



AVIMOR™

# WILDLIFE EDUCATION MANUAL

## A Homeowner's Guide to Living with Wildlife





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## INTRODUCTION

The Avimor Planned Community is situated on 830-acres of mostly upland shrub and grasslands mixed with riparian communities in the Boise foothills. The Boise foothills support numerous native plant and wildlife species. Among these are large wintering populations of mule deer and elk, some large predators such as cougars, raptors, neotropical song birds, and various migrating bird species. In fact, around 200 species of birds use the Boise foothills for migrating, nesting, perching, or foraging throughout various times of the year.

The wildlife species that inhabit the foothills, either seasonally or year-round, rely on a variety of habitats to provide essential food, water, security and thermal cover, nesting or rearing sites, and travel corridors. For example, many important wildlife corridors are located within or adjacent to riparian communities or stream banks. Wildlife biologists have determined that roughly 80% of all wildlife use riparian communities at some stage of their lives. Additionally, this community type harbors 2 to 10 times as many bird species as the adjacent uplands. For this type reasons, it is critical that we act as good stewards for these and other resources, and educate people on the ecology of the Boise foothills, as well as the impacts humans have had, do have, and will have on wildlife and associated habitat in the future.

Living at Avimor will offer you an amazing opportunity to experience native plant communities and wildlife right in your own backyard. However, with living in this beautiful location comes a responsibility to protect its integrity and value to local wildlife and educate others on the ecology of the area and good stewardship practices. The decisions we make in our own back yards will affect the neighboring wildlife and the associated habitat for the better or worse. Good stewardship practices such as planting native vegetation for landscaping restricting use of foothills trails during winter months, use of organic fertilizers, maintaining birdfeeders, and others, will not only reduce impacts to wildlife, but it will also bring you many hours of enjoyment. However, it is also important to remember at all times that the wildlife living in the foothills are wild and need to be treated as such.

The following manual is intended for the use of Avimor residents to use as an educational tool. The manual identifies some basic recommendations and information on wildfire, plant communities, and wildlife associated with the area. The information is very basic and is a supplement to the Avimor Wildlife Mitigation Plan (WMP) and Fire and Vegetation Management Plan (FVMP). For additional information on these and other resource issues, several educational links have been identified at the end of this manual or you can contact the Avimor Conservation Director.



## CREATING A WILDLIFE FRIENDLY YARD

### WITH PLANT VARIETY COMES WILDLIFE DIVERSITY

When landscaping, try to incorporate plants of varying heights, shapes, and blooming seasons. Combining flowers, grasses, low and tall shrubs, and small to large trees will be the most successful way to draw a wider diversity of wildlife to your yard. Trees and shrubs will increase the value of

*When planning your wildlife friendly yard, keep in mind the four major needs of wildlife: water, food, shelter, and space*

your backyard habitat for birds by providing more shelter for shade throughout the summer months and an effective thermal cover from wind and cold in the winter. When deciding where to plant your trees, position coniferous (evergreens) on the north and west sides of your home for shelter from winter winds, snow, and hail. Plant deciduous trees on the south and east sides of your home to provide both shade in the summer and warm sun in the winter after they have lost their leaves. Also when planning your wildlife friendly yard, consider using plants that produce seeds, nuts, berries, fruits, nectar, and edible flowers. Plantings and landscaping features of varying densities from thinned open spaces to densely packed areas will also help support wider variety of wildlife. Planting in curved or irregular contours produces a more natural appearance that is more useful to wildlife. Always remember to reference the Avimor CC&R and the Fire and Vegetation Management Plan for landscaping requirements.

### Existing Yards

Existing yards can also be transformed into a home for wildlife. Manicured yards featuring lawns or turf grass offer very little food and cover for wildlife. If completely reconstructing your yard is out of the question, consider converting a portion of your lawn into a variety of native plants to improve its value to wildlife. Choosing to tackle one small project every year until your yard becomes a successful wildlife friendly habitat may be a more practical option for you. The initial investment of establishing additional wildlife habitat will be well compensated by needing to water and mow less, creating a more visually interesting yard, and increasing your wildlife viewing opportunities.

If designing and constructing a wildlife friendly yard sounds too overwhelming, businesses like Habiscapes (208-286-0506) [www.habiscapes.net](http://www.habiscapes.net) and Native & Xeric Plants (208-365-4331) specialize in planning and building native and xeriscape habitats that attract birds, butterflies and other local wildlife into your yard.

## **Native Plants**

Using native plant species for your landscaping needs is ideal. Native plants are already adapted to the foothill's climate and soil type and exist in balance with other plants and animals; therefore native plants will generally require less water and maintenance and will be more resistant to insects and diseases than exotic plants. Native plants can also eliminate the need for herbicides and chemical fertilizers, which would help protect the soil and water from contamination. A general list of fire-resistant native plants found in the Boise foothills is provided in Appendix A.

## **Why Choose Organic Fertilizers?**

Natural and organic fertilizers feed your plants while building up the soil. Organic material in your soil helps it remain loose, hold more moisture and nutrients, cultivate the growth of soil organisms, and promote healthy root development. If only chemical fertilizers are added to plants, the soil gradually becomes compact and less able to hold water and nutrients, resulting in the need for increased amounts of fertilizers to feed your plants.

In addition to impacting soils, chemical fertilizers can have a significant adverse impact on water quality and aquatic wildlife species, including fish and amphibians. There are a number of local organic fertilizer applicators and products.

## **Butterfly Gardens**

Many butterfly species and other pollinating insects are selective of the flowers they feed on. For example, Monarch caterpillars exclusively require milkweed plants. Swallowtails are attracted to parsnip, parsley, dill, fennel, and celery. A large number of butterflies are also attracted to blanketflowers, mallows, trilliums, clarkia, and wild strawberries. In general, ornate-aromatic species with colorful flowers will be used by many native pollinators.

## **Fall Flower Garden Maintenance**

Let your flowers go to seed in the fall and avoid trimming the stalks and cutting off old seed heads until spring when the plants start to send up new growth. Many insect larvae overwinter on flower stems and can provide food for wildlife like birds, lizards and toads in the spring. Remember to trim back old growth on an annual basis in order to reduce fuel sources and connectivity for wildfire.

## **Water Availability**

Supplying a consistent water source in your yard is the single best action you can do to attract the greatest diversity of wildlife. Your water source can be as simple as providing



water in a pie pan to an elaborate pond with a waterfall. The location of the water source will determine the kind of wildlife that will visit it. Small birds will more likely use a water source if it is located in an open area where predators can be easily seen. These birds also usually prefer use an elevated water source. A small water source located on the ground will attract quail, mice, rabbits, snakes, lizards, toads, and even salamanders. Ground-based water sources should have a water depth of 2-3 inches and at least one gently sloping side or escape route to prevent wildlife from drowning. It is optimal for water sources on the ground to have multiple depths to attract insects like butterflies; this can be obtained by partially submerging a flat rock near the edge. Locating the ground water sources 10-15 feet away from dense vegetation will help the visiting wildlife with quick predator detection.

Adding a dripping or running water feature is an effective way to increase the number of birds using your watering source. Water containers should be kept clean and filled with fresh water to prevent the spread of bird diseases and mosquito breeding. Further information on mosquito and pest management can be found on the State of Idaho Website under the Fight the Bite program. Available at:

<http://www.healthandwelfare.idaho.gov/site/4278/default.aspx>.

## **BIRD FEEDERS**

Setting out a variety of bird feeders and food is a great way to attract a diverse assortment of birds that you may not otherwise see right into your own backyard. A good collection of feeders may include a hanging suet feeder, a tube feeder filled with thistle, and a hopper feeder filled with black sunflower seeds. Avoid purchasing commercial seed mixtures because birds will tend to eat the most desirable seeds first and the less desired seeds are usually tossed out on the ground. Place feeders in locations where birds can see danger approaching and have close access to cover. Keep in mind that the area under a feeder will get messy with bird dropping and seed shells. These seed mixtures usually contain milo, canary seed, wheat and oats that are not eaten. Groups of active bird feeders may attract birds of prey that may come to feed on the very songbirds that you are trying to feed. Predatory birds are often viewed negatively at these times, but we need to remember that they need to kill other animals in order to survive and this is just part of the web of life. A list of common birds that visit feeders can be found in Appendix D. Start your own bird checklist! A checklist for birds seen or heard at Avimor is listed in Appendix D.

Check out what foods different birds prefer.

<b>Food</b>	<b>Associated Bird Species</b>
<b>Black Sunflower Seeds</b>	finches, grosbeaks, chickadees, nuthatches, and sparrows
<b>Millet</b>	juncos, mourning doves, lazuli buntings, and cowbirds
<b>Peanuts</b>	jays, woodpeckers, and flickers
<b>Thistle seed</b>	pine siskins, goldfinches, and chickadees
<b>Dried corn</b> (cracked or whole kernels)	quail, pheasants
<b>Suet</b> (suet is a high energy food to be put out during cool weather to help boost birds when other food is scarce. The warm summer months will melt most suet cakes)	woodpeckers, chickadees, wrens, nuthatches
<b>Fruit</b> (halved oranges, peaches, grapefruit, nectarines, grapes)	northern orioles, cedar waxwings, warblers, western tanagers.
<b>Mealworms</b>	bluebirds, lazuli buntings

### **Provide Grit to Assist with Digestion**

In addition to providing food, you can provide birds “grit”. Birds do not have teeth, so they need to eat grit that will grind down the food in their gizzard. You can set out a dish of sand or crushed eggshells in a platform to provide birds with grit. Be sure to cook eggshells at 200° for 1 hour to kill any microorganisms.

