

## Options for Urban Livestock:

### ***Large poultry - chickens / ducks / geese / turkeys / guinea fowl***

- **can provide:** companionship, eggs (note guinea fowl, turkeys & geese lay seasonally – so less eggs than ducks or chickens), meat, manure, pest control (e.g. getting rid of fruit fly infestations by eating the larvae in the soil, eating weed seeds in a fallow garden bed)
  
- **need:**
  - **food:** Chickens, turkeys & guinea fowl eat grain or pellets, insects, some greens, and general food scraps.
  - Guinea fowl eat more insects than chickens, and turkeys eat more fruit and vegetables.
  - Ducks and geese eat grass, grubs, worms, slugs and snails. You can also feed them specially formulated duck pellets, and vegetable scraps.
  - Bread and root vegetables aren't good for them and should only be given in small amounts.
  
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  - Ducks and geese need a deep enough water dish that they can stick their entire heads into it, as this is how they clean their nostrils and beaks.
  - Ducks appreciate a small pond or a large container of water that they can get into and splash around.
  
  - **shelter & protection:** A night time shelter should allow at least 0.5 sqm per bird, and a pen that will be used during the day as well should allow at least 1 sqm per chicken or 1.5 sqm per duck.
  - Geese and turkeys, being larger, need a bit more space. Guinea fowl also need more space as they can be aggressive.
  
  - **company:** Social birds - minimum flock size is 3 birds for mental health of birds.
  
  - **medical care:** Worming, vet bills, potentially medication if its needed..
  
  - **mental stimulation:** Flock members and sometimes whole heads of cabbage or similar to peck at are enough for most of these birds. Water dishes for ducks & geese.
  
  - **legal:** your local council may regulate the building position of coops and shelters, and the number of birds you keep.
  - under the Health Act of 1911, section 199, local councils may restrict the keeping of poultry. Many do not allow geese or turkeys.
  
- <https://www.agric.wa.gov.au/poultry-birds/keeping-backyard-chickens>
- [http://kb.rspca.org.au/How-should-I-keep-and-care-for-my-pet-ducks\\_520.html](http://kb.rspca.org.au/How-should-I-keep-and-care-for-my-pet-ducks_520.html)

## **Small poultry – quail / pigeons**

- **can provide:** companionship (to an extent), eggs (note quail are regular layers, but pigeons are seasonal), meat, manure, pest control (insects, weed seeds)
- **need:**
  - **food:** Grain or pellets like chickens, but with higher protein requirements
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  - **shelter & protection:** Small birds must be protected from predators – quail are stupid and need to be caged. Pigeons are a little smarter and will return home if you let them out to free range – but a pigeon is a snack for any neighbourhood fox or cat.
  - Quail need a minimum of 0.1 sqm per bird, but more is better.
  - Pigeons need 0.6 sqm floor space per pair, including 0.4 sqm of nest area.
  - **company & stimulation:** Minimum flock size is 2 birds. If you want to breed quail for meat, you're better off having 2 – 3 females and 1 male; a male will be over attentive and bully a single female.
  - **medical care:** Worming, vet bills, potentially medication if its needed..
  - **legal:** your local council may regulate the building position of coops and shelters, and the number of birds you keep.
  - under the Health Act of 1911, section 199, local councils may restrict the keeping of poultry, game birds (including quail) and pigeons.
  - Many local councils require a permit, and often permission/approval from neighbours, in order to keep pigeons
  - Quail generally go under the radar, but they may also be regulated.
- [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0011/213221/Squab-raising.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0011/213221/Squab-raising.pdf)
- <http://www.extension.org/pages/68928/raising-pigeons>
- [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0005/145346/Raising-Japanese-quail.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/145346/Raising-Japanese-quail.pdf)
- <http://www.thatquailplace.com/quail/coturn1.htm>

