



POLICY REPORT  
LICENSING

Report Date: March 24, 2010  
Contact: Tom Hammel  
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VanRIMS No.: 08-2000-20  
Meeting Date: April 8, 2010

TO: Standing Committee on Planning and Environment  
FROM: Chief Licence Inspector  
SUBJECT: Guidelines for Keeping of Backyard Hens

**RECOMMENDATION**

- A. THAT proposed amendments to the Zoning and Development By-law regarding keeping of backyard hens, as outlined in this report and in Appendix A, be referred to Public Hearing;
- FURTHER THAT the Director of Legal Services be instructed to prepare the necessary amending by-law, generally in accordance with Appendix A, for consideration at the Public Hearing;
- B. THAT, subject to the approval of the amendments to the Zoning and Development By-law at a Public Hearing,
- i. The Animal Control By-law be amended to provide regulations for the keeping of backyard hens, generally in accordance with this report and Appendix B.
  - ii. Council authorize the Chief Licence Inspector to establish and administer an on-line registry for backyard hen keepers, generally in accordance with this report.
  - iii. Council authorize the expenditure of \$20,000 from the existing Community Services capital budget for construction of a facility to house seized or abandoned hens at the Vancouver Animal Control shelter.
- C. FURTHER THAT the Director of Legal Services be instructed to bring forward, at the time of enactment of the amendments to the Zoning and Development By-law regarding the keeping of hens, a by-law to amend the Animal Control By-law, generally in accordance with Appendix B.

- D. FURTHER THAT the Director of Legal Services be instructed to bring forward, at the time of the establishment of the on-line registry, a by-law to amend the Animal Control By-law, generally in accordance with Appendix C.

### **GENERAL MANAGER'S COMMENTS**

The General Manager of Community Services RECOMMENDS approval of A, B, C and D.

### **COUNCIL POLICY**

On March 5, 2009, Council passed a resolution directing Legal Services to bring forward an amendment to the Animal Control By-law removing the prohibition of keeping of backyard hens, and directing staff to develop policy guidelines that both protect the health and welfare of citizens, and ensure the humane treatment of backyard hens.

In January 2007, Council adopted the Vancouver Food Charter which sets out the City's commitment to the development of a coordinated municipal food policy that recognizes access to safe, sufficient, culturally appropriate and nutritious food as a basic human right for all Vancouver residents.

On July 8, 2003, Council approved a motion supporting the development of a just and sustainable food system for the City of Vancouver that fosters equitable food production, distribution and consumption; nutrition; community development and environmental health.

In April 2002, Council adopted a formal position, definition and principles on sustainability.

### **SUMMARY**

This report provides recommendations for the humane and sanitary keeping of backyard hens in Vancouver. These recommendations include amendments to Zoning and Development By-law No. 3575 and Animal Control By-law No. 9150, creation of an on-line registry for hen keepers, and funding for facilities to house hens at the Vancouver Animal Control shelter. The Zoning and Development By-law amendments must proceed to Public Hearing prior to Council action. Since the Zoning and Development By-law amendments are integral to the proposed system of regulation, the remainder of the recommendations are contingent upon their approval.

The proposed by-law amendments, and basic features of the proposed on-line registry, are outlined in Table 1 below:

**Table 1. Recommended By-law and Registry Provisions**

<b>Recommended By-law and Registry Provisions for Backyard Hens</b>		
<b>SUBJECT</b>	<b>RECOMMENDED PROVISION</b>	<b>BY-LAW</b>
<b>Allowable zones</b>	Single and multi-family residential zones (RA-, RS-, RT-, RM-, FM-, FSD-)	Z & D
<b>Siting restrictions for hen enclosures</b>	– 1 m from property line – 3 m from windows and doors of dwellings	Z & D

	<ul style="list-style-type: none"> <li>– Reduced exterior side yard setback on corner lots</li> <li>– May not be located in front yards</li> <li>– Must be located at grade level</li> </ul>	
<b>Size restrictions for hen enclosures</b>	<ul style="list-style-type: none"> <li>– Maximum area 9.2 m<sup>2</sup> (100 ft<sup>2</sup>)</li> <li>– Maximum height 2 m</li> </ul>	Z & D
<b>Number and type of chickens allowed</b>	<ul style="list-style-type: none"> <li>– Maximum 4 hens per lot, at least 4 months old</li> <li>– No roosters</li> </ul>	AC
<b>Housing requirements</b>	<ul style="list-style-type: none"> <li>– Minimum 0.37 m<sup>2</sup> (4 ft<sup>2</sup>) coop space and 0.92 m<sup>2</sup> (10 ft<sup>2</sup>) enclosed run space per hen</li> <li>– Entire structure must be roofed</li> <li>– ≥15 cm perch for each hen and one nest box</li> <li>– Hens must remain enclosed at all times</li> </ul>	AC
<b>Basic care</b>	Hens must be provided food, water, shelter, adequate light and ventilation, veterinary care, and opportunities to scratch, dust-bathe, and roost.	AC
<b>Pest control</b>	<ul style="list-style-type: none"> <li>– Enclosures must be: <ul style="list-style-type: none"> <li>▪ kept in good repair and sanitary condition</li> <li>▪ constructed to prevent access by other animals</li> </ul> </li> <li>– Food and water must be kept in coop at night</li> <li>– Manure /waste must be removed in timely manner</li> <li>– Up to 1 m<sup>3</sup> of manure may be kept for composting</li> </ul>	AC
<b>Biosecurity</b>	Must follow biosecurity procedures recommended by the Canadian Food Inspection Agency (CFIA)	AC
<b>Other regulations</b>	<ul style="list-style-type: none"> <li>– No slaughtering allowed</li> <li>– No sales of eggs, manure, or other products</li> </ul>	AC
<b>Registry basics</b>	<ul style="list-style-type: none"> <li>– Register on-line or by phone</li> <li>– No registration fee</li> <li>– Registration materials available in six languages</li> <li>– Registrants must reside on lot with hen enclosure</li> </ul>	AC
<b>Information provided on registry website</b>	<ul style="list-style-type: none"> <li>– By-law requirements</li> <li>– Resource page with links to Best Management Practices (BMPs), humane education, and biosecurity information</li> <li>– List of upcoming chicken workshops</li> </ul>	N/A

These recommendations have been reviewed by a number of stakeholders, including staff from several departments (Development Services, Social Policy, Animal Control, and Law); City committees including the Food Policy Council, the Urban Agriculture Steering Committee, and the Policy Implementation Advisory Committee (PIAC); and the interested public. A summary of comments from the public is included as Appendix G.

## ***PURPOSE***

This report provides recommendations regarding the keeping of backyard hens, including zoning requirements, animal control regulations, and funding for animal shelter facilities to house impounded and abandoned hens.

## ***BACKGROUND***

The Animal Control By-law prohibits the keeping of chickens or other fowl. This prohibition has been in place since 1968, and perhaps earlier. The Animal Control By-law also contains provisions for the housing, impoundment, and disposition of “other animals,” which are defined as “any animal except a dog or domestic cat.”

Section 10.18 of the Zoning and Development By-law requires buildings or runs for birds and animals to be set back 9.1 m (30 feet) from any dwelling, and 18.3 m (60 feet) from the front property line (except in the RA-1 district). It also requires such structures to conform to all applicable by-law provisions applicable to accessory buildings. This section does not define birds and animals, but instead refers to Health By-law No. 6580 (which has since been superseded by the Animal Control By-law). No other reference to birds and animals, and their enclosures, is found in the Zoning and Development By-law.

Although prohibited, some backyard hens are kept in the City, and many individuals have expressed interest in keeping them. Enthusiasm for urban chickens has grown throughout North America in the past few years, as increased attention is paid to issues of sustainability, food security, and consumption of locally grown food. During this time, many North American cities have enacted or updated by-laws to allow keeping of chickens. A summary of by-laws in select North American cities, including Lower Mainland municipalities, is provided as Appendix D.

## ***DISCUSSION***

To fulfil Council’s mandate to allow the humane and sanitary keeping of backyard hens, staff recommends adoption of several by-law amendments. These by-law amendments are intended to meet three criteria: protection of public health and welfare; humane treatment of hens; and reasonable access to hen keeping for Vancouver residents.

### **Siting of Chicken Coops**

In order to allow hen keeping by most Vancouver residents, staff recommends a reduction of current zoning setbacks for bird and animal enclosures, and designation of hen keeping as an allowable use in single-family, two-family, and multi-family zones.

Currently, zoning regulations for bird and animal enclosures require a 9.1 m (30 foot) setback from adjacent dwellings, and an 18.3 m setback from the front property line. These setbacks would prohibit hen keeping on many residential lots, most of which are 10 m wide, and some of which are less than 8 m wide. Therefore, staff recommends that a new section be added to the Zoning and Development By-law with specific requirements for hen enclosures. These include a 1 m side yard setback and a 3 m setback from any door or window. The latter requirement would allow hen enclosures to be located adjacent to a deck, porch, or shed, while providing a larger 3 m setback from building interiors. The recommended setbacks would allow for hen enclosures on residential lots with laneway housing, and on many lots

would allow “chicken tractors,” a rotational grazing system utilizing movable coops and runs. Appendix F illustrates how hen facilities would fit on a standard single family residential lot with the recommended setbacks. Under the proposed by-law amendment, hen enclosures would be allowed in side yards, and anywhere in rear yards, including outside of designated accessory building areas. They would not be allowed in front yards.