### **Unwelcome Visitors at Your Feeders?**

If starlings, house sparrows, and squirrels start raiding your sunflower seed feeders, try switching to safflower seeds to discourage them from feeding in your yard. Other native birds will still eat the safflower seeds. To prevent squirrels from accessing your bird feeders you can place a dome or baffle above a hanging feeder or below feeders that are mounted on poles.

### **Attracting Hummingbirds**

Hummingbirds eat nectar and insects and need to eat every 15 minutes throughout the day. To attract hummingbirds to your yard it is suggested planting orange, red, and pink tubular flowers; like columbines, scarlet gilia and Indian paintbrush. You can also put out a mixture of three parts water to one part white sugar in a hummingbird feeder in the spring and then cut it down to four parts water and one part sugar through the summer. Hummingbird feeders



need to be emptied, cleaned, and refilled every week, and every 2-3 days in very hot weather, to prevent mold from growing. Because hummingbirds are very territorial, multiple feeders should be placed out of sight from each other to encourage as many as possible.

### **Cleaning Bird Feeders**

All birdfeeders should be cleaned once a month to prevent diseases from infecting the birds visiting your feeders. Some common diseases birds can contract at feeders include Avian Conjunctivitis, Salmonellosis, and Trichomoniasis. If you observe diseased birds using your feeder, take it down immediately to stop contamination to other birds. You can wash feeders in mild dishwashing detergent followed by dipping them in 10% bleach-water and then allow to air dry before refilling. Also, change the location of your feeder once a year to keep birds away from accumulated bird droppings.

### **BIRD HOUSES**

The location you choose is critical to attract birds to your houses. Bird houses may go unused if placed in a spot where predators can gain access to the entrance, bakes in the hot sun, or allows rain and wind to blow in. Orientate the entrance of the bird house towards the north to help keep the young from overheating. Wood is the best material for bird houses because it will stay cooler inside than metal. Avoid treated wood and painting the inside of the house with latex paint that can harm birds. A variety of bird houses can be purchased at most pet supply stores or online.

If you choose to build your own bird house it should have a removable roof or wall to allow annual cleaning. Native birds do not need a perch below the opening to get in and it may only assist predators to gain access. The size of the entrance will determine what birds will nest there. Dimensions needed for different birds are listed below.

<b>Bird Species</b>	<b>House Floor (inches)</b>	<b>House Height (inches)</b>	<b>Entrance from Floor (inches)</b>	<b>Entrance Diameter (inches)</b>	<b>Mounting Height (feet)</b>
Tree or Violet-green Swallows	4 x 6	6 to 8	1 to 5	1 1/2	10 to 12
Chickadee	4 x 4	8 to 10	6 to 8	1 1/8	6 to 15
Red-breasted Nuthatch	4 x 4	8 to 10	6 to 8	1 1/8	12 to 20
House Wren	4 x 4	6 to 8	4 to 6	1 1/4	5 to 10
Northern Flicker	7 x 7	16 to 18	14 to 16	2 1/2	6 to 20
Kestrel	8 x 8	16 to 18	13 to 15	3	15 to 20
Screech Owl	8 x 8	12 to 15	9 to 12	3	10 to 30
Barn Owl	10 x 18	15 to 18	6	>6	12 to 18

### **Cleaning Bird Houses**

At the end of the summer clean out all old nesting material and wipe out the house with a diluted bleach solution. Annually cleaning your bird house will prevent the spread of disease and eliminate insect pests from taking over the house.

### **PURCHASING BIRD SUPPLIES**

Local bird supplies can be purchased at most pet supply stores or specialty shops like Bird House & Habitat in Boise [www.feederbirds.com](http://www.feederbirds.com) and online companies like [www.BirdMan-Inc.com](http://www.BirdMan-Inc.com)

### **PREVENTING WINDOW COLLISIONS**

Thousands of songbirds die each year from colliding with picture windows or sliding glass doors. Potentials for these collisions are highest near feeders and large windows and may require applying stick-on bird silhouettes or ornaments to the windows or hanging mobiles or shiny ribbons.

### **PET HARASSMENT TO WILDLIFE**

Cats kill over 1 billion birds in the U.S. every year. Even cats wearing bells that are declawed are effective killers. If you want a safe haven for wildlife in your yard keep your cats inside your home.

Dogs allowed to roam free can also be a threat to wildlife. Some dogs like to chase and even kill rabbits, grouse, quail, fox, coyote and big game. Wildlife harassment can be especially dangerous for big game during the winter months when their fat and energy reserves have greatly been depleted. Please keep your dogs from roaming at all times. Also see CC&Rs and the Avimor WMP for leash requirements and potential fines.



## CERTIFIED WILDLIFE HABITAT

Want to go one step further and certify your yard with the National Wildlife Federation? You will need to be able to provide the basic elements of habitat within your yard; food, water, shelter, places to raise young and sustainable gardening practices. This is easier than you may think. Here are some examples:

- 1) **Food** – bird feeders or plants with berries, fruits, nuts, seeds, nectar
- 2) **Water** – birdbath, fountain, pond, creek
- 3) **Shelter** – dense shrubs, evergreen trees, rock piles or walls, log or brush piles
- 4) **Places to raise young** – bird houses, snags, dense shrubs, mature trees, host plants for butterfly caterpillars
- 5) **Sustainable gardening** – water conservation, soil conservation, controlling exotic species, organic practices

During the process of establishing a wildlife friendly yard, the National Wildlife Federation can offer answers to your questions, provide resources to create your new wildlife habitat, connect you with other like-minded people in your community who have certified their yards.



With this certification you will receive a one-year subscription to the award-winning magazine called *National Wildlife*, a quarterly e-newsletter that is full of tips and information on gardening and attracting wildlife, and your name will be listed on the National Wildlife Federation's national registry of certified habitats.

For more information on the National Wildlife Federation's Backyard Wildlife Program contact the Avimor Conservation Director or visit online: [www.nwf.org/backyardwildlifehabitat/](http://www.nwf.org/backyardwildlifehabitat/), call (703)438-6100, or write:

National Wildlife Federation  
Backyard Wildlife Habitat Information  
11100 Wildlife Center Drive  
Reston, VA 20190

## NUISANCE WILDLIFE

*Please do not feed deer, elk, raccoons, skunks, fox, coyotes, or bears.* Wildlife that is fed becomes fearless and dependent on humans, resulting in damage to your property and possible safety concerns for your pets and family. Some animals that become habituated to humans and their supplemental feedings are often destroyed for safety concerns, so the best way to protect them, yourselves and your property is to NOT feed them. Please keep your feeding activities to resident birds and butterflies.

### Pet Food and Garbage

Avoid conflicts with fox, raccoons, skunk and black bears; keep all pet food that is stored outside in a tightly sealed container and bring pet food dishes inside at night. All garbage cans should be stored inside a closed garage. See Avimor CC&Rs and the Avimor WMP.

### Ponds

A warning to pond owners; fish in your ponds may be eaten by great blue herons, kingfishers, raccoons, and other mammals. Screening the pond with floating plastic mesh is the most effective way to keep these fish predators out.

### Woodpeckers and flickers

Homeowners with wooden or stucco siding may experience woodpeckers or flickers drumming on the side of their house in search of insects. In extreme cases, these birds can drill substantial holes in the fascia or siding of your home. Holes already bore into your home can be filled with a nontoxic material that has an unpleasant smell and taste to discourage further hole drilling. Be careful not to harm these birds, as all woodpeckers and flickers are protected by law.



### Swallows

Barn and cliff swallows build their nests out of mud and may attach these structures under the eaves of your home. These birds and their eggs are protected by law. You can only remove nests before the birds lay eggs or after the young have left the nest. You can then exclude them from returning by angling 3/4" netting across the eaves to prevent future access.



## **Insects**

Large insects that are common in gardens, like tomato hornworms and potato beetles, can be picked off the plants. The use of chemical pesticides is discouraged because they can also kill beneficial bugs and birds that feed on insects. These chemicals can also contaminate soil and water. Nurseries often sell insect predators. Ladybugs are the best known garden predator available commercially. They eat mites and a wide variety of soft-bodied pests like aphids. Praying mantis will eat grasshoppers, moths, flies, and mosquitoes. More information on pesticide-free control methods can be found at Northwest Coalition for Alternatives to Pesticides [www.pesticide.org](http://www.pesticide.org). Organic pest controls are available to purchase at places like Planet Natural [www.planetnatural.com](http://www.planetnatural.com).

## **Mule Deer**

Mule deer populations have been displaced from their natural habitats by humans and are now living around our homes and towns. They can inflict extensive damage on vegetable gardens and ornamental plants growing on your property. The most effective way to prevent damage caused by deer is to exclude them from the plants you need protected; a few ideas are provided. You can surround individual plants with wire mesh fencing, or a thick nylon mesh can be draped over rows of vegetables. Deer repellents that taste and smell bad can be effective deterrents for short periods, but generally can't be used on gardens. If possible, choosing to plant deer-resistant vegetation is the best way to help detour them from coming into your yard in the first place. Be warned that during times of extreme food shortages they may attempt to eat whatever plants they can find. A list of deer-resistant landscape plants can be found in Appendix E.

## **Gophers**

Gophers can cause extensive damage to your vegetable or flower garden and small trees. If you have raised garden beds, you can line them with ½ inch wire mesh to avoid gopher damage. Noise devices can also be effective in keeping gophers away.

## **Rabbits**

Exclude rabbits from vegetables by installing tightly woven fence 2 to 3 feet high around your garden.

## **Rattlesnakes**

Rattlesnakes are the only venomous snakes in Idaho. All other snakes are harmless to humans and pets. Rattlesnakes are generally reclusive and only show aggression when they feel threatened. Rattlesnakes are a protected nongame species in Idaho. Contact the Avimor



Conservation Director or local Idaho Fish and Game office if you have a rattlesnake living on your property that needs to be relocated. Rattlesnakes and gopher snakes can look similar. You can identify a rattlesnake by its large **triangular head** and distinctive rattle at the end of its tail. The head of a gopher snake is slender and its tail tapers to a thin tip.