- **Rodents - rabbits & guinea pigs (cavies, cuy)**
- **Can provide:** companionship, meat, fur / leather
- **Need:**
  - **food:** Greens (grass) and hay, some vegetable scraps. You can get pellets, but avoid any with grain or fruit.
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  - **shelter & protection:**
  - **company:** Rabbits can be kept alone, although they are happier with the company of other rabbits. Guinea pigs really need to have other guinea pigs around.
  - If you're breeding animals for meat, you need at least 2 – a male & a female.
  - **stimulation:** Rodents need things to chew on – sticks and twigs, pinecones, fresh grass, and hay are very important for their mental wellbeing.
  - **medical care:** Worming, vaccinations, vet bills, potentially medication if it's needed..
  - **legal:** There are very few legal issues with keeping rabbits or guinea pigs in WA.
  - These animals are generally kept for meat (unless they're kept as pets) – but you can't take them to an abattoir. There are no small animal abattoirs available around Perth.
  - That means killing a small furry critter yourself. Be sure you can do it if you want to keep these animals for food.
- <http://www.eattheweeds.com/guinea-pigs-cavy-cuy/>
- <http://www.agriculturesnetwork.org/magazines/global/discussion-on-sustaining-agriculture/the-guinea-pig-as-meat-producer>
- <http://www.citygirlfarming.com/Rabbits/RabbitsforMeat.html>
- [http://www.dpi.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0003/75882/Farming-meat-rabbits-in-NSW---Primefact-104-final.pdf](http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/75882/Farming-meat-rabbits-in-NSW---Primefact-104-final.pdf)

## Goats & sheep

- **can provide:** companionship, milk, wool for spinning (angora goats), meat (potentially), manure, mowing service, and labour (they can pull a cart or carry a small pack)
- **Need:**
  - **food:** Goats are browsers. They will eat grass, but prefer to nibble at trees & shrubs.
  - Sheep are grazers, and will eat grass more than shrubs or tree leaves.
  - Both need mineral supplements, and fresh hay. You can also get pellets or grain supplements for them – but note that grain isn't good for ruminants
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  - **shelter / protection / exercise:** goats - min 4 sqm of space in their shelter if penned separately, or 2 sqm each if they're penned together (1/2 – 1/3 that for miniature goats).
  - sheep - min 1 sqm of space in their shelter if penned separately, or 0.9 sqm each if penned together - based on NSW guidelines for intensively managed sheep in feedlots
  - Approx 4 x the shelter space is needed for an outdoor pen or run, for exercise.
  - Permission is required from your local council to put up a stable (or goat/cow/pony shed)
  - Goats are adventurers, and need significant fencing to keep them contained.
  - **company:** social - you really need to have at least 2. You could keep a goat with a sheep, but human company isn't enough (nor is a dog, or cat, or chickens, etc.)
  - **stimulation:** taking your goat for walks, spending time with her, and bringing her treats of unusual foods all count as stimulation. So does the company of another goat, and other animals.
  - Sheep are not as smart as goats, so they don't require as much stimulation. Company of other sheep is enough.
  - **medical care:** regular worming, vaccinations, vet bills, potentially medication if it's needed..
  - may need veterinary assistance when giving birth.
  - Also: goats also need their hooves trimmed periodically
  - Baby goats usually need to be disbudded (de-horned) them. The horn buds are burned out by a vet to prevent the horns being able to grow. This is not needed for sheep.
  - The males will probably also need to be castrated.
  - **legal:** Many councils prohibit sheep & goats, and others regulate how they can be kept and what the minimum property size is to have one. You can get around it though, if you're willing to speak to the council directly – see Shani Graham's success

- **Milk & Meat:**

- Milking must be done every day. Twice a day for full size goats & sheep.
- 1 dairy goat will produce 2 - 5 litres of milk per day, on average. Dairy sheep 0.5 - 2 L.
- Sheep's milk is very rich & higher protein than goats milk – makes good cheese
- Note that sheep are hard to milk - natural prey reaction (adrenalin) to anything that startles them shuts down the milk production hormone (oxytocin). Goats are easier.
  
- Goats & sheep (like all mammals) will only produce milk if they produce babies - so you'll need to consider what you do for a stud service to get your female pregnant.
- goats produce milk for about 10 months after birth, sheep for 8 months (but often only milked for 6 months, leaving all the milk for the lambs for the first 2 months)
- After this they need to be 'freshened' - i.e. re-impregnated.
  