Corner flanking lots, which lie at the intersection of two streets, and whose rear yard flanks the front yard of the lot behind (with or without an intervening lane), require particular consideration. These lots have one front yard and three side yards, including an exterior side yard (along the flanking street) with a 7.3 m side setback in many residential zones. In order to allow hen enclosures on these lots, staff recommends that the exterior side setback be reduced to the existing or conforming exterior side setback of the primary residence, whichever is greatest.

Staff recommends that hen keeping be allowed in all residential zones, including multi-family, and that all of those zones be subject to the same requirements. Thus, a multi-family development could have four hens per lot, not four hens per unit, and hen facilities must be at grade level. These requirements are necessary to limit the concentrations of birds, for public health reasons, and to ensure that birds receive access to earth for scratching. Another recommendation applicable to all zones is the requirement that keepers of hens reside on the lot containing the hen enclosure, in order to ensure that hens receive appropriate care and supervision. Thus, under the proposed by-law provisions, an apartment dweller could maintain a flock of four hens in the yard of the apartment complex, but could not keep the hens on a balcony. It would be the tenant’s responsibility to obtain property owner approval for keeping hens.

Staff recommends that hen keeping be prohibited in commercial, industrial, and comprehensive development zones, with the exception of the First Shaughnessy District (FSD), due to the lack of suitable physical environments and absence of supervision on many commercial and industrial sites, particularly after the close of business. Staff also recommends that hen facilities be prohibited, for the time being, in public parks and community gardens, again due to the absence of consistent supervision, particularly at night, and the complexity of establishing responsibility for maintenance and care of the hens. The latter recommendation could be revisited once basic hen keeping provisions are in place, and a more detailed review of communal hen keeping is possible.

Staff also recommends some limits on the size and height of hen facilities, including a 9.2 m<sup>2</sup> (100 ft<sup>2</sup>) floor area limit, and a 2 m height limit. The height restriction is recommended to minimize visual impacts, and the floor area restriction allows the coop to be exempt from Floor Area Ratio (FAR) limits and building permit requirements.

### Humane Treatment

In its resolution, Council cited the humane treatment as a priority in the development of guidelines for keeping hens. Humane treatment of farm animals is commonly defined by the “five freedoms,” as developed by the Farm Animal Welfare Council, an advisory body to the UK government. These include:

1. Freedom from thirst, hunger and malnutrition - by ready access to fresh water and a diet to maintain full health and vigour.

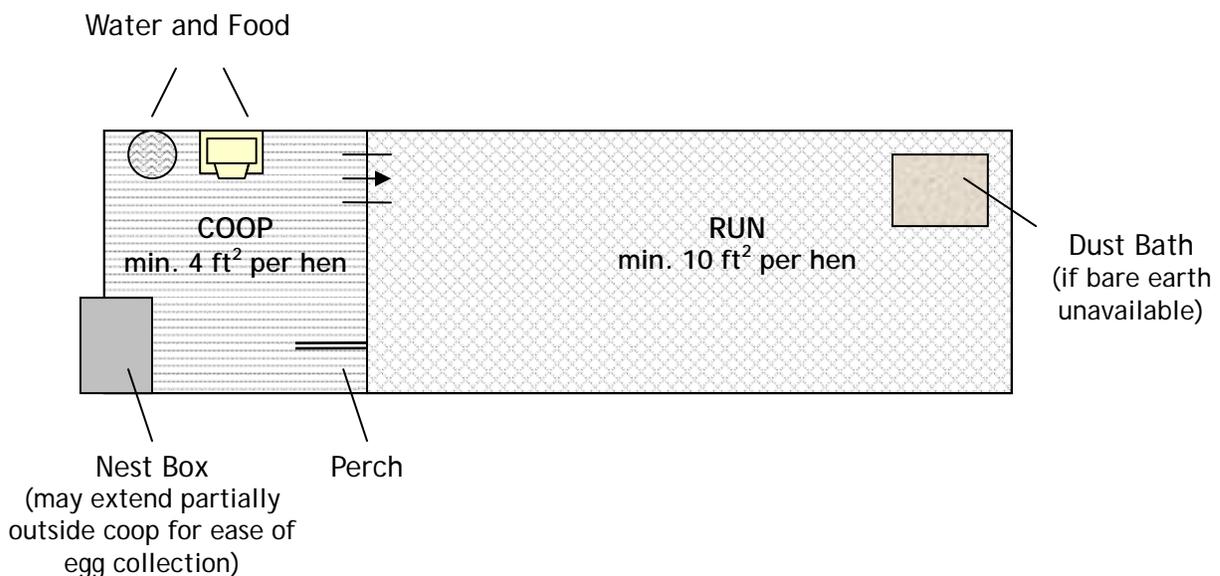
2. Freedom from discomfort - by providing a suitable environment including shelter and a comfortable resting area.
3. Freedom from pain, injury and disease - by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behaviour - by providing sufficient space, proper facilities and company of the animals own kind.
5. Freedom from fear and distress - by ensuring conditions that avoid mental suffering.<sup>1</sup>

To enjoy the Five Freedoms, hens need shelter, food, water, adequate space, environmental conditions (such as adequate ventilation and light) conducive to good health, and the opportunity to socialize and engage in fundamental behaviours, which for them include scratching (foraging by scraping the ground with their claws), roosting (resting on a stick or branch), and dustbathing (thrashing around in the dirt to clean feathers and remove parasites). These needs must be met under the recommended requirements for care of backyard hens.

For shelter and protection from predators, hens need an enclosed house, with a locking door, which is known as a coop. Coops should contain a nest box, in which hens will lay their eggs, and one or more perches per bird. Hens also need access to the outdoors, either by free ranging or by use of an enclosed outdoor space that allows them ground on which to scratch and peck. For hens without access to bare earth, a dust bath, made of any combination of sand, soil, ash, food grade diatomaceous earth (to control parasites) or other similar material, should be provided. Schematic views of standard coops and outdoor enclosures are provided in Figure 1 below.

Figure 1. Schematic Depiction of Coop and Run

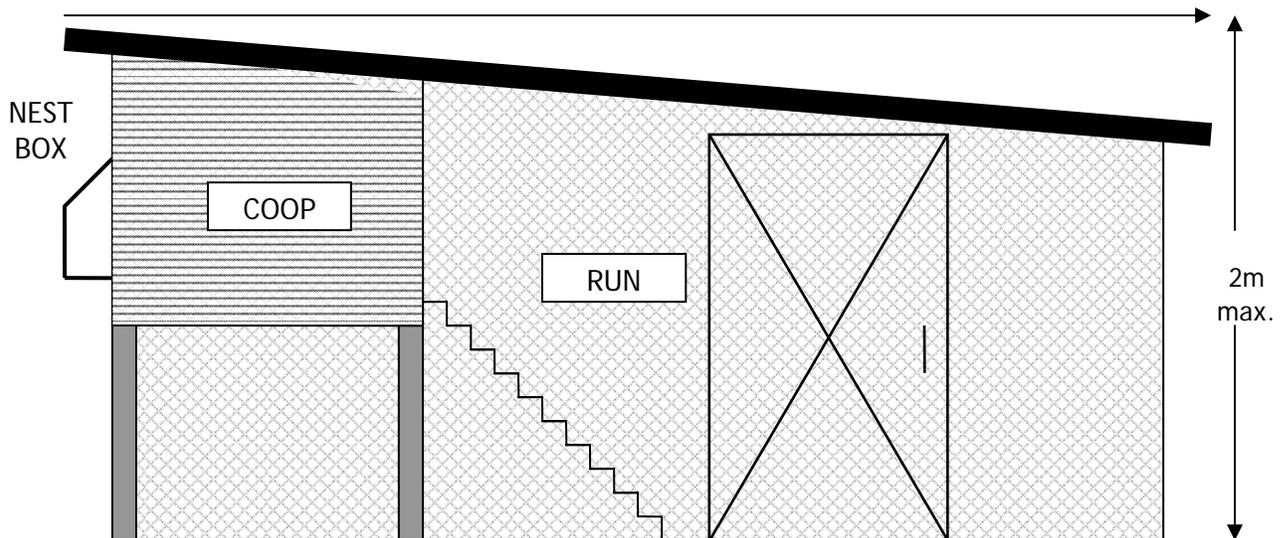
a. Plan View



<sup>1</sup> Farm Animal Welfare Council. Five Freedoms. Retrieved January 14, 2010 from <http://www.fawc.org.uk/freedoms.htm>

## b. Elevation

~ 3 - 4 m



Hens also require adequate space. Too little space can be a stressor for hens, who may respond with aggressive behaviours such as egg eating, pecking at each other, and cannibalism. Too much space in the coop can increase heating demands. Significant debate exists on the amount of space required to raise hens. While most large-scale commercial producers provide between  $0.8 \text{ ft}^2$  -  $1.2 \text{ ft}^2$  of space per hen, space requirements for smaller free range, organic, and humane-certified flocks are more generous. Recommended cage-free or free range indoor space requirements vary from  $1.5 \text{ ft}^2$  to  $8 \text{ ft}^2$  per hen, depending on the size of the hen and other factors. Appendix E lists space recommendations from a variety of sources, with a mean recommendation of between  $3 \text{ ft}^2$  and  $4 \text{ ft}^2$  per hen.