**Rattle Snake**  
(*Crotalus viridis*)



**Gopher Snake**  
(*Pituophis catenifer*)

## INVASIVE AND EXOTIC WILDLIFE SPECIES

Some wildlife species have been introduced to the Boise foothills and have a detrimental affect on native species through direct and indirect competition.

### European Starlings and House Sparrows



**European Starling**  
(*Sturnus vulgaris*)

If non-native birds like starlings or sparrows are taking over your bird houses, clean out their nest and destroy any eggs. These non-native birds are NOT protected under the Migratory Bird Treaty Act and if their numbers grow can push native birds out of an area.



**House Sparrow**  
(*Passer domesticus*)

### Bullfrogs (*Rana catesbeiana*)

**Description:** Bullfrogs are the largest amphibian in Idaho. They may reach sizes between 15 to 20cm. Bullfrogs vary in color, but generally have a dorsal ground color that is some shade of green with darker spots or blotches. Their ventral coloration is white to yellowish and may have dark mottling to some degree. Male Bullfrogs give a deep bass call while defending their territory and attempting to attract females.

**Habitat:** Since its introduction into the Pacific Northwest, the Bullfrog has become well established in many permanent waters, especially at lower elevations. These frogs are highly aquatic and are seldom found far from the edge of their water source. Permanent water sources such as lakes, ponds, sloughs, slow moving rivers and streams are all used.



**Eastern Fox Squirrel (*Sciurus niger*)**

**Description:** The Eastern Fox Squirrel is an exotic species, non-native to Idaho. They are large squirrel that is highly variable in color, both individually and geographically. Over most of the range, the coat is rusty yellowish with a pale yellow to orange (or light gray to dirty white) belly and a bushy tail. The squirrels can weigh 1½-2 pounds.



**Habitat:** In Idaho, their habitat is urban and suburban areas with mature trees. The squirrels that are thriving throughout much of Boise are descendants from a handful of fox squirrels that were imported from the Midwest over 80 years ago by a former mayor of Boise.

**Diet:** Primarily eat seeds, corn, buds, flowers, tubers, bulbs, roots, arthropods, and birds' eggs.



## MANAGING WEEDS

Some introduced plants are classified as “invasive” or “noxious” because they have no natural controls and will choke out the native plants that wildlife depends on. These species are not restricted by fence boundaries; therefore it is very important that homeowners are aware of what they, and how to deal with them, because once weed populations have become established in an area they are extremely difficult, if not impossible to eradicate.

First we must make a clear distinction of what a “weed” is. There are two primary types of weeds; invasive and noxious. Many species of exotic “invasives” were introduced into the area through contaminated crop seed, domestic livestock feces, recreation activities, and the railroad. These species included cheatgrass, medusa head, clasping pepperweed (*Lepidium perfoliatum*), and several exotic mustards (Yensen 1981, Piemeisel 1951). Precipitation concentrated in late winter and early to mid-spring generally provides moisture for heavy cheatgrass production, even though the total annual precipitation remains at or below average. These annuals then cure out and are much more flammable than the native species they replace. Exotic annual communities vary greatly with soil type, former vegetation community composition, and history of disturbance. Additional exotic annual species include, but are not limited to halogeton (*Halogeton glomeratus*), prickly lettuce, bur-buttercup (*Ranunculus testiculatus*), Russian thistle (*Salsola kali*), and other non-native invasive species.

Noxious weeds are non-native plants that have been designated “noxious” by State law because of their potential harm to the Idaho economy. The cost of controlling a noxious weed must be less than the harm the weed’s presence does to the State economy. While there have been no comprehensive noxious weeds inventories conducted for the entire area, a general list of Idaho-designated noxious weed species can be found at the Idaho State Department of Agriculture’s website:

<http://www.agri.idaho.gov/Categories/PlantsInsects/NoxiousWeeds/watchlist.php>.

Site survey identified several infestations of noxious weeds in the area, including: rush skeletonweed (*Chondrilla juncea*), whitetop (*Cardaria draba*), field bindweed (*Convolvulus arvensis*), and punctervine (*Tribulus terrestris*).

*Avoid* using herbicides for weed control; the chemicals may kill insects that are beneficial to the pollination of your plants. Hand-pulling and natural herbicides are the safest way to remove weeds from your yard. Natural herbicides are available at places like Planet Natural [www.planetnatural.com](http://www.planetnatural.com).

Methods of modifying your yard to reduce or eliminate weed supporting habitat may include landscaping fabric and black plastic sheeting. These barriers are good ways to prevent future weeds, but are best to add after you've completed landscaping because they make it difficult to add plants once they're in place. Spreading mulches, like grass and leaves, can also limit weed growth and helps keep moisture in the soil. Mulches also build up the soil by increasing the organic matter as it decomposes.

Do not plant these invasive non-native plants in your yard:

- Toadflax
- Russian olive
- Bachelor buttons
- Purple loosestrife
- Euphorbia
- Bouncing bet
- Ivy
- Butterfly bush
- Russian sage
- Scotchbroom

## DESCRIPTIONS OF SELECT WILDLIFE AT AVIMOR

Descriptions of most wildlife species listed below, except sage thrasher, American goldfinch and short-tailed weasel, were obtained through the Digital Atlas of Idaho <http://imnh.isu.edu/digitalatlas/index.htm#> . See Appendix B for a complete wildlife list for the Boise foothills and Appendix G for a specific foothills bird list.

### Wildlife Selections Include:

Long-toed Salamander	Silverhaired Bat
Western Toad	Mountain Cottontail
Pacific Tree Frog	Blacktailed Jackrabbit
Western Fence Lizard	Yellow-bellied Marmot
Racer	Coyote
Red-tailed Hawk	Mountain Lion
Swainson's Hawk	Red Fox
California Quail	Raccoon
Sage Thrasher	Badger
Yellow Warbler	Striped Skunk
Western Meadowlark	Short-tailed Weasel
Bullock's Oriole	Elk
Lazuli Bunting	Mule Deer
American Goldfinch	

**Wildlife Viewing Tip:** *The majority of wildlife is most active at dawn and dusk, so these are the best times to grab your binoculars and get outside!*

Fish species that are associated with small perennial and intermittent streams, including sculpins and dace, may be present in Avimor's streams.

### Long-toed Salamander (*Ambystoma macrodactylum*)

**Description:** These small salamanders (up to 8.5cm) are dark brown to black with a dorsal stripe from shades of yellow to green running from nose to tail. This dorsal stripe may have uneven edges or may even be broken into blotches. Long-toed Salamanders have bluish flecks on their sides and their underside is generally grayish. The characteristic that is the namesake for this species is the extra long third digit toe on their hind feet.



**Habitat:** From shrub steppe to alpine meadows, in variety of habitats including dry woodlands, humid forests, and rocky shores of mountain lakes. Long-toed Salamanders are generally found in moist areas in a variety of habitats ranging from desert brush, open forests, developed areas and high mountain meadows. During the breeding season, they can be found in or near ponds, vernal pools or small lakes.

**Diet:** Adults eat terrestrial and aquatic invertebrates, including insects, insect larvae, spiders, slugs, earthworms, and amphipods.

**Ecology:** They hibernate through the winter and aestivate during the hot summer months.

### **Western Toad (*Bufo boreas*)**

**Description:** Western Toads can be up to 5 inches. The females are generally larger than the males. Western Toads can be light tan, gray, greenish or brown in dorsal coloration. They have a light colored (white or cream) vertebral stripe running down their back. Ventrally, Western Toads usually have dark blotches or mottling, on a light cream ground color. Western Toads lack cranial crests and have oval shaped parotoid glands that aren't overly elongated (not more than



twice as long as they are wide). Other identifying characteristics are the lack of teeth in the upper jaw, a horizontal pupil and the presence of two tubercles on each of their hind feet.

**Habitat:** Western Toads are largely terrestrial but can generally be found within a fair proximity to water. Their habitats range from mountain meadows to brushy desert flats. They are widely distributed throughout Idaho

**Diet:** Adults eat all types of flying insects and spiders, crayfish, sowbugs, and earthworms.

**Ecology:** Digs burrow in loose soil or uses burrows of small mammals. Activity varies seasonally and geographically. At low elevations, individuals are mainly diurnal in late winter and spring, and nocturnal in summer. Hibernation occurs in winter in cold climates.

### **Pacific Treefrog (*Hyla regilla*)**

**Description:** Pacific Treefrogs are small, reaching sizes of around 50mm in length. They have smooth skin that ranges in color from varying shades of green and brown to certain individuals that are nearly black. The ground color is often broken with darker blotches or spots and they have a very characteristic dark line through the eye. Ventrally, they are lightly colored and the males may have a gray or black throat pouch during breeding season. Other important features of these frogs are the toe pads found on the ends of their fingers and toes, and the limited webbing between the toes. During





the breeding season, males will call to attract females. The call is the familiar "ribbit" sound often used in movies.

**Habitat:** Found in a variety of different habitats. They can be found in talus slopes, agricultural areas, deserts, meadows and forested areas. Typically they are near riparian areas or some other water source such as marshes, ponds or lakes.

**Diet:** Adults eat beetles, flies, spiders, ants, and isopods.

**Ecology:** Common and widespread species. Individuals are inactive in cold temperatures, frequently nocturnal during dry periods, and terrestrial during nonbreeding season. In some waters, species is probably displaced by predatory bullfrogs.