- Gestation is 5 months. The you'll have 1 – 3 (or more) babies to deal with.
- You need space for the babies while they're with you (usually at least 8 weeks)
- Consider – will you rehome the babies, or kill them for meat? Males are hard to rehome.
- Many people send the extra baby goats & lambs to the abattoir or get a butcher in to help slaughter the animal, for the meat - but you need to be sure if you can do that.
- there are a few abattoirs which will take individual animals such as miniature cattle or pigs, goats, sheep, alpacas etc.

- **Wool:**

- Wool sheep need to be shorn twice a year, and it's not an easy thing to do yourself
- Angora goats can be shorn or combed for fibre, still has to be done twice a year

- <http://www.citygirlfarming.com/Goats/RaisingGoats.html>

- <http://www.allgoats.com/housing.htm>

- <http://www.backyardecosystem.com/urban-farming/goat-mischief-more-guest-post-interview-itty-bitty-farm-citys-heidi-kooy/>

- <http://www.weedemandreap.com/raising-goats-milking-goats/>

- <http://www.motherearthnews.com/homesteading-and-livestock/choosing-a-dairy-goat-breed.aspx>

- <https://www.gov.uk/sheep-and-goat-welfare>

- <https://www.agric.wa.gov.au/livestock-movement-identification/registering-owner-stock-or-beekeeper>

- <http://www.sheep101.info/dairy.html>

- <http://www.milkingssheep.com/sheep-milk-production/>

- <http://smallfarm.about.com/od/farmanimals/tp/How-To-Raise-Sheep.htm>

## **Equines - miniature ponies / miniature donkeys**

*NOTE - some animals just aren't appropriate for urban back yards - cattle and horses, for example, are just too big. You might consider miniature versions though.*

- **Can provide:** companionship, manure, labour (pulling carts, carrying a small pack, service animal for blind or disabled people), mowing service, meat (potentially)
  - mostly kept for companionship / as pets, or for showing
  - can be guide-animals (e.g. in cultures where dogs are considered dirty, many visually impaired people now have guide ponies)
  - if you are raising ponies for meat, you'll need to find an abattoir which will take them.
  
- **Need:**
  - **food:** horses and ponies need hay or chaff and grain, and mineral supplements.
  
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  
  - **shelter & protection:** a miniature pony or donkey needs approx the same space as a goat - 2 sqm per pony of indoor barn or stable space, and 4 times that outdoors.
  - permission is required from your local council to put up a stable (or goat/cow/pony shed)
  
  - **company:** horses are herd animals, so you need at least 2 - or a goat or sheep or cow to keep your pony company. if you're going to be spending quality time with your pony every day, you might be able to get away with just 1 animal.
  
  - **stimulation:** daily exercise is required.
  
  - **medical care:** Basic care includes brushing, having the pony's feet and teeth checked by a qualified person, regular worming, & veterinary assistance as required.
  - If you breed your ponies, they may need veterinary assistance when giving birth.
  
  - **legal:** Local councils may restrict keeping even miniature ponies, or require a permit.
  
- <https://www.agric.wa.gov.au/livestock-movement-identification/registering-owner-stock-or-beekeeper>
- [http://www.guidehorse.com/faq\\_horses.htm](http://www.guidehorse.com/faq_horses.htm)
- <http://australianminiaturepony.com.au/>
- [http://www.lbcentre.com.au/Miniature\\_Pony.php](http://www.lbcentre.com.au/Miniature_Pony.php)
- <http://www.miniature-donkey-assoc.com/>
- <http://www.joyminidonkeys.com/>

