to Bird Studies Canada, COSEWIC, (Committee on the Status of Endangered Wildlife), or SARA; install and monitor nest boxes in appropriate habitat areas, including barns and silos; increase grasslands on unused farmlands, while active farm owners can create suitable wildlife habitat. We can also provide financial aid to Barn owl recovery organizations, and lessen our activity around their nesting sites, as human disturbance can lead to nest and young abandonment.

Through showing respect and consideration towards Barn owls, just maybe, we can promote positive changes to their rapidly diminishing status.

For further information, please refer online to: Bird Studies Canada, the Peregrine Fund, Wikipedia, Ontario Ministry of Nature Resources, Buzzle, Barn Owl Facts, Simply Wild Canada, and many other Barn owl recovery organizations, or visit your local library.

Val Pack, Mission

Bad to the Bone



Each year, in early spring, we flock by the thousands to our local nurseries, with nothing more in mind than to beautify our yards and gardens with many of the numerous annuals and perennials. As we stand at the cashier counter, many of us ask that question, “Should I add bone meal as I plant these?” The cashier looks at us and smiles with the response, “Of course, we have bone meal in many sized containers”.

What we are not told is that generations ago, bone meal was one of the few good fertilizers available. Bone meal was a far different product than the dehydrated devitalized product offered today. Every gardener of those bygone days had a bone grinder somewhere at their disposal. Raw bones with meat still attached to them were ground and used as fertilizer. It included meat scraps, blood, marrow, and minor elements including uncooked phosphorus. The bone meal we spend our hard earned money on today is almost completely worthless. It has no real effect in our gardens except for making us feel we are doing something good for our plants and soil.

Bone meal is a mixture of crushed and coarsely ground bones and was once used as animal feed and human dietary supplement for a calcium source. Studies done in the 1980s, revealed that many bone meal preparations were contaminated with lead and other toxic metals, so human consumption was halted. In the 1990s, bone meal was identified as a vector (agent that carries and transmits infectious pathogens) for mad cow disease among livestock so feeding it to animals has also been halted. Phil Nauta of the Smiling Gardener says, “ Since the mid 1980s and especially the late 1990s, there has been concern as to whether using bone meal for plants might be harmful, as inhaling bone meal dust can cause a form of Mad Cow Disease (BSE) in humans.” He adds, “My goal is not to scare you away from using it, but just to let you know the risks”.

The popular use today for bone meal is as an organic fertilizer. The N-P-K ratio is usually 4-12-0 although some steamed bone meals are 1-13-0. What is not commonly known is that organic fertilizers require microbes and bacteria in the soil to make the fertilizer bioavailable to plants. In sterile soils, bone and other meals can remain in the soil and not become available to the plants. A safer alternative to using bone meal can be made by mixing 4 liters water with 30 ml sea minerals, 30 ml liquid kelp, and endo/ectomycorrhizal fungi -5 ml per plant, 15 ml per tree.

I personally think if you want to feel good about what you have done in your garden, save the hard earned money you would normally spend on one or two containers of bone meal. Purchase a bottle of your favorite wine and complete your garden tasks without fear of poisoning yourself or the soil you are planting in. Then sit yourself in a comfortable chair, sip your nonpoisonous beverage, and feel good about what you have done and not done. Every step we take, every move we make, we leave a footprint, so let us leave a soft one.

**Doug Youngson
Ruskin**

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Footprint Press*



THE FOOTPRINT PRESS

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Rufous hummingbird with Betty Joe
Hummingbird mask. Photo Bruce Klassen