The staff recommendation includes a minimum space requirement of  $0.37 \text{ m}^2$  ( $4 \text{ ft}^2$ ) of coop space and  $0.92 \text{ m}^2$  ( $10 \text{ ft}^2$ ) of outdoor enclosure, reflecting the roomier standards found in Appendix E. This liberal space allotment is appropriate, given that the hens will be continuously confined. Other housing requirements include a nest box, to accommodate the need for seclusion during egg-laying, and one  $\geq 15 \text{ cm}$  perch per bird, to allow hens to engage in roosting, an essential behaviour. Keeping hens in cages, which would prevent them from utilizing the full space allotment, and may cause injury, is not allowed in the proposed by-law amendment.

The staff recommendation also prohibits slaughtering or attempts at euthanasia by those who keep hens, as slaughtering by untrained individuals can result in unnecessary suffering. Hens at the end of their lives may be euthanized by a veterinarian (at an estimated \$40 cost), or taken to a farm or abattoir for slaughtering. Chicken carcasses may be taken to the Vancouver Animal Shelter for cremation, or disposed of in any other legal manner (i.e. buried in a pet cemetery, or in any other area where burial is allowed under Ministry of Environment regulations, or composted on a farm). Chicken carcasses are not allowed in City garbage containers.

Another recommendation with humane implications is the restriction on hens younger than four months. As well as reducing the number of unexpected roosters, this provision is intended to reduce impulse purchasing of chicks and subsequent abandonment of no-longer-cute-and-fuzzy hens. Even so, it is expected that some adult hens will end up at the Vancouver Animal Control shelter, either through abandonment or impoundment. Provisions for housing these hens, as well as other enforcement considerations, are discussed under Enforcement below.

Along with regulations, education plays a vital role in promoting humane care. Staff therefore recommends that the on-line registry be a vehicle for ensuring that registrants receive basic information on chicken care and maintenance. Specifically, staff proposes that the registry include information and links on best management practices, humane considerations, biosecurity protocols, educational resources, and by-law requirements, including a list of local workshops on hen keeping, with a strong encouragement for all registrants to attend. Staff considered requiring registrants to attend a workshop, but does not recommend that this be a by-law requirement. The administrative process this would involve, including reviewing, assessing and endorsing the appropriate courses, and providing proof of course completion, would be difficult. In addition, many people that keep hens have prior experience and may not require courses to properly manage them. By forgoing the workshop requirement, staff recognizes that a balance must be maintained between providing adequate regulatory control and avoiding burdensome requirements.

## Public Health and Welfare

Public health and welfare must be a primary concern when considering regulations for backyard hens. Many urban dwellers question whether hens are appropriate to keep in urban environments, and fear that they will bring disease, increased noise, unpleasant odours, and unwanted animals such as rodents to their neighbourhoods. This section examines some of the main health and nuisance concerns associated with backyard hens, and the measures proposed to address them.

### *Avian Influenza*

Chickens, like other birds, are susceptible to forms of Type A influenza that are collectively known as “avian influenza” (AI). The AI virus is widespread, particularly among wild birds, but most forms produce relatively mild or no symptoms. AI can mutate, after circulation in a concentrated poultry population, into highly pathogenic forms (HPAI) that produce severe symptoms but this is less common.<sup>2</sup> AI is not an airborne disease, but is transmitted from infected to healthy birds via direct contact with birds and their droppings, feathers, and body fluids.<sup>3</sup>

AI has spread to humans in rare instances. Transmission from birds to human remains difficult, usually involving prolonged and close contact, and human-to-human transmission has been suspected in only a handful of cases.<sup>4</sup> The greatest risk of infection for humans appears to be

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<sup>2</sup> World Health Organization (WHO). Avian Influenza Fact Sheet. Retrieved January 14, 2010, from [http://www.who.int/mediacentre/factsheets/avian\\_influenza/en/](http://www.who.int/mediacentre/factsheets/avian_influenza/en/).

<sup>3</sup> Food and Agriculture Organization of the United Nations (FAO). Questions and Answers - The Facts of Bird Flu. Retrieved January 14, 2010 from <http://www.fao.org/avianflu/en/ganda.html>.

<sup>4</sup> World Health Organization (WHO). H5N1 Avian Influenza: Timeline of Major Events. Retrieved January 14, 2010 from [http://www.who.int/csr/disease/avian\\_influenza/Timeline\\_10\\_01\\_04.pdf](http://www.who.int/csr/disease/avian_influenza/Timeline_10_01_04.pdf).

through the handling and slaughtering of live infected poultry. Public health concerns centre on the potential for the virus to mutate or combine with other influenza viruses to produce a form that could easily spread from person to person.

A high pathogenic H5N1 subtype of AI has caused virulent disease among birds in parts of Asia, Africa, and Europe, and rare but serious disease in humans. An outbreak of high pathogenic H7N3 AI occurred among poultry in the Fraser Valley in 2004, resulting in the deaths of 17 million birds (through disease and culling) but only two mild cases of flu among humans. A more detailed review of these outbreaks is provided in Appendix H.

Health authorities in Canada consider the risk of H5N1 reaching North America, or other HPAI subtypes spreading among backyard hens, to be extremely limited, particularly if biosecurity measures, such as those recommended by the CFIA, are followed.

The British Columbia Center for Disease Control (BCCDC) conducted a literature review on the risks of infectious disease from backyard hens and found that

*Overall, the risk of pathogen transmission associated with backyard chicken keeping appears to be mild and does not present a greater threat to population health compared to other animals allowed by similar bylaws (reptiles, dogs, etc). Public adherence to proper hygiene will significantly mitigate the risk of any disease acquisition including pathogens commonly found in chickens.*

Vancouver Coastal Health has worked with staff on developing the recommended guidelines and considers them to be protective of public health.

Dr. Victoria Bowes, a board-certified Poultry Veterinarian in the Fraser Valley and an authority on the Fraser Valley outbreak, considers the risk of HPAI among backyard hens to be minimal, stating that

*As long as Asian HPAI-H5N1 remains foreign to Canada AND the birds don't move out of the backyard once they are placed, then the avian influenza disease risks are extremely low (almost negligible).*

Similarly, Interior Health recently released a document entitled "Backyard Chickens in the Urban Environment," which is intended as a guide for municipalities considering the health implications of backyard chicken keeping. The document states

*The risk of avian influenza development is not appreciably increased by backyard hens. Urban hen keepers should be encouraged to follow the advice of CFIA: Bird Health Basics - How to Prevent and Detect Disease in Backyard Flocks and Pet Birds.*

The staff recommendation requires hen keepers to follow the CFIA biosecurity standards, and includes the standards as a required reading on the on-line registry. These measures are intended to limit introduction of diseases from other domestic poultry and cross-contamination between humans and hens. Staff further recommends that owners be required to provide veterinary care for hens sufficient to maintain them in good health.

A number of other recommendations also will serve to minimize any potential for AI in backyard hens. Limiting the number of hens to four per lot (including multi-family lots) will ensure that the densities required for LPAI to develop into HPAI are not found in the city, especially given the expected low percentage of residents who will keep hens. The potential for spread of any form of AI is further reduced by the recommended requirement that hens be kept continuously enclosed in a roofed, secure structure. Under these conditions, introduction of any viruses from wild birds or other backyard hens would be extremely limited.

A third recommendation that will reduce risks in the unlikely event of an outbreak, or in the event that HPAI is found among North American wild bird populations, is the requirement for all hen keepers to enrol in an on-line registry, and to update their registration in a timely manner. The registry database will allow health officials to pinpoint the locations of backyard hens should a health emergency arise.

Other recommendations that will limit the potential for the spread of disease include a prohibition on backyard slaughtering, which will reduce exposure to blood and other body fluids from diseased birds; a prohibition on sale of hen products, which will limit transfer of disease; and requirements to keep enclosures sanitary and free from accumulated manure and waste.

### *Salmonella*

*Salmonella* is another health concern associated with poultry and eggs. *Salmonella* lives in the intestines of infected chickens, and can be shed in large numbers in the droppings. Humans who handle the birds or clean their enclosures can then be exposed to the bacteria, which can cause severe gastrointestinal illness if ingested. The guidelines recommended to reduce the risks of avian influenza will also help minimize the risk of *Salmonella* poisoning from contact with chickens. This risk is further reduced by the recommended prohibition of hens less than four months old, as chicks shed much more *Salmonella* than older birds. In addition, transmission of the bacteria will be limited by the recommended prohibition on commercial sale of eggs or other hen products.

With the recommended regulations in place, keeping of backyard hens should pose minimal risks to public health.