### **Western Fence Lizard (*Sceloporus occidentalis*)**

**Description:** Western Fence Lizards are medium-sized lizards, attaining sizes of around 8.4 inches total length. These lizards will readily lose their tail and regenerate a new one. They have overlapping, pointed spiny scales on their back and limbs. They have a range of background coloration that is usually some shade of gray, tan or brown. These lizards can lighten or darken this background color to some degree. The ground color is broken by a series of wavy dark transverse lines or blotches. These blotches are more obvious on light colored lizards (females and juveniles are usually a lighter color than males). Male Western Fence Lizards vary in coloration from females and juveniles in another ways as well; they have more distinct belly patches and a throat patch, which are usually bordered by black markings, and they have scattered blue or green scales dorsally. Females and juveniles lack the throat patch and the belly patches are either less prominent or absent. The posterior of the limbs are colored orange or yellow with black lines.



**Habitat:** Occupy a variety of habitats that usually have a vertical component, like rock outcroppings, talus slopes and cliff faces.

**Diet:** Eats beetles, flies, caterpillars, ants, other insects, and spiders.

**Ecology:** Hibernates in the winter and aestivates during harsh summer months.

### **Racer (*Coluber constrictor*)**

**Description:** Racers are fast and sleek snakes. They have large eyes and round pupils. Racers are visual predators, relying on visual cues to help them identify prey. In fact, Racers will sometimes raise their head and upper body while foraging. Racers are generally a solid color both dorsally (green, tan or blue-gray) and ventrally (yellow to cream). These snakes are unusual among Idaho snake species because juveniles are colored differently than adults.



Juveniles have a light gray background, a series of brown saddles dorsally and blotches along their sides. As the young snakes age, these dark markings fade from the tail towards the head, and the ground color becomes green, gray or tan. Juvenile Racers could be mistaken for young Gopher Snakes, but the smooth scales help distinguish Racers from Gopher Snakes, which have keeled scales. Racers are medium-sized snakes reaching total lengths of around 120 cm.



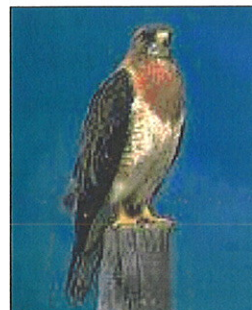
**Habitat:** Racers can be found in a variety of habitats ranging from open forests to rocky or brushy desert areas. They are often encountered along desert/agricultural interfaces, where they can take advantage of the higher density of prey items such as rodents, insects and amphibians. In arid habitats, Racers will include lizards in their diet as well.

**Diet:** Diet typically includes small mammals, birds, reptiles, amphibians, and large insects.

**Ecology:** Hibernates with other snakes from October to April. Adults hide underground, in crevices, or under surface cover when inactive during cold periods.

### Swainson's Hawk (*Buteo swainsoni*)

**Description:** 19-22" tall. Dark brown above with reddish hood, white throat and body accentuated by a dark bib-like band across breast. Darker gray flight feathers highlight buffy wing linings. Indistinctly striped tail gray above often becoming white at the base, light below with dark border. They are frequently found in dark morphs, which don't have the white breast and belly. Also, the leading edge of the wings in both morphs is usually white, in contrast to that of Red-tail Hawks.



**Habitat:** Found in grasslands and other open country. Nest in trees near riparian zones adjacent to agricultural lands. In Idaho, present between April and September and then migrate to areas of South America, like Argentina during winter.

**Diet:** Vertebrates (mainly mammals such as young ground squirrels and pocket gophers) dominate diet during breeding season; invertebrates (especially crickets and grasshoppers) are common food at other times. Depending on availability, individuals also eat snakes, lizards, birds, amphibians, and some carrion.

**Ecology:** Hunts while soaring or from a perch. Builds stick nest in tree, or occasionally on cliff. Migrating birds may roost at night on ground in very large fields, and go without feeding during most of migration.

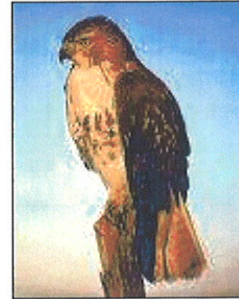
### **Red-tailed Hawk (*Buteo jamaicensis*)**

**Description:** 19-25" tall. Dark brown above; lighter below with dark band of streaks across the belly. Red on tail as name suggests; lighter rump.

**Habitat:** Found in various settings from open woodlands and forests to desert and agricultural lands. Year-round resident in Idaho.

**Diet:** Opportunistic. Commonly eats ground squirrels, gophers, rabbits, mice, small birds, and reptiles.

**Ecology:** Builds stick nest in cliff, tree, or on artificial structure. Elevated perches are important element of their nesting habitat. Most common hawk in Idaho.



### **California Quail (*Callipepla californica*)**

**Description:** 9-11" tall and 8" long. Adult males bluish-gray above, with scaled belly and rusty or brownish sides streaked with white; black forward-curving plume arises from chestnut crown; black face and throat outlined in white; white eyebrow. Females more brown than gray; buff scaling on belly and diagonal streaking on flanks; short dark plume.



**Habitat:** Found usually near water in brushy, grassy, and weedy areas in both humid and arid regions, including chaparral, forest edges, cultivated lands, semi-desert scrub, thickets, sagebrush, and, less frequently, open second-growth woodlands. Year-round resident in Idaho.

**Diet:** Primarily vegetarian. Eats leaves, seeds (e.g., clovers, lupines, grasses, grains), acorns, and berries. In spring, also eats tips of grasses and buds, as well as spiders, snails, and insects (e.g., grasshoppers, ants, beetles).

**Ecology:** Usually nests on ground in shallow depression lined with vegetation. Sometimes nests above ground in fork of tree branch. Active during day, feeding mainly 1-2 hours after sunrise, and 1-2 hours before sunset. Highly gregarious, especially in fall and winter. In fall, family groups form coveys of 10-200 birds, which usually disband by late April.

### **Sage Thrasher (*Oreoscoptes montanus*)**

**Description:** 8-9". Medium-sized, long-tailed songbird. Yellow eye, white wing bars, white-cornered tail. Grayish above, boldly streaked below.

**Habitat:** Found in sagebrush plains. Summer resident only, migrates down to southwestern states and Mexico.





**Diet:** Feeds by running on the ground, picking up and eating various insects and spiders. Often comes to cultivated gardens of grapes and berries in summer and fall to eat fruit.

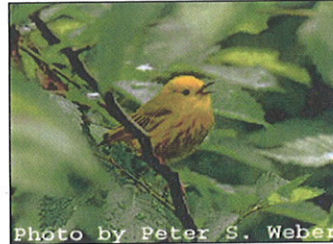
#### **Yellow Warbler (*Dendroica petechia*)**

**Description:** 4½-5¼". Almost completely yellow; wings and tail darker olive-yellow. Males have rust-colored streaks on breast. Both sexes have black eyes and bill.

**Habitat:** These riparian habitat generalist are found in open scrub, second-growth woodlands, thickets, farmlands, and gardens, especially near water. Summer resident only, migrates south to Bolivia, Peru, and the Brazilian Amazon.

**Diet:** Eats insects especially caterpillars and spiders.

**Ecology:** Takes most food from vegetation; may fly from perch to capture prey. Builds a cup-shaped nest in shrubs. Species is one of most common cowbird hosts.



#### **Lazuli Bunting (*Passerina amoena*)**

**Description:** 5-5½". Male has bright turquoise head and back; tail blackish; wings blackish with two white bars; breast rusty; belly white. Female is brown, paler below, dark tail, dark wings with buff bars; tinged blue on primaries, rump, and tail.

**Habitat:** Found in arid, brushy areas in canyons, riparian thickets, chaparral and open woodlands. Results of Idaho study conducted in cottonwood forest found bunting most strongly associated with dense shrub layers, a willow subcanopy, and herbaceous ground cover; species also avoided grazed areas. Summer resident only, migrates to areas of Mexico.

**Diet:** Species feeds on insects (grasshoppers, caterpillars, beetles, ants, etc.), and seeds (wild oats, canary grass, needlegrass, etc.).

**Ecology:** Nests in shrub. After breeding, may form flocks and move to higher elevations.



#### **Western Meadowlark (*Sturnella neglecta*)**

**Description:** 8½-11". Adults have long, pointed bill; head striped with black and white; cheek yellow; throat and underparts mostly bright yellow with striking black V on breast.

**Habitat:** Found in grasslands, shrub steppe, savannas, and cultivated fields and pastures. Summers in grasslands and valleys, but may also be found in foothills and open mountain areas. A study conducted in southwestern Idaho determined that landscape-level



features did not influence the distribution of meadowlarks. Year-round resident in Idaho.

**Diet:** Approximately 65-70% of diet consists of small invertebrates such as beetles, cutworms, caterpillars, grasshoppers, spiders, sow bugs, and snails. Will also eat some grains and seeds.

**Ecology:** Builds cup-shaped nest on ground. Forages on ground. One study estimated home range size at 4-13 ha. found in flocks of 10-75 birds in winter. Predators include hawks, crows, skunks, weasels, raccoons, and coyotes.

### **Bullock's Oriole (*Icterus bullockii*)**

**Description:** 7-8½ ". Adult male has bright orange eyebrow, cheek, underparts, and rump; black crown, eyestripe, upper back, chin, and tail. Wings are black and white. Female is lighter gray and paler orange with a pale orange tail.



**Habitat:** Found in open or riparian woodlands, deciduous forest edges, partly-open situations with scattered trees, orchards, and shade trees. During migration and in winter, also found in humid forest edges, second growth, and scrub. An Idaho study conducted in cottonwood forests showed Bullock's Orioles prefer habitat edges adjacent to agricultural landscapes. Summer resident only, migrates to central Mexico south to northeast South America.