## **Camelids – alpacas & camels**

- **Can provide:** wool for spinning, milk (camels only), meat, manure, labour (pulling carts, carrying a small pack), mowing & brush control service
  - Alpacas must be shorn once or twice every year, by a qualified shearer.
  - Young camels can be combed for fibre to spin – they don't produce a lot
  - Camels are very relaxed animals, unlikely to become frightened or aggressive. Single-humped dromedary camels such as the ones we have in Australia don't spit at humans under normal circumstances.
  - You can ride a camel, and they're much easier to saddle-train than a horse because they aren't afraid of basically anything. They can also carry a heavy pack.
- **Need:**
  - **food:** chaff or hay, grain (e.g. oats), fresh grass and forage, mineral supplement
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  - **shelter & protection:** Secure fenced yard, with a shed or lean-to for shelter from rain
  - **company:** alpacas are herd animals, so you need at least 2 - or a goat or sheep or cow to keep your alpaca company. Camels need company in their own size range.
  - Alpacas should not be kept as pets - they are docile if they see you as not-alpacas, but if they begin to think of you as herd members they can become aggressive and try to assert dominance.
  - **medical care:** Worming, vaccinations, vet bills, potentially medication if it's needed..
  - **legal:** Local councils may restrict keeping alpacas, or require a permit.
  - Camels would be a special request and would need individual permission in most shires.
- <https://www.agric.wa.gov.au/livestock-movement-identification/registering-owner-stock-or-beekeeper>
- <http://www.abc.net.au/local/stories/2009/02/17/2493641.htm>
- <http://www.thewesterner.com.au/Pages/Blogs.aspx?ID=3159>
- [http://www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0005/37787/Alpaca\\_Q\\_and\\_A.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0005/37787/Alpaca_Q_and_A.pdf)

## **Miniature cattle**

*NOTE - some animals just aren't appropriate for urban back yards - cattle and horses, for example, are just too big. You might consider miniature versions though.*

- **Can provide:** companionship, milk, meat, manure, labour (pulling carts, carrying a small pack), mowing service
  - Generally sweet tempered & friendly (unlike many full size cattle)
  
- **Need:**
  - **food:** Cattle should eat grass and hay. Alfalfa hay is a good source of protein.
  - Many people feed them supplemental grain, but it isn't good for them and should be avoided if possible.
  - Mineral and salt blocks should be available at all times.
  
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  
  - **shelter & protection:** A full size dairy cow requires 5 sqm per cow of space in the barn or shelter; a miniature cow could probably get away with half this area.
  - In addition, require an outdoor exercise area of at least 30 sqm, plus 5 sqm per additional animal.
  - In summer, provide shade for them to escape the heat & direct sun.
  
  - **company:** Cattle are herd animals, so you need at least 2 - or a goat or sheep or pony to keep your cow company.
  
  - **medical care:** Worming, vaccinations, vet bills, potentially medication if it's needed..
  - You may need to disbud (de-horn) your calves. The horn buds are burned out by a vet to prevent the horns being able to grow.
  - The males will also need to be castrated unless you are keeping / selling them for breeding.
  
  - **legal:** Local councils may restrict keeping even miniature cattle, or require a permit.

- **Milk:**

- Dairy cows (even miniatures) need to be milked every day, twice a day
- May produce anywhere from 8 L per day up
- Cows produce milk for around 10 months after giving birth (sometimes longer)
- Artificial insemination (by the vet) is an alternative to a stud service

- **Meat:**

- Gestation is 285 days (9.5 months), and cattle generally produce a single calf
- There are a few abattoirs which will take individual animals such as miniature cattle
- Miniature cattle generally range from 120 - 500 kg as adults, and yield about 60 - 65% of that weight as meat after slaughter.

- <http://www.meredithdairy.com/faq.html>
- <http://www.hobbyfarms.com/livestock-and-pets/raising-small-cows-15001.aspx>
- <https://www.agric.wa.gov.au/livestock-movement-identification/registering-owner-stock-or-beekeeper>
- [http://www.nytimes.com/2008/08/24/nyregion/nyregionspecial2/24cowsct.html?\\_r=0](http://www.nytimes.com/2008/08/24/nyregion/nyregionspecial2/24cowsct.html?_r=0)
- <http://www.bigpictureagriculture.com/2011/10/ten-miniature-cattle-breeds-for-your.html>
- <http://www.miniaturecattle.com.au/>
- <http://farmstyle.com.au/news/guide-selecting-small-cattle-small-farms>
- <http://www.milkproduction.com/Library/Scientific-articles/Housing/Cow-comfort-9/>
- <http://www.mofga.org/Publications/MaineOrganicFarmerGardener/Winter20052006/FamilyCow/tabid/1116/Default.aspx>
- <http://www.depi.vic.gov.au/agriculture-and-food/dairy/handling-and-management/extended-lactation/how-long-will-cows-milk>

## **Miniature pigs**

*NOTE - full size pigs are really too big and too destructive for an urban back yard. You might consider miniature versions though.*

- **Can provide:** companionship, meat, manure, labour (pulling carts, carrying a small pack, clearing & digging an area)
  
- **Need:**
  - **food:** pigs will eat grain or cereal, fruit, nuts, roots, vegetables, etc. You can also buy specially formulated pig food.
  - It is illegal in Australia to feed swill to pigs. Swill is any animal food that contains meat, meat products, or meat by-products.
  