### *Nuisance Issues*

The keeping of backyard hens raises potential nuisance issues, including increased noise, unpleasant odors, and attraction of unwanted animals, such as rodents and raccoons. In order to minimize nuisance issues in general, staff recommends that a maximum of four hens be allowed per lot. Specific nuisance issues, and recommended measures to address them, are outlined in turn below.

#### Noise

Laying hens produce a variety of vocalizations, none of which are very loud. Perhaps the loudest noise is an approximately five-minute period of cackling or squawking that occurs when a hen lays an egg. In an investigation conducted by staff from the City of Pleasanton, California, noise readings of a "squawking" chicken registered at 63 dbA at two feet away,

and would not register at nine feet away.<sup>5</sup> For comparison, the average human conversation registers at about 60 decibels,<sup>6</sup> and a barking dog can be as loud as 100 dbA.<sup>7</sup>

Noise Control By-law No. 6555 limits “continuous sound” levels in residential areas to 55 dbA in daytime and 45 dbA at night, measured from the point of reception. In addition, it prohibits the cries of animals or birds that can be easily heard by a person outside the premises, and that unreasonably disturbs the “quiet, peace, rest, enjoyment, comfort, or convenience” of that person. The same provision is applied to dog barking in the Animal Control By-law.

Given that noise from hens is relatively quiet and intermittent, it is unlikely to be a significant nuisance under the proposed guidelines, which provide setbacks and other management measures to ensure some separation between hen enclosures and neighbouring properties. Specifically, staff recommends minimum setbacks of 1 m from all property lines, and 3 m from all windows and doors. Given this separation, it is unlikely that hen sounds will be above allowable levels on neighbouring properties. The recommendation that hens be kept in their coops from sunset to sunrise, which is primarily to protect hens from predators, will reduce potential noise impacts at night.

Unlike hens, a crowing rooster can reach decibel levels of 85-90 dbA. For this reason, it is recommended that roosters be prohibited under the proposed by-law amendment. In this regard, it is also recommended that no chickens under the age of four months be allowed, as determining gender (and thus avoiding unexpected roosters) can be more difficult in young chickens.

### Odor

Unpleasant odors, from accumulation of manure and/or food scraps, can result if chicken enclosures are infrequently cleaned and food is broadcast in the pens. Although chickens produce only a few tablespoons of manure per day, accumulations of manure can produce ammonia, which is both harmful for chickens and unpleasant for others. It is recommended to remove manure and scraps at least weekly, and preferably daily. Manure can be flushed down the toilet, or composted, but is not allowed in garbage cans in Vancouver. Composted chicken manure is an excellent fertilizer.

In order to address potential odor issues, staff recommends that a provision requiring enclosures to be maintained in a sanitary condition, free of obnoxious smells and substances, be added to the Animal Control by-law. Recognizing the value of composted chicken manure, as well the potential odor issues associated with manure accumulation, staff recommends a by-law provision that allows storage of up to 1 m<sup>3</sup> of manure only if it is stored in a fully enclosed structure (such as a compost bin).

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<sup>5</sup> City of Pleasanton. Planning Commission Staff Report, October 26, 2005, Item 6f. Retrieved January 14, 2010 from <http://www.ci.pleasanton.ca.us/pdf/pcsr-6f-prz30-ord.pdf> .

<sup>6</sup> National Agricultural Safety Database. Hearing Protection for Farmers. Retrieved January 14, 2010 from <http://nasdonline.org/document/1144/d000933/hearing-protection-for-farmers.html> .

<sup>7</sup> Coppola, Crista L., Enns, R. Mark, Grandin, Temple. “Noise in the Animal Shelter Environment: Building Design and the Effects of Daily Noise Exposure,” *Journal of Applied Animal Welfare Science*, 9(1), 1-7.

## Pests

Hen enclosures can also attract unwanted animals, including rodents seeking food scraps, and larger animals, such as raccoons, foxes, skunks, and coyotes, seeking eggs or a chicken dinner. For this reason, it is vital that hen enclosures be secure from other animals. In order to discourage rodents and predators who may be attracted by food scraps and potential prey, staff recommends by-law language that requires hen enclosures to be constructed and maintained to prevent rodents from being harboured underneath, within, or within the walls of the coop and the run, and to prevent access to the enclosure by any other bird or animal. As noted above, staff further recommends that owners be required to keep hens, as well as their food and water, in the coop between sunset and sunrise, and that the coop remain locked during that time. Lastly, staff recommends that any leftover feed be removed in a timely manner to discourage rodent interest.

## **Enforcement**

Animal Control would enforce the recommended by-law provisions, using procedures currently authorized for control of "other animals." These procedures, which are outlined in the Animal Control By-law, include measures for impoundment, seizure, detainment, and disposal of animals, as well as descriptions of fees and penalties. To ensure that these measures would be available, staff recommends that the definition of "other animals" in the Animal Control by-law be clarified to include hens. Enforcement would be done on a complaint basis.

As noted above, it is expected that some adult hens will end up at the Vancouver Animal Control shelter, either through abandonment or impoundment. Currently, the shelter has no facilities for poultry, and houses the occasional stray chicken in a cage in the dog run area. This arrangement is stressful for the chickens and overstimulating for the dogs, and would be unworkable should a greater number of birds need accommodation. Therefore, staff requests that \$20,000 be provided from the existing Community Services capital budget to construct a facility with coops and runs for six hens. Although contained in one structure, each coop and run would be separate from the others, to prevent transmission of disease, as well as pecking and other aggressive behaviour common among unacquainted hens. The facility would also have electricity, in order to allow heat lamps in winter, and plumbing to improve ease of cleaning.

The Vancouver Animal Control shelter is a pro-adoption facility; therefore, efforts would be made to find placements for abandoned or impounded hens. Hens that were unable to be placed would be euthanized.

## ***FINANCIAL IMPLICATIONS***

Recommendation B (iii) requests authorization of a \$20,000 expenditure from the existing Community Services capital budget for construction of facilities to house abandoned and/or seized hens. In addition, approximately \$5,000 from the existing Licences and Inspections operating budget will be required for communications.

## ***PERSONNEL IMPLICATIONS***

No new personnel are required to implement the staff recommendation. It is expected that existing staff could maintain the on-line registry, and respond to complaints. If complaint volumes are larger than anticipated, staff may request additional enforcement staffing

resources. Creation of the on-line registry website will require approximately 4 weeks of dedicated staff time from Information Services and from Graphics and Communications.

### ***ENVIRONMENTAL IMPLICATIONS***

By providing eggs for urban residents, and fertilizer for urban gardens, backyard hens contribute to local food production, which in turn reduces the City's carbon footprint. Hens can also reduce weed and garden pest populations, thus providing an environmentally friendly alternative to pesticides and herbicides. Backyard hens produce very little environmental impact, provided that their waste is regularly collected and composted or flushed, and their enclosures are kept clean.

### ***SOCIAL IMPLICATIONS***

Backyard hens contribute to the local and affordable production of nutritious food, and thus support the goal of creating a just and sustainable food system for our City.

### ***IMPLEMENTATION PLAN***

Should Council approve the staff recommendation, amendments to the Zoning and Development By-law would proceed to public hearing on May 18, 2010. Should Council approve the proposed Zoning and Development By-law amendments at that time, those amendments, and the amendments to the Animal Control By-law, would be brought concurrently to Council for enactment. While the by-law amendments are proceeding towards enactment, staff would begin work on the on-line registry and construction of the hen facilities at the animal shelter. The on-line registry may not be completed until several weeks after the initial by-law amendments are enacted; however, phone registration would be available during that time. Once the on-line registry is established, it will be necessary to further amend the Animal Control By-law in accordance with Resolution D and Appendix C.

### ***COMMUNICATIONS PLAN***

Should Council approve the staff recommendation, staff would immediately e-mail interested parties, update the backyard hens website, and issue a press release. Communications materials would emphasize that approval for the Zoning and Development By-law amendments must await public hearing. Staff would follow the same protocol once the Zoning and Development By-law amendments are approved, and upon final by-law enactment. At that time, promotional ads for the on-line registry would be taken out in local weekly newspapers, at an estimated cost of approximately \$5,000, to be drawn from the existing Licences and Inspections public education budget.

### ***CONCLUSION***

As recognized by Council, backyard hens can provide many benefits, including improving food security, decreasing greenhouse gas emissions related to the transportation of food, and contributing to a just and sustainable food system. This report provides recommendations on how the City can enjoy those benefits, while protecting public health and safety and ensuring humane treatment of the hens. These recommendations include amendments to the Zoning and Development By-law that allow keeping of hens in all residential zones, including multi-family, that provide reduced setbacks to allow keeping of hens on Vancouver's typically

narrow lots, and that provide maximum floor area and height standards to ease permit requirements and reduce visual impacts. The recommendations also include amendments to the Animal Control By-law, including repeal of the prohibition on keeping of hens, and addition of a new section providing limits on the number and type of chickens allowed, requirements for housing and care, prohibitions on backyard slaughtering and/or commercial use, requirements for pest control, sanitation, and biosecurity, and a requirement that hen keepers register their hens. Lastly, the staff recommendation includes a request for funding to construct hen facilities at the animal shelter. In total, the recommendations provide a system of regulation that will allow Vancouver residents to safely and humanely enjoy the rewards that backyard hens provide.