**Diet:** Eats insects, especially caterpillars; also eats various fruits and nectar.

**Ecology:** Builds hanging nest in tree (usually deciduous). When not breeding, usually forms groups of 2-5 individuals (rarely up to 15); each group has definite home range. Sometimes forms large communal roosts. Gleans food from trees and shrubs; also takes food in air.

### **American goldfinch (*Carduelis tristis*)**

**Description:** 4-5". Conical bill with a forked tail. Breeding male is bright yellow with black cap; black wings with white wing bars, yellow shoulder patch; undertail and undertail coverts white; tail black and white. Female is duller overall, olive colored above and yellow underneath. Winter adults and immature birds are brownish or grayish above, with buff or grayish underparts.



**Habitat:** Found in weedy fields, open second-growth woodlands, residential areas, roadsides, especially thistle and sunflowers. Can be found year-round in Idaho.

**Diet:** Feeds on the ground, on weed stalks and foliage, eating seeds, insects, and berries.



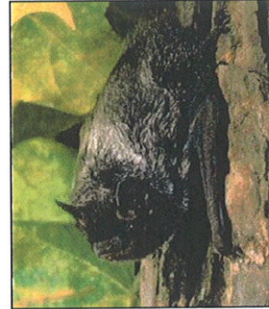
### **Silver-haired Bat (*Lasionycteris noctivagans*)**

**Description:** The back fur is longer and usually black or dark brown with silver-tipped hairs.

**Habitat:** This bat is found in a wide range of elevations in trees containing natural or bird-excavated cavities, especially in snags, or under loose bark.

**Diet:** Beetles, moths and a wide variety of small insects found along water.

**Ecology:** Due to the possibility of these bats contracting rabies, they should never be handled without protective gloves, especially if found on the ground during daylight hours. Hibernates through the winter months. Forages over small water bodies and low over ground and shrub vegetation. Leaves roost and begins to forage relatively late, 3 hours after sunset. Usually roosts singly, but will occasionally form groups of 3-6. Summer roosts and nursery sites are in tree foliage, cavities, under loose bark, or sometimes in buildings.



### **Mountain Cottontail (*Sylvilagus nuttallii*)**

**Description:** Cottontails are grayish brown with a slight yellowish appearance above and whitish below. A diagnostic characteristic is a narrow, black line along the margin of the ear. They have a fairly large tail that is dark above and white underneath. Their total length is 14½ to 19 inches and they weigh 1½ to 2 pounds.

**Habitat:** Prefers brushy, rocky areas in dense sagebrush, and streamside thickets. Prefers areas with relatively greater amounts of forbs.

**Diet:** Feeds on grasses and other herbaceous and woody vegetation, including sagebrush, rabbitbrush, bark, new shoots, buds, and crops.

**Ecology:** Active throughout year. Uses burrows and usually feeds in or near cover. The mountain cottontail is more solitary than other cottontails. Females may produce 4-5 litters of 4-5 young each year.



### **Blacktail Jackrabbit (*Lepus californicus*)**

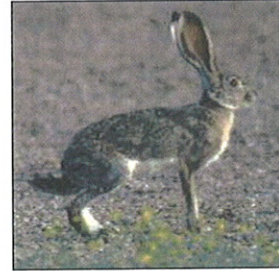
**Description:** Their total length is 18 to 25 inches. They have long-black tipped ears, 4 to 7 inches long. Their back is gray to blackish, sides are gray, and whitish underneath. They don't change color in the winter. Their hind feet are large. They weigh 4 to 8 pounds.



**Habitat:** Inhabits open plains, fields and deserts, and open country with scattered thickets or patches of shrubs.

**Diet:** In summer, forages on grasses, forbs, crops, and hay; in winter, eats buds, bark, and leaves of woody plants. Winterfat, rabbitbrush, cheatgrass, crested wheatgrass, and perennial grasses are their primary foods. This species obtains water from vegetation and re-ingests soft fecal pellets produced while resting.

**Ecology:** Active throughout year. Rests by day in shallow depressions. May travel up to 1.6 km from daytime retreat to night feeding area. Females produce 2-4 litters of 2-4 precocial young each year. The young grow rapidly and are nearly as large as adults in 10 weeks.



### **Yellow-bellied Marmot (*Marmota flaviventris*)**

**Description:** This large, heavily bodied rodent is reddish-brown dorsally, often having a slightly frosted appearance due to light tipped hairs. Its belly is yellowish. It has small ears and a prominent, erect tail. Total length is 25-32 inches and they weigh 3½-11 pounds. Spends considerable time basking in the sun and if danger appears, gives a shrill whistle as an alarm call. Many Idahoans also call them "whistle pigs" or "rockchucks."

**Habitat:** Found in meadows, valleys, and foothills, where there are talus slopes, rocky outcroppings or rimrock.

**Diet:** Feeds on wide variety of grasses and forbs.

**Ecology:** Marmots may hibernate from early September to March. They burrow under rocks, logs, or bushes in areas of well-drained talus, rock outcrops, or scattered boulders. Their burrows may be up to 15 feet long and provide protection against predators, extremely high summer temperatures and cold temperatures during hibernation. While they are social mammals, they occasionally live alone, but usually in pairs, or colonies. A colony typically consists of 1 or more adult territorial males and 1 to 5 adult females and their young.



### **Coyote (*Canis latrans*)**

**Description:** Coyotes are not as large as they appear, weighing only 20 to 40 pounds. Their hair is long and a grizzled gray to brownish gray on top and a buff color underneath. They have somewhat long ears compared to a wolf or many dogs, and the ears are somewhat reddish on the back. They have a long, bushy tail that is black tipped. Coyotes consistently run with their tail between their legs, which help distinguish them from wolves and most dogs. They also are known as the fastest canids as they can reach a speed close to 40 mph for short distances.

**Habitat:** They are found in a wide range of habitats, from open prairies to heavily forested regions to urban areas.

**Diet:** They are opportunistic feeders, feeding on carrion, small vertebrates, invertebrates, and occasionally vegetation. Cottontails, jackrabbits, pocket mice, voles, ground squirrels, and kangaroo rats dominate their diet. They are capable of preying on larger animals such as pronghorn fawns, elk calves, mule deer, and some will kill domestic livestock (especially sheep) as well. In urban areas they often prey on pet cats and smaller dogs.



**Ecology:** Coyotes are known by most residents of the western U. S. because they are so common. Millions of dollars have been spent on eradicating them in order to prevent livestock losses, but most attempts have been unsuccessful. The conclusion that can be drawn from this is that coyotes are tremendously adaptable canines. Most of a population is usually less than 3 years old. Coyotes are known to interbreed freely with domestic dogs and they can breed with wolves. Coyotes are not considered to be as social as wolves, but in protected areas, packs have been observed.

### **Red Fox (*Vulpes vulpes*)**

**Description:** Red fox are small, active canids with a reddish-brown coat above, with white underparts except for a black tipped nose and lower legs. It also has a large, bushy tail that is white tipped. This species has several different color phases including a black phase. This black phase often has white-tipped guard hairs that give it a grizzled or silvery appearance. There is a “cross fox” color phase that has a blackish or brownish color across the shoulders and down the back. Average weight of red fox varies between 8 to 15 pounds.



**Habitat:** They are found in a variety of open and semi-open habitats including riparian zones and transitional areas between forest and open habitat. They are sometimes found in suburban areas.

**Diet:** The red fox is an opportunistic omnivore eating small mammals, carrion, birds, insects, considerable fruits and other plant foods. Rabbits and hares often comprise a major part of their diet as well as mice.

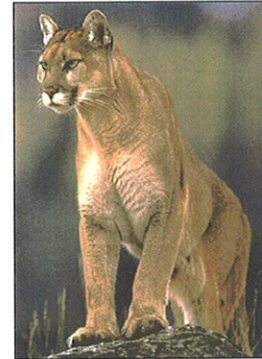
**Ecology:** Red fox can be quite common, but are rarely seen. Their shy and nervous habits, have earned them a reputation as being “clever”. Perhaps this reputation comes from the fact



that they have been observed cooperatively hunting where one might chase a rabbit toward the other.

### **Mountain Lion (*Felis concolor*)**

**Description:** The mountain lion, or cougar, has a yellowish color, often with some rusty, reddish color on its back. Its long tail is yellowish on top and lighter color underneath with a dark tip. There is a dark color between the ears and around the muzzle. Adult females may weigh 80 to 130 pounds while adult males may weigh 90 to 170 pounds.



**Habitat:** Mountain lions range over vast areas but seem to prefer mountainous country with cliffs and rimrock, and semi-wooded canyon habitat with slopes of mixed open and forest.

**Diet:** Mountain lions rely heavily on mule deer, which may comprise up to 75% of their diet throughout the year. They are somewhat opportunistic, eating large and small mammals such as bighorn sheep, coyote, mice, squirrels, rabbits, porcupines, insects, and reptiles. They do occasionally prey on livestock.

**Ecology:** They are primarily solitary with the exception of females with young. Mountain lions can be found in residential areas that have been built in prime mule deer winter range. This, of course, is because mountain lions are following their prey.

### **Raccoon (*Procyon lotor*)**

**Description:** Raccoons have a distinctive “bandit mask” formed by the dark blackish hair around its eyes and cheeks, offset by whitish hair over the rest of its face. Its skull is rather broad, but its muzzle is pointed and thin. The hair on their back and sides is grizzled grayish to blackish, but often with rusty red or brown mixed in, underneath they are grayish brown. Their tail is distinctively round with 5-7 conspicuous light colored rings. Total length is 34-56 inches and they weigh 8-20 pounds.



**Habitat:** Found in various habitats including farm fields and forests, but usually along rivers, streams and shorelines. They are not usually found in dry sagebrush habitat.

**Diet:** Raccoons are opportunistic omnivores; eating fruits, nuts, berries, insects, small mammals, birds' eggs and nestlings, reptiles' eggs, frogs, amphibians, reptiles, aquatic invertebrates, worms, and garbage.