  - **water:** is obvious. You must provide clean, fresh water for your animals.
  
  - **shelter & protection:** Pigs can be kept indoors or out. Can be toilet trained like dogs.
  - Outdoor pigs will need a simple shelter; this could be a purpose-built brick or wooden house, a store-bought (large) kennel, or just half a watertank with some straw inside.
  - Pigs love to nest - should provide them with straw or sawdust outside or blankets inside.
  - Sunburn easily, and also cannot sweat - so they overheat easily. Shade is required, and an area where they can have a dirt bath or mud bath is recommended.
  - Sturdy fencing is required.
  
  - **company:** Pigs are social - a pet pig can socialise with you, otherwise get 2 pigs.
  
  - **stimulation:** Without stimulation, pigs become bored and destructive. They can be trained in the same way as dogs to do tricks and to walk on a harness and leash.
  
  - **medical care:** Worming, vaccinations, vet bills, potentially medication if it's needed..
  
  - **legal:** under the Health Act of 1911, section 199, local councils may restrict the keeping of pigs.
  - Many local councils in Australia will not grant permits for a pig to be kept in a backyard, even in some rural areas.
  
- <https://www.agric.wa.gov.au/livestock-movement-identification/registering-owner-stock-or-beekeeper>
- <https://www.health.wa.gov.au/publications/documents/HealthAct1911.pdf>
- [http://www5.austlii.edu.au/au/legis/wa/consol\\_act/ha191169/s199.html](http://www5.austlii.edu.au/au/legis/wa/consol_act/ha191169/s199.html)
- [http://kb.rspca.org.au/Can-pigs-be-kept-as-pets\\_111.html](http://kb.rspca.org.au/Can-pigs-be-kept-as-pets_111.html)

## **Honeybees & native stingless bees**

- **Can provide:** honey, pollination services
  - honeybees can also provide beeswax, bee pollen & propolis (if you're willing to collect it)
- **Need:**
  - **food:** nectar & pollen from flowers – plant a garden
  - Bees sometimes need supplementary food (honey, sugar water, etc.) during winter
  - **water:** is obvious. You must provide clean, fresh water with a way for the insects to land and drink without drowning – a birdbath is good, or a bowl of water with stones in it.
  - **shelter & protection:** Wooden hive boxes are available for both honeybees & native stingless bees
  - **medical care:** Annual inspection of the hive & medication if there are any diseases or pests
  - **legal:** To legally keep a (honeybee) beehive, you must register with the Department of Agriculture & Food, and pay an annual fee.
  - There are no legal or council restrictions on keeping native stingless bees.
- <https://www.agric.wa.gov.au/livestock-movement-identification/registering-owner-stock-or-beekeeper>
- <http://www.johnlguilfoyle.com.au/>
- <http://waas.org.au/>
- <https://www.agric.wa.gov.au/bees/beekeeping-small-landholders-western-australia>
- <http://www.naturalbeekeeping.com.au/naturalbeekeeping.html>
- <http://www.sugarbag.net/>
- <http://www.aussiebee.com.au/keepingstinglessbees.html>
- <http://www.zabel.com.au/>