\* \* \* \* \*

Draft Amendments to  
Zoning and Development By-law No. 3575  
regarding keeping hens

**Note:** A By-law will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

1. This By-law amends or adds to the indicated provisions of the Zoning and Development By-law.

2. To section 2, after the definition of "Head of Household", Council adds:

"Hen means a domesticated female chicken that is at least four months old;"

3. After section 10.18.1, Council adds:

"10.18.2 Despite section 10.18.1, a building or other enclosure for keeping one or more hens:

- (a) must be no more than 9.2 m<sup>2</sup> in floor area;
- (b) must be no more than 2 m high;
- (c) must be no closer than 3 m from any door or window of any dwelling;
- (d) must be situate only in a rear yard or a side yard;
- (e) may be anywhere in a rear yard;
- (f) must, on a corner flanking lot, be no less than the greater of a distance equal to:
  - (i) the existing setback of the principal building, and
  - (ii) the required setback for a principal building under the Zoning and Development By-law,from the property line adjacent to the flanking street;
- (g) must be at grade level;
- (h) must be no less than 1 m from any property line; and
- (i) may be situate only in RA, RS, RT, RM, and FM zones."

BY-LAW NO. \_\_\_\_\_

**A By-law to amend Animal Control By-law No. 9150  
regarding keeping hens**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends or adds to the indicated provisions of the Animal Control By-law.
2. To section 1.2, after the definition of "dog", Council adds:  
  
' "hen" means a domesticated female chicken that is at least four months old;'.
3. From section 1.2, Council repeals the definition of "other animal", and substitutes:  
  
' "other animal" means any animal, including any mammal, bird, reptile or amphibian, except a dog or domestic cat;'.
4. Council repeals section 7.2, and substitutes:  
  
"7.2 A person must not keep in any area, temporarily or permanently, any horses, donkeys, cattle, swine, sheep, goats, ducks, geese, turkeys, pheasants, quail, or other poultry or fowl, except that this prohibition does not apply to:  
  
    (a) keeping hens, subject to sections 7.15 and 7.16;  
  
    (b) areas in which the Zoning and Development By-law allows the keeping of such animals;  
  
    (c) licensed pet shops or kennels;  
  
    (d) slaughter houses; or  
  
    (e) the exceptions set out in section 7.4."
5. In section 7.5, Council:
  - (a) from subsection (a), strikes out "or";
  - (b) from subsection (b), strikes out ".", and substitutes "; or"; and
  - (c) after subsection (b), adds:  
  
    "(c) four hens, in aggregate, on any one parcel despite the number of dwelling units permissible on that parcel."
6. After section 7.14, Council adds:

### “Registration of hens

7.15 A person must not keep a hen unless that person first registers with the city, by:

- (a) requesting, by telephone to 311, the mailing to that person of the information on keeping hens and an application form;
- (b) reading such information;
- (c) completing the application including the following mandatory fields:
  - (i) the date,
  - (ii) the person’s name, address and postal code,
  - (iii) confirmation that the person resides on the property where he or she will be keeping hens, and
  - (iv) confirmation that the person has read the information referred to in subsection(b); and
- (d) returning the completed application to the city;

and such person must promptly update, and provide to, the city any information given when any change occurs.

### Keeping of hens

7.16 A person who keeps one or more hens must:

- (a) provide each hen with at least 0.37 m<sup>2</sup> of coop floor area, and at least 0.92 m<sup>2</sup> of roofed outdoor enclosure;
- (b) provide and maintain a floor of any combination of vegetated or bare earth in each outdoor enclosure;
- (c) provide and maintain, in each coop, at least one perch, for each hen, that is at least 15 cm long, and one nest box;
- (d) keep each hen in the enclosed area at all times;
- (e) provided each hen with food, water, shelter, light, ventilation, veterinary care, and opportunities for essential behaviours such as

scratching, dust-bathing, and roosting, all sufficient to maintain the hen in good health;

- (f) maintain each hen enclosure in good repair and sanitary condition, and free from vermin and obnoxious smells and substances;
- (g) construct and maintain each hen enclosure to prevent any rodent from harbouring underneath or within it or within its walls, and to prevent entrance by any other animal;
- (h) keep a food container and water container in each coop;
- (i) keep each coop locked from sunset to sunrise;
- (j) remove leftover feed, trash, and manure in a timely manner;
- (k) store manure within a fully enclosed structure, and store no more than three cubic feet of manure at a time;
- (l) remove all other manure not used for composting or fertilizing;
- (m) follow biosecurity procedures recommended by the Canadian Food Inspection Agency;
- (n) keep hens for personal use only, and not sell eggs, manure, meat, or other products derived from hens;
- (o) not slaughter, or attempt to euthanize, a hen on the property;
- (p) not dispose of a hen except by delivering it to the Poundkeeper, or to a farm, abattoir, veterinary, mobile slaughter unit, or other facility that has the ability to dispose of hens lawfully; or
- (q) not keep a hen in a cage."

7. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.

8. This By-law is to come into force and take effect on the date of its enactment.

ENACTED by Council this \_\_\_\_\_ day of \_\_\_\_\_, 2010

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
City Clerk

BY-LAW NO. \_\_\_\_\_

**A By-law to amend Animal Control By-law No. 9150  
regarding keeping hens**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends or adds to the indicated provisions of the Animal Control By-law.

2. Council repeals section 7.15 and substitutes:

“

**Registration of hens**

7.15 A person must not keep a hen unless that person first registers with the city:

(a) electronically by:

- (i) accessing the city's animal control computer website at \_\_\_\_\_,
- (ii) accessing the link from that website to the on-line registry at \_\_\_\_\_,
- (iii) reading the information on keeping hens at the on-line registry site,
- (iv) completing the application at the on-line registry site including the following mandatory fields:
  - (A) the date,
  - (B) the person's name, address and postal code,
  - (C) confirmation that the person resides on the property where he or she will be keeping hens,
  - (D) confirmation that the person has read the information referred to in clause (iii), and

(v) submitting the application to the on-line registry site; or

(b) by requesting, by telephone to 311, the mailing to that person of the information on keeping hens and an application form, and by:

- (i) reading such information,
- (ii) completing the application including the mandatory fields referred to in subsection (a)(iv), and

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(iii) submitting the completed application to the city;

and such person must promptly update, and provide to, the city any information given when any change occurs.

**BACKYARD HEN REGULATIONS IN BRITISH COLUMBIA AND IN MAJOR U.S. CITIES**

City	Maximum # Allowed	Roosters Allowed	Permit or Licence Required	Neighbour Notification Required	Minimum Lot Size	Setbacks (from dwellings on lot)	Setbacks (from lot lines)	Setbacks (from other dwellings)
Vancouver (proposed)	4	No	Registration required	No	No	3 m (10 feet)	1 m (3 feet)	3 m (10 feet)
Victoria	Unlimited, but excessive numbers will bring into question intended use	No	No	No	No	None	None	None
Esquimalt	4	No	No	No	No	None	1.5 m (5 feet)	None
Burnaby	Unlimited	Yes	No	No	1 acre; A1 & A2 zones only	9 m (30 feet)	24.5 m (80 feet)	None
Richmond	Unlimited	Yes	No	No	2,000 sq. metres (1/2 acre)	None	None	None
Surrey	12 per acre	Yes	No	No	1 acre	None	Front and Side Yard Flanking Street = 36 m (120 feet) Rear and Side Yard = 7.5 m (25 feet)	None
New Westminster	8 chickens on 6,000 sq. ft. lot, plus one for each additional 750 sq. ft., and up to 50 on lots greater than 1/2 acre	Yes	No	No	6,000 sq. ft.	50 feet (15.2 metres) 100 feet (30.4 metres) if more than 12 chickens	None	50 feet (15.2 metres) 100 feet (30.4 metres) if more than 12 chickens
Seattle	Three, with one additional chicken allowed per 1,000 ft <sup>2</sup> beyond minimum lot size (or beyond 5,000 ft <sup>2</sup> )	Yes	No – voluntary registry through King County Public Health	No	No	None	10 feet	None

City	Maximum # Allowed	Roosters Allowed	Permit or Licence Required	Neighbour Notification Required	Minimum Lot Size	Setbacks (from dwellings on lot)	Setbacks (from lot lines)	Setbacks (from other dwellings)
Portland	Three without permit, unlimited with permit	No	Yes, for more than 3 chickens	Yes, for more than 3 chickens	No	None	None	15 feet
San Francisco	Four	Yes	No, unless kept for commercial purposes	No	No	20 feet from doors or windows	None	20 feet from doors or windows
Los Angeles	Unlimited	Yes	No	No	No	20 feet	None	35 feet; 100 feet for "crowing birds"
Denver	Unlimited	Yes	Yes	Yes	No	None	None	None
Chicago	Unlimited	Yes	No	No	No	None	None	None
Madison, WI	Four	No	Yes	Yes	No	None	None	25 feet
Minneapolis	Unlimited	Yes	No	Yes	No	None	None	None
New York City	Unlimited	No	No	No	No	None	None	None