**Ecology:** They often forage along streams obtaining most food on or near the ground. They may become dormant when their foraging trails are covered by deep snow, but they are not

known to hibernate. However, during the winter they do lose a large amount of fat that they acquire during the summer and fall. Because they acclimate to human garbage they often become masters at raiding garbage cans in suburban areas.

### **Badger (*Taxidea taxus*)**

**Description:** The badger's fur is grayish and grizzled with black. The black markings on its face, are accentuated by white that extends from the face rearward. The badger body is well suited for digging; it is short and stout and somewhat flattened. Its ears are rather short and its snout appears slightly upturned. The foreclaws are long and curved and its hind claws are shovel-like. Total length is 28 to 36 inches long and they weigh up to 26 pounds.



**Habitat:** Occurs in shrub steppe, in agricultural areas, and in open woodland forests.

**Diet:** They feed primarily on small rodents such as ground squirrels, pocket gophers, kangaroo rats, prairie dogs, and mice, most of which they capture by digging into the burrows of these small mammals. However, they will also eat insects, snakes (even rattlesnakes), lizards, and birds, especially when rodent population is low.

**Ecology:** They use permanent dens in the winter, but during the summer they often dig a new den each day.

### **Striped Skunk (*Mephitis mephitis*)**

**Description:** The fur of the striped skunk is coal black with a white stripe from its forehead down to its nose. A broad white stripe beginning at the base of its head forms a "V" down the sides of its back and terminates near the tail. Its bushy tail is variously white. Males are considerably larger than females. A striped skunk is about the size of a domestic cat. Total length is 28 to 44 inches and they weigh 4 to 9 pounds.



**Habitat:** Striped skunks are found in a variety of habitat. However, prefer semi-open country with interspersed woodlands and meadows, brushy areas, marshes, farmland, and riparian areas in dry country. It is frequently found in suburban areas.

**Diet:** Their omnivorous diet includes a variety of plant and animal foods such as insects, small mammals, eggs, carrion, and fruits.

**Ecology:** They may be dormant during extended periods of cold, snowy weather; but they do not hibernate. Several individuals, mainly females, may share a winter den. Males seem to



be more active in winter. When inactive, they occupy dens under rocks, logs, or buildings; they may excavate burrows or use burrows abandoned by other mammals. Their dens are usually somewhat close to water, but always on a dry site. Skunks are a rabies vector. When rabid, a skunk is often out and about during the day, and unusually aggressive. If a skunk such as this is encountered, it should be avoided for obvious reasons.

#### **Short-tailed Weasel (*Mustela erminea*)**

**Description:** 7-13" long, black-tipped tail, yellowish white underparts, and dark brown feet. It becomes white in the winter except for its black tail tip. Weigh 1-6 ounces.

**Habitat:** bushy and wooded areas

**Diet:** Prey on a variety of rabbits, hares, rodents, reptiles, amphibians and birds, they specialize in hunting voles.



#### **Mule Deer (*Odocoileus hemionus*)**

**Description:** Mule deer have large ears that are about  $\frac{3}{4}$  the length of their head. They are grayish in winter but reddish to yellowish-brown in summer. They have a white throat patch and a rump patch that is white to yellowish. Their tail is black tipped. Males have antlers in which the main beam divides somewhat equally which can divide again forming points or tines. Bucks weigh from 110 to 475 pounds and females weigh between 70 and 160 pounds.



**Habitat:** Mule deer are found in a diversity of habitats from dry, open country to dense forests. They migrate down to the foothills surrounding Avimor in late fall and stay through the winter months to avoid the heavy snow of their summer mountainous habitat.

**Diet:** During the winter, when snows cover grasses and forbs, they browse on a wide variety of woody plants, including sagebrush, bitterbrush, aspen, dogwood, juniper and Douglas fir.

**Ecology:** Critical winter habitat within the Boise foothills includes south-facing slopes, ridge tops saddles, and riparian areas. From November to April the Boise foothills provides critical habitat to over 6,000 mule deer.

### **Elk (*Cervus elaphus*)**

**Description:** Males in Idaho will weigh between 600 to over 1000 pounds, while females weigh between 450 to 650 pounds. They will stand up to 5 feet at the shoulder. Males have large antlers consisting of a single beam angling upward and backward for up to 5 feet from the head, with up to 6 and occasionally 7 points or tines. Elk have short tails surrounded by a tan colored rump patch. Their backs are brownish to tan above, somewhat reddish during the summer, and their underside is darker. Males especially appear to have thick necks with a dark brown mane on their throat region.



**Habitat:** They can be found in a variety of habitats from mountainous country with mixed open, grassy meadows, marshy meadows, river flats, and aspen parkland, to coniferous forests, brushy clearcuts, forest edges, and shrub steppe.

**Diet:** Elk are primarily a grazer, relying on grasses for most of the year, but they also consume some forbs in the summer, and may browse on willow and aspen when grasses are unavailable during the winter months.

**Ecology:** Individuals tend to bed down in meadows in the afternoon and again after midnight to chew their cud. Elk herds move to lower elevations in winter to feed. Males shed antlers in March and April. Critical winter habitat within the Boise foothills includes south-facing slopes, ridge tops saddles, and riparian areas.



## DESCRIPTIONS OF SELECT PLANT SPECIES

See Appendix C for a comprehensive plant list for the Boise foothills.

### **Big Sagebrush (*Artemisia tridentata*)**

Big sagebrush may be the most important shrub on western rangelands. It is a drought tolerant shrub which will not tolerate excessive moisture. Big sagebrush are evergreen shrubs that range in size from approximately 2 feet tall to as large as 13 feet tall, but average about 4 feet. The leaves are wedge to fan-shaped and are usually three-lobed at tips. They have dense hairs on the leaves that cause them to have blue-gray to blue-green appearance. In addition, the leaves are highly aromatic. The buds form around June but flowering and seed formation occur in the fall.



Branches are spreading and can arise from numerous main stems in the lower growing subspecies or from one main trunk in the larger forms. The persistent leaves and abundant seeds are an excellent winter food source for a number of species of mammals including mule deer, black-tailed deer, white-tailed deer, elk, pronghorn antelope, bighorn sheep and jack rabbits. Several bird species depend on sagebrush ecosystems for their habitat needs. There are several animal species that depend on big sagebrush including sage grouse, sharp tailed grouse, pygmy rabbits, sage thrashers, sage sparrows and Brewer's sparrow. Sagebrush also provides habitat and food for hosts of invertebrates which in turn support birds, reptiles and small mammals. In addition to the numerous species of animals that depend on sagebrush for food and cover, there are several plant species that also have close relationships with sagebrush.

### **Bitterbrush (*Purshia tridentata*)**

Bitterbrush shrubs are large, leafy perennials with few basal stems. The average shrub height is 8 feet with a 10 foot crown. Similar to sagebrush, the leaves are three-lobed on the outer edge and persistent through the winter, but can be distinguished by the green upper leaf surface, as only the lower surface is covered by dense hairs. The flowers are small with color variation from



white to yellow, and bloom in the spring (April-May). The seeds are large, about ¼ inch long and obovate. Bitterbrush is recommended for restoring depleted rangelands, burned areas, mined lands, and other distributed sites in the Intermountain West. It attracts birds and insects and is an important food source for big game and livestock, particularly during the winter.

Historically, Western Indian tribes used a leaf poultice or wash for itches, rashes, insect bites, chickenpox, and measles. A tea made from the leaf was used as a general tonic and for colds, pneumonia, liver disease, to expel worms, and as an emetic and laxative for stomach ache and constipation. Twigs, leaves, and berries were used as a laxative. Teas made from the root were used for coughs, lung and bronchial infections, fever, and to facilitate delivery of the placenta.

### **Golden Currant (*Ribes aureum*)**

This 3-6 foot tall by 2-3 feet wide deciduous shrub produces fragrant, clove scented bright yellow, tubular flowers in early spring (March/April). It is one of the earliest shrubs to bloom. The leaf is an attractive tri-lobed shape with fall colors ranging from orange to red. The shrub develops fruits throughout the summer. Golden currant grows in grasslands, coniferous forests and woodlands, and riparian and mountain shrub communities. It occurs on floodplains, along streams, in ravines and washes, by springs, and on mountain slopes, at elevations of about 2,625–8,550 feet.



Golden currant attracts insect pollinators and a variety of songbirds, chipmunks, and ground squirrels. Numerous wildlife species eat the small orange to reddish colored fruits. The fruit or currants are edible and accessible as there are no prickles on the stem.

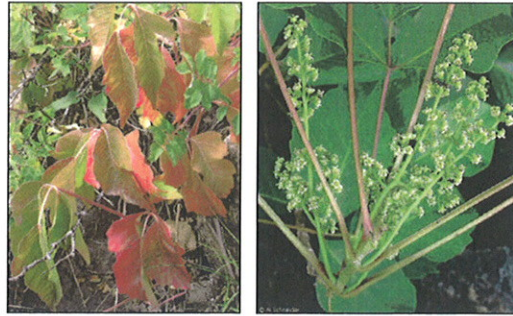
The sweet and flavorful fruits are full of seeds but remain popular for making jam, jelly, pie, and ice cream. Some western Native American tribes used currants for making pemmican. Other tribes believed that snakes were afraid of the currant bush and used it as a snakebite remedy or have used the fruits to color clay pots.

### **Poison Ivy (*Toxicodendron rydbergii*)**

Poison ivy should be avoided due to its ability to irritate and cause rashes on the skin. Some people are little affected by poison ivy, but few, if any are immune to its effects.