## **Composting critters - compost worms, black soldier fly**

- **Can provide:** composting of food waste & green waste, fish / poultry food
  - Black soldier flies release a chemical scent which keeps regular house flies away from your compost – and their larvae eat house fly maggots
  - Black soldier flies do not bite or sting, and are completely harmless
- **Need:**
  - **food:** food scraps & food waste, green waste
  - **water:** needs to be added only if the food scraps are completely dry.
  - **shelter & protection:** Compost worms can be kept in compost piles or bins (if they're not too hot), or in worm farms
  - Black soldier fly need either a warm, humid compost bin or a specially designed black soldier fly composter
  - Either way, you need at least approx 0.5 sqm in the garden or on a balcony
  - You can keep worms or BSF inside if you want to, but the compost may smell a little
  - **legal:** There are no legal restrictions on keeping composting worms or black soldier flies
- <http://www.greenlifesoil.com.au/gardening/worms>
- <http://permaculturenews.org/2011/04/02/everything-you-need-to-know-about-composting-with-worms/>
- <http://compost.css.cornell.edu/worms/basics.html>
- <http://www.blacksoldierflyfarming.com/>
- <http://blacksoldierflyblog.com/>
- <http://www.esrint.com/pages/bioconversion.html>
- <http://www.microponics.net.au/diy-livestock-rations/black-soldier-fly-larvae/>
- <http://steamykitchen.com/21602-make-3-day-compost-black-soldier-fly-larvae.html>

## **Other insects – mealworms, crickets, etc.**

- **Can provide:** fish / poultry food, potentially food for humans too
- **Need:**
  - **food:** cellulose (bran, shredded paper, etc.), some vegetable scraps
  - **water:** is provided through slices of root vegetables, or a bowl of dampened sand.
  - **shelter & protection:** a simple breeding colony can be set up in a plastic storage box.
  - Crickets require a bowl of damp sand to lay their eggs in.
  - Make sure it doesn't get too damp in the colony box, or you may get mould on the vegetable scraps and/or the bedding – mould will kill the insects.
  - **legal:** There are no legal or shire restrictions on keeping mealworms or crickets.
- <http://www.forbes.com/sites/ashoka/2013/07/31/want-to-help-solve-the-global-food-crisis-eat-more-crickets/>
- <http://www.bloomberg.com/bw/articles/2014-10-02/crickets-the-insect-food-of-the-future-is-finally-here>
- <http://dailyburn.com/life/health/cricket-flour-protein-powder/>
- <http://cricket-breeding.com/what-to-feed-crickets/>
- <http://www.nyworms.com/ccare.htm>
- <http://www.triciaswaterdragon.com/mealworm.htm>
- <http://www.nyworms.com/mealworms.htm>
- <http://www.efinch.com/mealworms/mealworm.htm>
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## ***Fish - trout, silver perch, carp / koi, other aquatic animals (marron, yabbies, etc.)***

- **Can provide:** meat, liquid fertiliser for aquaponic garden bed systems
  - Note that koi are just pretty coloured carp – and carp are the most widely farmed edible fish in the world. They just need to be kept in clean water before killing them to get rid of the muddy flavour.
  
- **Need:**
  - **food:** commercial pellets, insects, food scraps (bread, vegetables), etc.
  - Depends on species
  
  - **water:** is obvious. All aquatic animals need clean fresh water to live in.
  - You must also keep the water oxygenated – a pump and/or airstone is needed
  
  - **shelter & protection:** Fish in ponds are vulnerable to predatory birds – the pond should be covered or protected
  
  - **company:** This depends on the species of fish - trout and koi, for example, are schooling fish and are happier in groups. other fish don't care, or prefer to be alone.
  
  - **medical care:** Worming, vaccinations, vet bills, potentially medication if it's needed..
  
  - **legal:** There are no legal or council restrictions on keeping trout, silver perch, koi / carp, jade perch, golden perch, barramundi, catfish, freshwater mussels, yabbies, marron, and many other species. There are species which you cannot keep though, such as tilapia.
  
- <http://www.backyardaquaponics.com/>
- <http://www.milkwood.net/2011/03/21/diy-urban-bathtub-aquaponics-system/>
- <http://www.woodvalefishandlilyfarm.com.au/shop/>
- <http://www.dpi.nsw.gov.au/fisheries/aquaculture/publications/species-freshwater/native-freshwater-fish-and-crayfish---extensive-aquaculture-prospects>
- <https://www.business.qld.gov.au/industry/fisheries/aquaculture/site-selection-and-production/aquaculture-production-systems/freshwater-pond-tank-system>