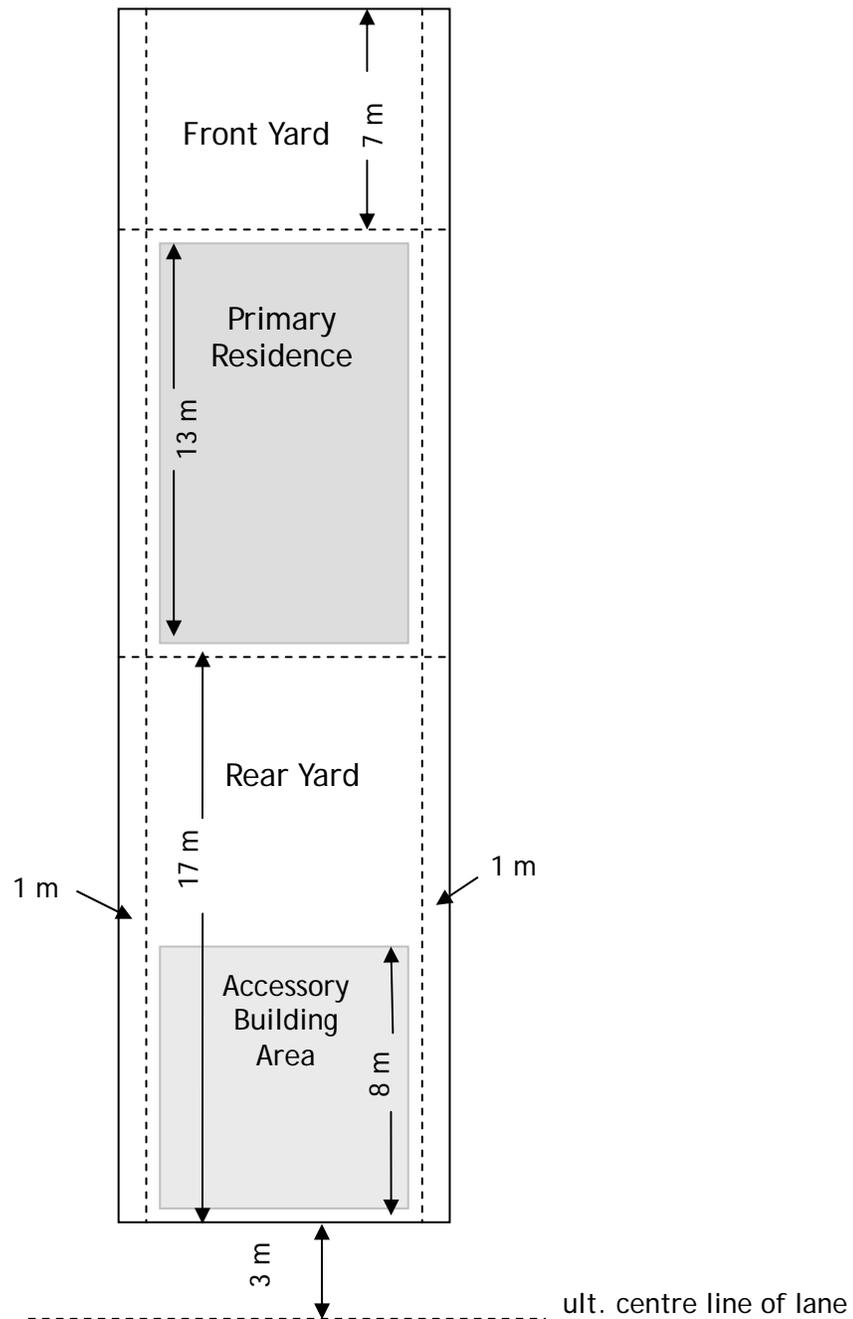
Survey of Recommended Minimum Space Requirements for Poultry Keeping

Organization	Recommended Minimum Space Requirements – Interior floor space in sq. ft. per hen	Recommended Minimum Space Requirements – Exterior floor space in sq. ft. per hen	Notes
<b>Cooperative Extensions</b>			
Michigan State University Cooperative Extension	1.5 -2		Plus feeding and watering areas
New Mexico State University Cooperative Extension	2.5 – 3		Also 4 inches of feeder space, and 2 inches of water feeder space
Texas A&M University Cooperative Extension	3		
Utah State University Cooperative Extension	1.5 - 2 sq. ft./bird floor space plus 1 – 1.5 sq. ft. nest box area per 4 -5 hens		Does not include interior space for feed/water
Virginia Cooperative Extension – Urban Fowl	1 sq. ft./ 1 lb. body weight (=2 sq. ft. for bantams; 4 – 8.5 sq. ft. for other hens)  3 cu. ft. of air space / 1 lb. of body weight		Laying hens typically weigh between 4 and 8.5 lbs., depending on breed; bantams average around 2 lbs.
Virginia Cooperative Extension – Commercial Flocks	1.5 plus one 0.7 sq. ft. nest box per 5 birds	8	
University of California at Davis Cooperative Extension	2 -2.5 for bantams and small breeds; 3 – 3.5 for larger breeds		
University of Florida IFAS Extension	1.5 – 3.0		
University of Georgia Cooperative Extension	3 – 3.5		
University of Maryland Cooperative Extension	3		
University of Minnesota Cooperative Extension	3		Guidelines for small laying flocks
University of Missouri Extension	3 (light breeds) 4 (heavy breeds)		
University of New Hampshire Cooperative Extension – “Producing Your Own Eggs”	3		

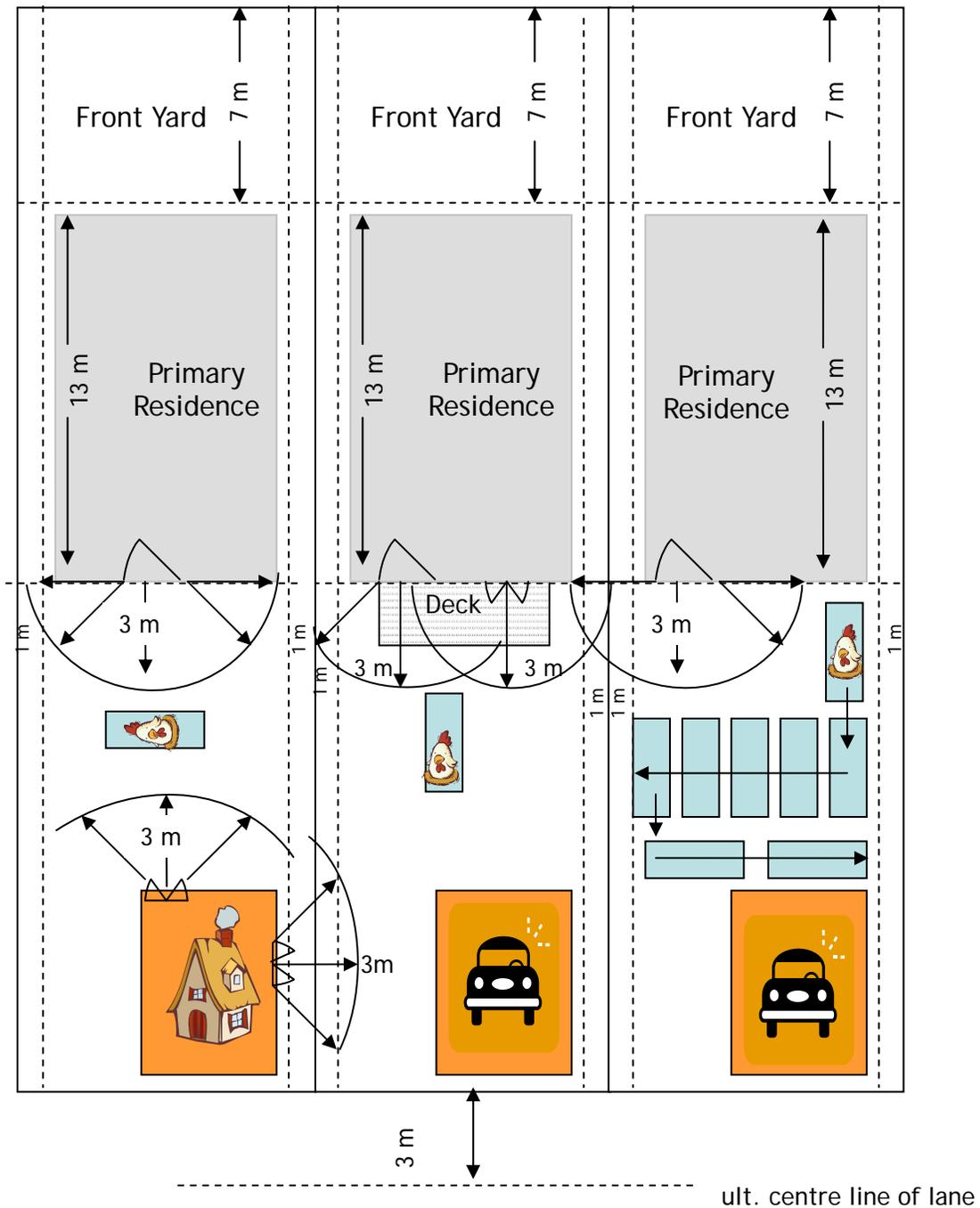
Organization	Recommended Minimum Space Requirements - Interior floor space in sq. ft. per hen	Recommended Minimum Space Requirements - Exterior floor space in sq. ft. per hen	Notes
<b>Other Government Agencies</b>			
Canada Plan Service	2 -3, depending on size of hen, plus 0.65 sq. ft. nest box per 5 birds		For small-scale commercial operations
Canadian Agri-Food Research Council	1 sq. cm./1 g body weight ex: 2 sq. ft. for 4 lb. bird 4 sq. ft. for 8 lb. bird		For free-run, indoor commercial systems with litter floors
ATTRA – National Sustainable Agricultural Information Service	2 -3 if adequate ventilation and insulation to prevent condensation; 4 – 8 if not		For flocks without regular ranging
New South Wales Agriculture Department	3.5		Plus 25 cm x 30 cm nest box
<b>Municipalities</b>			
City of Esquimalt	4.3		
City of New Westminster	4	2.5 sq. ft. of “runway” floor area	8 cu. ft. of space in pen or shed
City of Colorado Springs, CO	4	“adequate” outdoor space	
City of Fayetteville, AR		100	
City of Missoula, MT	2	outdoor enclosure required	
City of Rochester, NY	4	2.7	
<b>Humane Organizations</b>			
United Poultry Concerns	8-10		
Global Federation of Animal Sanctuaries	4	10	
Chicken Run Rescue	4	10	
<b>Popular Websites</b>			
Backyard Chickens.com	2-3	4-10	see FAQs and Raising Chickens 101
BBC Green blog	4	25 sq. ft./bird if run is not movable	
Chicken-yard.net	3.5 (for 3 birds) 7 (for 5 – 7 birds)		
Just Food (NYC)	2 - 4	4	
Mad City Chickens	3	6	
Professor Chicken.com	4	10 – 12	6-8 sq. ft./bird if no outdoor run
SoPo Chickens	4	10	Does not include interior space for feed/water and nest boxes
Global Federation of Animal Sanctuaries	4	10	