Poison ivy is a relatively low-growing, woody-stemmed shrub. The leaves are divided into three bright green leaflets. The leaflets are egg-shaped to round and usually about 1-4 inches long, coarsely toothed and strongly veined on the underside. They are bright green and turn bright red in the fall, then drop from the plant. The flowers are small, white to pale yellow, with greenish veins. The flowers grow in panicles (branched clusters) and stem from the leaf axils. The white berry-like fruits are approximately ¼ inch in diameter and grow grouped in dense clusters. The berries are usually well developed by July and persist throughout the winter.



Poison ivy is distributed from the foothills to the ponderosa pine belt and is abundant along streams, in canyons and on dry, rocky hillsides.

#### ***Syringa (Philadelphus lewisii)***

Syringa, or Lewis' mock orange is the state flower of Idaho and was named for Captain Meriwether Lewis, who collected the plant in 1806. It is a deciduous shrub which grows 4-10 feet tall by 6-8 feet wide with showy white flowers that have four petals. The flowers bloom in late spring to early summer. The



flowers are borne singly on stems or in loose terminal clusters, and have a fragrance similar to that of orange blossoms. Leaves are ovate to elliptic with entire to serrate margins on oppositely branched stems.

Syringa occurs on well-drained, moist sites. It is commonly found on rocky sites, at the base of talus slopes and cliffs, along streams, and in seasonally moist draws. Syringa provides excellent cover and habitat for wildlife, and good browse for mule deer elk, quail and squirrel. It is not grazed extensively by livestock but does receive fair amounts of use in some areas. Palatability of the shrub is believed to increase following resprouting from fire, however, extensive browsing can have negative impacts on the shrub. Historically, Native

American used stems for making arrows, bows, combs, tobacco pipes, cradles and netting shuttles.

### **Arrowleaf Balsamroot (*Balsamorhiza sagittata*)**

Arrowleaf balsamroot is a native perennial of the west. The leaves of arrowleaf balsamroot grow from a basal clump and are 12-18 inches long. Leaf shoots emerge April-May then the larger, green, arrowhead-shaped



leaves develop. Most stalks have a solitary sunflower-like flower head with yellow petals surrounding a darker center. The plants do not flower until they are about five years old. Arrowleaf balsamroot is common and abundant throughout its range which includes plains and valleys to elevations of nearly 9,000 feet. The plant is utilized as fair forage for deer, elk and livestock. It provides spring forage for deer and elk, and grows well on hot dry slopes once established. Native Americans used the roots to prepare medicines.

### **Bachelor Buttons (*Centaurea cyanus*)**

Bachelor button is an annual Mediterranean species that was introduced as an ornamental species. It has escaped gardens and become a vigorous competitor with native forb species. The entire plant may have a grayish appearance due to a covering of hairs. The leaves are generally entire, with the lower leaves sometimes being toothed or lobed. The showy flowers range from white, to pink, to blue and purple and are more than 1 inch in diameter.



### **Annual Sunflower (*Helianthus annuus*)**

The common sunflower is an annual native to North America. It grows from 1-10 feet tall with stems ranging from erect and simple to highly branched and rough. The leaves are alternate and are simple, rough, hairy, ovate to heart-shaped and have toothed margins. The showy flowers, which usually bloom throughout the summer, have yellow to orange-red ray flowers and brown to reddish-brown disk flowers. The flowers are 3-6 inches wide.



Sunflowers are commonly seen along roadsides and fence rows, and in fields, pastures and waste areas. They are cultivated as ornamentals or garden plants, where the blooms and the seeds can be eaten by both humans and wildlife. Game birds, songbirds,



and rodents (Martin *et al.* 1951) eat the large, nutritious seeds of sunflowers. Sunflowers are of outstanding value to wildlife in the prairies and other parts of the West. Birds eating the seeds include snipes, doves, grouse, ring-necked pheasants, quail, blackbirds, lazuli buntings, black-capped chickadees, cowbirds, crows, house finches, goldfinches, horned larks, longspurs, meadowlarks, white-breasted nuthatches, ravens, sparrows, and tufted titmice. Small mammals who relish the seeds include the least chipmunk, eastern pocket gopher, ground squirrels, lemmings, meadow mice, pocket mice, white-footed mice, prairie dogs, and kangaroo rats. Muskrats eat the stems and foliage and antelope, deer, and moose browse on the plants. The sunflower has been cultivated since pre-Columbian times for its edible seeds. Sunflower seeds were and still are eaten raw, roasted, cooked, dried, and ground, and used as a source of oil; flower buds were boiled; and the roasted seeds have been used as a coffee substitute.

### **Field Bindweed (*Convolvulus arvensis*)**

Field bindweed, a noxious weed species in Idaho, is native to Europe and Asia. The plant most likely arrived in the U.S. as contaminant in farm and garden seeds. Due to the attractive flowers, some plants were introduced intentionally and planted ornamentally as ground cover or in hanging baskets. Eradication is difficult as field bindweed has an extensive root system reaching depths of 20 feet and gives rise to many lateral roots.



Field bindweed is a perennial with an extensive root system that often forms into dense mats or climbs. Leaves are arrowhead-shaped with pointed lobes at the base of the leaf. White to pink flowers are bell or trumpet shaped and approximately 1 inch in diameter and have small bracts that are located about 1 inch below the flower. Flowers close in the dark or when it is



overcast or raining. Field bindweed is common in cultivated fields, gardens, waste places, disturbed sites and along roadsides and railroads. The plant is extremely adaptable and has been found at elevations up to 10,000 feet

### **Hoary Cress (*Cardaria draba*)**

Hoary cress or whitetop is a noxious weed species in Idaho. It is a deep-rooted perennial that is native to Eurasia that grows up to 2 feet tall. Hoary cress commonly grows on disturbed sites with alkaline soils. It is highly competitive with other species once it is established, but can be effectively controlled with herbicide treatment.

The blue-green leaves are waxy, lance-shaped and approximately 1-1½ in. long.



Although the lower leaves have petioles (a stalk), the upper leaves are clasping, where by two lobes at the base of the leaf clasp the stem. The white flowers grow in clusters and each flower has four petals. The plants emerge in early spring, flowers bloom in the spring and seeds are set by mid-summer. The seeds are bladder-like, in that they appear inflated, and are somewhat heart-shaped.

### **Perennial Pepperweed (*Lepidium latifolium*)**

A native of southern Europe and western Asia, perennial pepperweed is a noxious weed species in Idaho, and found throughout much of North America. Robust roots and numerous seeds make the species difficult to control. It is a perennial that reaches 1-3 feet in height. The leaves are bright to grayish green, lanceolate, and have entire to toothed margins. The leaves and stems are covered with a waxy coating which makes the species harder to control. White flowers form in dense clusters which flower in early summer through the fall. Perennial pepperweed is common in waste places, along roadsides and canals, in ditches, cropland and pastures, and in wet areas.



### **Phlox (*Phlox spp.*)**

Phloxes are showy perennial herbs that flower from mid-spring to mid-summer. The habitats of different species range from the plains and foothills to high mountain regions. Flower color varies from white to shades of blue and purple to deep shades of pink. They typically have woody roots and branching stems and often grow in clumps or masses. The leaves vary among species. Species that have larger, more tender are sometimes utilized as forage, however some species have prickly leaves that are generally avoided. *Phlox spp.* are often used as ornamentals in gardens. Some Native American tribes made a tea from phlox used to treat children suffering from anemia.



### **Poison Hemlock (*Conium maculatum*)**

Poison hemlock is a noxious weed species in Idaho. It was introduced in the late 1800's as a garden ornamental. Poison hemlock is typically a biennial, but can also develop as a winter annual or a short lived perennial. It is extensively branched and can grow approximately 6-10.5 feet. The fern-like leaves are triangular and dark green, and have a musty odor. The white flowers bloom from May to August in several umbrella-shaped clusters (umbels) that are 1.6-2.4 inches wide. The ridged stems are hollow and marked by purplish-red spotted patches. Poison hemlock is common on the borders of pastures and around waterways. Every part of this plant is poisonous.





### **Prickly Lettuce (*Lactuca serriola*)**

Prickly lettuce, a native biennial or winter annual of Europe, is a highly competitive invader of disturbed sites. It is naturalized throughout most of the U.S. Its varied habitats include croplands, orchards, yards, small gardens and along roadsides.

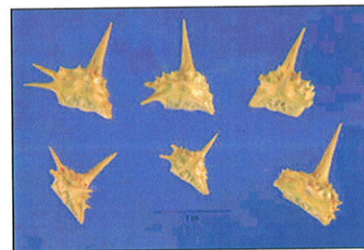
Prickly lettuce grows 1-5 feet tall from a large taproot. The alternate leaves are twisted at the bottom and leaves clasp the stem with two lobes. The leaves are 2-10 inches long and are prickly along the midrib on the underside of the leaf. The margins of the leaf may be deeply lobed or without lobes. Branching of the stems only occurs in the top, flowering portion of the plant. Flower heads are yellow,  $\frac{1}{8}$  to  $\frac{1}{2}$  inch wide, and typically turn blue when they wither and dry. Each flower produces bristly six to thirty flattened fruits that have five to seven parallel ridges on each side.



### **Puncturevine (*Tribulus terrestris*)**

Puncturevine or goatshead is a noxious weed species in Idaho. Introduced from the Mediterranean, puncturevine is a mat forming annual with trailing stems  $\frac{1}{2}$ -5 feet long.

The leaves are opposite, hairy, and pinnately divided into four to eight pair of leaflets that are  $\frac{1}{4}$  to  $\frac{1}{2}$  inch long. The flowers are yellow with five petals up to  $\frac{1}{2}$  inch wide. The fruits break into five sections that have two to four seeds per capsule. The capsules (pictured above) are tack-like structures, each having two sharp spines. They are said to resemble the head of a goat.