Building area, RS-1 Zone  
(33' x 122' lot)

Maximum site  
coverage =  
40%

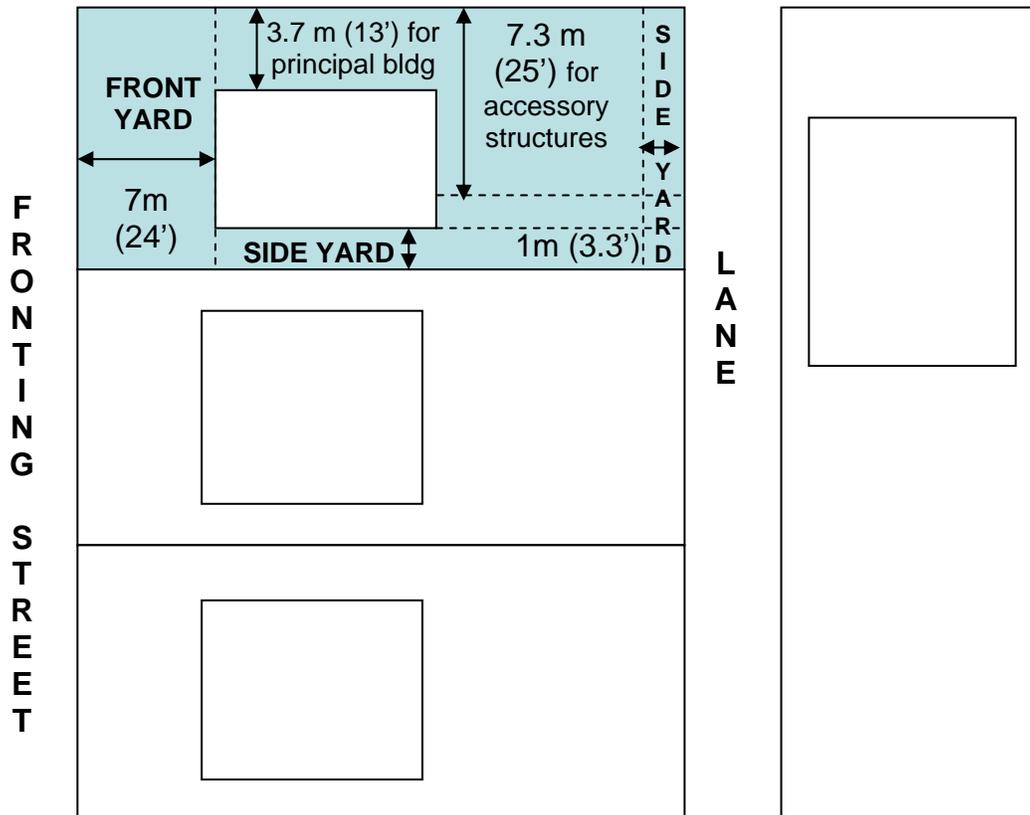


### Proposed Setbacks for Hen Enclosures shown on a 33' x 122' RS-1 Zone lot

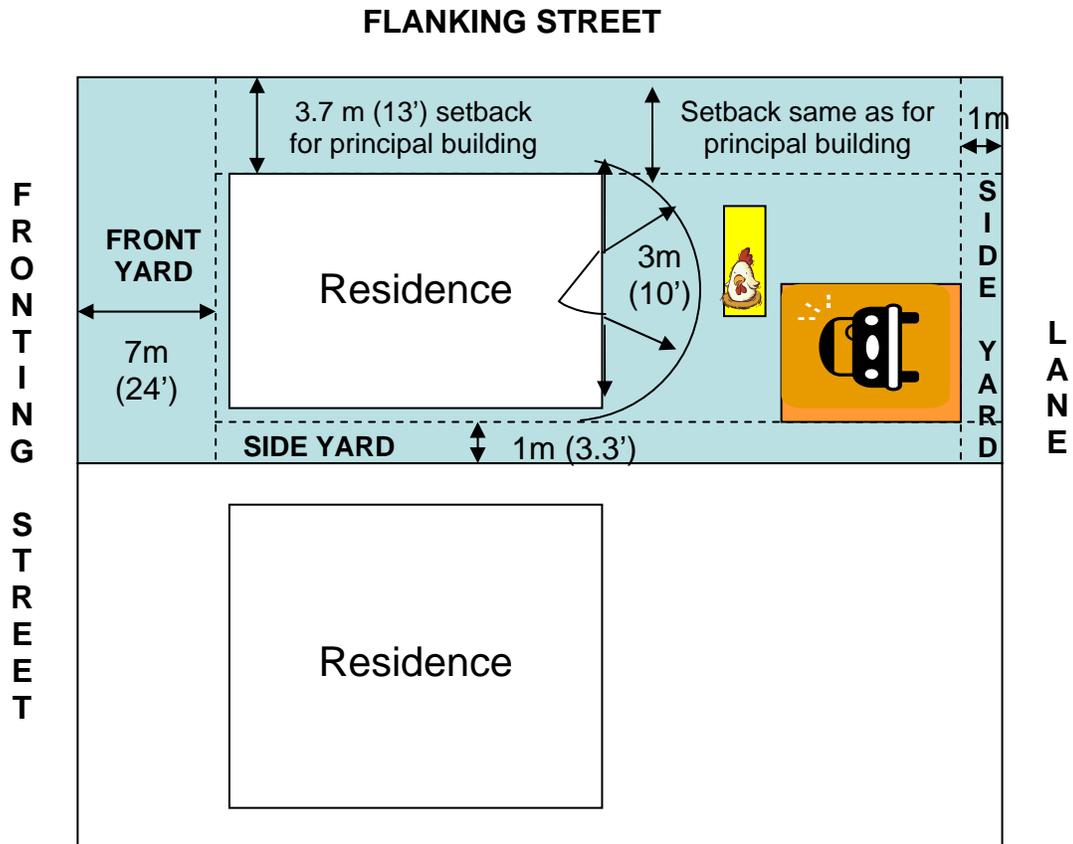


## Corner Flanking Lot Setbacks RS- and RT- Zones

### FLANKING STREET



## Proposed Corner Flanking Lot Setbacks RS- and RT- Zones



Backyard Hens - Comments Received March 6, 2009 - October 4, 2009		
Comments in Support	Comments Opposed	Other Comments
26	3	5
Reasons for Support	Reasons for Opposition	Other Comments
Food Security	Avian flu	Please keep me updated
Sustainability	Rats	Do not allow slaughter
Fresh eggs	Smell	Require adequate living standards
Alternative to factory farms	Noise	Will roosters be allowed?
	Salmonella	Do not allow slaughter

Backyard Hens - Comments Received on Draft Guidelines - October 2009		
Comments in Support	Comments Opposed	Other Comments
16	2	2
Comments Regarding Zoning Guidelines	Comments Regarding Animal Control Guidelines	
Allow relaxed setbacks for corner lots	Allow hens to free range in yard	
Reduce 10 foot setback from dwelling on lot	Reduce coop/enclosure space requirements	
Reduce 10 foot setback from neighbour dwelling	Allow ducks	
Increase setback from dwellings	Allow chicks	
Allow enclosures in side yards	Allow up to 6 hens	
	Require only one nest box for all hens	
	Provide list of local resources on web site	
	Require owner approval for keeping of hens on rental properties	
	Require approval from neighbours/other tenants	
	Have all registry materials in several languages	
	Include species name ( <i>Gallus gallus domesticus</i> )	
	Clarify response in event of avian flu	
	Require measures to prevent predation	

## Background - Avian Influenza and Salmonella

### *Avian Influenza*

Chickens, like other birds, are susceptible to forms of Type A influenza that are collectively known as “avian influenza” (AI). There are two forms of AI:

Low Pathogenic Avian Influenza (LPAI, or “low path”)

High Pathogenic Avian Influenza (HPAI, or “high path”)

LPAI produces relatively mild or no symptoms, and is widespread, particularly among wild birds. In contrast, HPAI produces severe symptoms but is less common, occurring in acute outbreaks. LPAI can mutate into HPAI after circulation in a concentrated poultry population.<sup>8</sup> AI is not an airborne disease, but is transmitted via direct contact with birds and their droppings, feathers, and body fluids.<sup>9</sup>

Along with the two different forms of AI, there are many subtypes. Like other influenza viruses, these subtypes are identified by two surface antigens: H (hemagglutinin) and N (neuraminidase). Only the H5 and H7 subtypes are known to have become highly pathogenic in avian species, including domestic poultry.<sup>10</sup> AI has spread to humans in rare instances.

The most severe occurrence of HPAI is an ongoing H5N1 outbreak that originated in China in 2003 and has spread throughout Asia and into Europe, the Middle East, and Africa. This virulent disease has resulted in the death (from disease and culling) of an estimated 150 million birds since 2003. During that time, there have been 467 confirmed human cases of H5N1 with 282 deaths. These cases, which have largely been attributed to direct contact with dead or sick birds, have occurred in 15 countries in Asia, Africa, and the Middle East, all of which are considered developing countries by the United Nations Human Development Index.<sup>11</sup> No cases of human infection have occurred in countries with the highest standards of living, such as those in the more prosperous areas of Asia, Europe, and the Middle East, despite the presence of H5N1 in poultry and wild birds in those regions.

This outcome is consistent with the findings of the Food and Agriculture Organization of the United Nations (FAO), which attributes spread of H5N1 to the practices more commonly found in poorer, less regulated areas. These include: poor sanitation; lack of veterinary inspection; live poultry markets; slaughtering in retail outlets; transport of diseased animals, contaminated cages, and dirty egg crates; contact between wild birds and aggregations of

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<sup>8</sup> World Health Organization (WHO). Avian Influenza Fact Sheet. Retrieved January 14, 2010, from [http://www.who.int/mediacentre/factsheets/avian\\_influenza/en/](http://www.who.int/mediacentre/factsheets/avian_influenza/en/).

<sup>9</sup> Food and Agriculture Organization of the United Nations (FAO). Questions and Answers - The Facts of Bird Flu. Retrieved January 14, 2010, from <http://www.fao.org/avianflu/en/qanda.html> .

<sup>10</sup> Canadian Food Inspection Agency. Avian Influenza Fact Sheet. Retrieved January 14, 2010, from <http://www.inspection.gc.ca/english/anima/disejala/avflu/avflufse.shtml> .

<sup>11</sup> United Nations Development Programme. Human Development Report 2009 - HDI Rankings. Retrieved January 14, 2010, from <http://hdr.undp.org/en/statistics/> .

free ranging backyard poultry; and a general lack of biosecurity measures.<sup>12</sup> In Western Europe, Kuwait, Israel, and Saudi Arabia, H5N1 has occurred in sporadic and highly localized outbreaks, sometimes involving only one bird, and rarely more than one farm. Wealthier Asian countries such as Japan, South Korea, and Malaysia have controlled their outbreaks and their poultry are now considered disease-free. In contrast, in many parts of Indonesia and Vietnam, and in parts of Cambodia, China, and Thailand, H5N1 has become endemic among domestic birds.

High pathogenic H5N1 is not found in the Western Hemisphere, but there have been outbreaks of other HPAI subtypes. An outbreak caused by high pathogenic H7N3 occurred in the Fraser Valley in February 2004, resulting in the deaths (from disease and culling) of 17 million birds and an estimated \$471.6 million loss of revenue for Fraser Valley producers. The outbreak began in a large battery-style commercial operation with approximately 18,000 birds, and spread despite the culling of those flocks. By the end of the outbreak, the Canadian Food Inspection Agency (CFIA) identified HPAI H7N3 in 42 of the approximately 600 commercial poultry farms in the region and in 11 of the 553 backyard flocks, which together represented about 1.3 million birds.<sup>13</sup> Infection of humans was limited to two individuals, who experienced conjunctivitis (pink eye) and mild flu-like systems.<sup>14</sup>

Since the 2004 Fraser Valley outbreak, awareness of AI has increased and government agencies from the federal to local levels have developed more extensive prevention protocols, surveillance programs, and emergency response plans for addressing AI. The CFIA responds to all reports of LPAI with targeted depopulation, quarantine, and testing programs. Should an HPAI outbreak occur, the CFIA would activate its “stamping out” policy which includes culling of all infected and exposed animals; surveillance and tracing of potentially infected or exposed animals; strict quarantine and animal movement controls to prevent spread; strict decontamination of infected premises; and zoning to define infected and disease-free areas.

For backyard chicken owners, the CFIA recommends five biosecurity measures:

1. Prevent contact with wild birds and other animals
2. Clean, clean, clean
3. Spot the signs (of disease) and report early
4. Limit exposure to visitors
5. Keep new birds separate when entering your flock

Thus, although the H5N1 subtype has caused virulent disease among birds in parts of Asia, Africa, and Europe, health authorities in Canada consider the risk of H5N1 reaching North

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<sup>12</sup> The Lessons We Learned in 2005 from the 2004 Outbreak of HPAI (H7N3) in BC Poultry, Dr. Victoria Bowes, Avian Pathologist, Animal Health Centre, BC Ministry of Agriculture & Lands, Abbotsford, British Columbia, presented at the INSA Science Days, May 2, 2006 Quebec City, QC

<sup>13</sup> Lees W, Chown L, Inch C. A short summary of the 2004 outbreak of high pathogenicity avian influenza (H7N3) in British Columbia, Canada. Ottawa, Ontario: Canadian Food Inspection Agency, Animal Products, Animal Health and Production Division; 2004.

<sup>14</sup> Tweed SA, Skowronski DM, David ST, Larder A, Petric M, Lees M, et al. Human illness from avian influenza H7N3, British Columbia. *Emerg Infect Dis* [serial on the Internet]. 2004 Dec [date cited]. Available from <http://www.cdc.gov/ncidod/EID/vol10no12/04-0961.htm> .

America, or other HPAI subtypes spreading among backyard hens, to be extremely limited, particularly if biosecurity measures, such as those recommended by the CFIA, are followed.

### *Salmonella*

*Salmonella* is another health concern associated with poultry and eggs. *Salmonella* lives in the intestines of infected chickens, and can be shed in large numbers in the droppings. Although *Salmonella* can be found among adult chickens, it is most commonly shed by chicks. Once shed, bacteria can spread across the chicken's body as the bird cleans itself and throughout the immediate environment. Humans who handle the birds or clean their enclosures can then be exposed to the bacteria, which can cause severe gastrointestinal illness if ingested. Health authorities recommend proper hand washing and other sanitation measures, such as changing clothes and boots, immediately after contact with poultry and their enclosures. They also recommend that children under 5 and those with compromised immune systems avoid exposure to chickens, particularly chicks. Regular cleaning of enclosures can also reduce the presence of *Salmonella*.<sup>15</sup>

The guidelines recommended to reduce the risks of avian influenza will also help minimize the risk of *Salmonella* poisoning from contact with chickens. This risk is further reduced by the recommended prohibition of hens less than four months old, as chicks shed much more *Salmonella* than older birds. In addition, transmission of the bacteria will be limited by the recommended prohibition on commercial sale of eggs or other hen products. The risk of *Salmonella* poisoning thus mainly affects those who are keeping hens, and their friends and families. Minimizing the spread of *Salmonella* is therefore largely a matter of personal responsibility that can be accomplished through good hygiene and proper precautions before and after handling of hens. It should be noted that other pets, particularly reptiles such as turtles and snakes, but also birds, hamsters, cats, dogs, and other animals, also shed *Salmonella* bacteria.

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<sup>15</sup> National Center for Infectious Diseases, Healthy Pets Healthy People Program. Health Risks Associated With Raising Chickens. Retrieved January 14, 2010, from [http://www.cdc.gov/healthypets/pdf/intown\\_flocks.pdf](http://www.cdc.gov/healthypets/pdf/intown_flocks.pdf) .