Puncturevine is widely distributed throughout much of the U.S. Its habitats include pastures, waste areas, along roadsides and in cultivated fields. The capsules are easily dispersed by vehicles, and cause problems for recreationists throughout the foothills. They are particularly reputed by recreationists for puncturing bicycle tires. The vegetative portion of the plant is toxic to livestock, and the fruits can cause mechanical injury.

### **Pursh's Milkvetch (*Astragalus purshii*)**

Pursh's milkvetch is the most common milkvetch in the foothills. It is a small plant, less than 4 inches tall. The purple flowers can appear as early as March. The seed

Pods are white and densely hairy, resembling a small rabbit's foot. Pursh's milkvetch is often found on dry, open sites in plains and foothills.



### **Rush Skeletonweed (*Chondrilla juncea*)**

Rush skeletonweed, a Eurasian species, is a noxious weed species in Idaho. It is a perennial that grows 1-4 feet tall and has an extensive root system.



Basal leaves form a rosette which withers as the plant develops. The basal rosette leaves are sharply toothed and leaves found further up the stem are small, narrow and entire. Stems have red trichomes (hairs) that bend downwards on the first 4-6 inches of the stem. Both the leaves and the stems exude a milky fluid when damaged or cut. The yellow flowers are less than an inch wide with flat-edged petals that have distinct tooth-like lobes. Rush skeletonweed develops readily in disturbed soils and is typically seen along roadsides, in fields and pastures and on wildlands.

### **Scarlet Gilia (*Ipomopsis aggregate*)**

Scarlet gilia or skyrocket is a native biennial wildflower with red, pale pink, orange or scarlet flowers that bloom from June to August. Scarlet gilia grows in dry, open or lightly wooded habitats from the foothills to montane regions. Scarlet gilia grows 12-24 inches tall and the flowers are arranged in clusters  $\frac{3}{4}$ -1  $\frac{1}{2}$  inches long. When





crushed, the stems emit a strong skunk-like odor. The trumpet-shaped flowers flare at the tip forming a five pointed star pattern. Leaves form a basal rosette during the first year and alternate on the stems of the plant of the in the second year. The pinnate leaves have narrow, linear leaflets.

Hummingbirds inadvertently pollinate scarlet gilia while feeding on nectar. The pollen clings to the head of the hummingbird as it hovers in front of the flower, and then gets transferred to other flowers. Browsing by mule deer and elk prior to the flowering season stimulates growth of multiple flowering stems and increases flower production.

### **Sego Lily (*Calochortus nuttallii*)**

Sego lilies are native perennials, and one of many species of the mariposa lily. The habitat of the sego lily includes sagebrush foothills and valleys, and open ponderosa pine stands at moderate elevations. Sego lilies are early bloomers that grow onion-like basal and stem leaves from a corm (bulb). The flowers are white with three petals. Other species of mariposa lily have flowers that are white to purple. The lily has



only a few leaves and they tend to dry up quickly causing it to be poor forage for wildlife or livestock. Other species of *Calochortus* have grass-like leaves that provide better forage. Pocket gophers and other rodents eat the bulbous roots and gather and store them for food during the winter. The bulblike roots were also eaten by western Native Americans, and the sego lily roots were actually considered a delicacy.

### **Silvery Lupine (*Lupinus argenteus*)**

Silvery lupine is a common species in the west. It is a perennial herb that grows from approximately 1.6-3.3 feet tall. The leaves are palmately divided with six to nine lance-shaped leaflets that are usually hairy on both the upper and lower surfaces of the leaf. The flowers are purple to blue and sometimes white with blue shading. The inflorescences are racemes (loose, elongated clusters) up to 8 inches long. The flowering period is throughout the summer, from May to July. The fruits are pea pod shaped hairy pods usually less than a ½ inch. Silvery lupine occupies a wide range of habitats including dry, open and shaded sites from plains to subalpine regions.



Lupine is not make good forage due to many species containing poisonous alkaloids that cause harm to grazing livestock. However, silvery lupine is an important food source for butterflies.



### **Slickspot Peppergrass (*Lepidium papilliferum*)**

Slickspot peppergrass is a state sensitive species in Idaho. It is an annual or biennial that is endemic to the sagebrush steppe habitat of southwest Idaho. Slickspot peppergrass grows on microsites known as slick spots. Slick spots have a higher content of clay and salt, and higher soil water retention than the surrounding area.



Slickspot peppergrass grows from approximately 4 inches to 1½ feet in height. It has two forms, the small, flowering annual (photo above, left), and the biennial rosette that will flower during the following growing season. The flowering period begins in May and lasts through early July. The inflorescence has multiple small white flowers with four petals. Small ovate seeds develop after flowering.

### **Tapertip Onion (*Allium acuminatum*)**

Tapertip onion is one of the most common of the *Allium spp.* in the West. It is a perennial herb that grows in open, often rocky slopes, among brush and pines at elevations of 328-4,900 feet



The plant has a distinct onion odor and grows up to 1 foot in height. It has basal, grass-like leaves that stem from a corm, or bulb. The pink to purple, bell-shaped flowers form an umbel atop a leafless stalk. Flowers bloom from May-July.

Aase's onion, *Allium aasae* is a sensitive species in Idaho. The flowers of Aase's onion differ from tapertip onion in that they bloom in the basal portion of the plant and only flower during March and April.

*Allium spp.* are highly palatable to sheep and cattle and wildlife such as elk and bear who dig up and eat the bulbs. It is a popular potherb. Historically, Native Americans utilized the bulbs as a food source and may have staved off scurvy for various expeditions by introducing the ill to the wild onion.

### **Tumblemustard (*Sysimbrium altissimum*)**

Tumblemustard is an exotic species native to southern Europe. Sometimes referred to as Jim Hill mustard, this plant is believed to have been incidentally spread across the U.S. by the Great Northern railroad as seed when transporting hay, grain and livestock. It is referred to as Jim Hill mustard after the railroad builder, James J. Hill (USDA 1988). Tumblemustard is

presently naturalized throughout much of the U.S. It is weedy and invasive and has low palatability for wildlife and livestock. Plants reaching 2-4 feet high, are highly branched, with deeply divided basal leaves and highly reduced upper leaves. The yellowish white flowers are small ( $\frac{1}{4}$  inch) and grow in numerous racemes.



### **Yarrow (*Achillea millefolium*)**

Common yarrow is one of the most widely distributed flowers in the west. It is highly drought resistant and thrives in a range of habitats including sagebrush communities, canyon bottoms, glades, roadsides and vacant lots at elevations up to 11,000 feet.



Common yarrow is a perennial that grows from 4 inches – 3 feet tall. The leaves are fern-like and up to 4 inches long. The flower heads are flat-topped corymbs that can be up to 4 inches across. Each corymb is made up of multiple, small white flowers. The flowering period is from May through September.

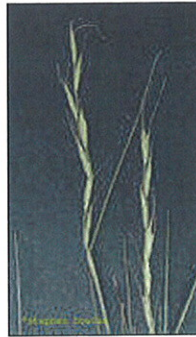
Yarrow is fair forage at best for cattle and sheep. Native Americans used yarrow to make a tea used externally for cuts, burns, open sores, bug bites and bruises and tea used internally for treatment of colds, fevers and diarrhea; they smoked the flowers to clear the head; and



placed a clump of leaves in the ear for ear aches (Kershaw *et al.* 1998; Ogle 1997). Yarrow is named after Achilles who is said to have used the plant to stop bleeding in the wounds of his soldiers. Laboratory tests show that the alkaloid achillene, which is derived from yarrow, has the ability to reduce the time it takes the blood to clot (Kershaw *et al.* 1998).

### **Bluebunch Wheatgrass (*Pseudoroegneria spicata*)**

Bluebunch wheatgrass is a long-lived, cool season bunchgrass that grows 1-4 feet tall. It is a common, widespread species in most of western North America and is a major component of many native plant communities. The suitable habitat elevation range is from 500 feet to 10,000 feet. It is drought resistant grass and the stands are persistent through the winter. It is drought resistant grass and the stands are persistent through the winter.



The bluish colored leaves are flat or inrolled and up to 8 inches long with auricles (ear-shaped appendages where leaf blade and sheath meet) that are pointed and semi-clasping to nearly lacking. The seed spikes are 3 to 8 inches long. Seeds have a bristle, or awn, except on the beardless type (beardless bluebunch) that lack the awn.

Bluebunch wheatgrass is palatable to livestock and wildlife. It is a preferred feed for elk, deer, antelope, cattle, horses and sheep at various times throughout the year. Unfortunately, bluebunch wheatgrass has been overgrazed in many areas. It is extremely fire resistant and can deter the spread of fire on sites without dense, dried annual grass.

### **Bottlebrush Squirreltail (*Sitanion hystrix*)**

Squirreltail is a native, cool season, short-lived perennial grass. Plants can be found in varied habitats including dry hills, plains, and open woods from elevations of 2,000 to 11,500 feet.

Squirreltail plants are relatively short, growing 4 to 25 inches tall, with erect to spreading stems. The plant can be glabrous (smooth) but is more often covered with white hairs. Leaf blades are flat to involute, and up to a ¼ inch wide. The inflorescence spike is from 0.8 to 6.7 inches long. At maturity the spike can be over 4.7 inches wide due to the widely spreading awns. Awns are scabrous and may grow from 0.8 to 3.9 inches long, and often turn purple.



Squirreltail is considered to be one of the most fire resistant native bunchgrasses. It is an early successional species that grows well after wildfires and other disturbances. It can act as a nurse plant on sites that are void of most other vegetation by competing with and replacing annual weedy species. It is capable of germinating in the late fall and very early spring at a wide range of temperatures which adds to its ability to compete with cheatgrass (*Bromus tectorum*). Studies also indicate that squirreltail is capable of establishing in medusahead wildrye (*Taeniatherum asperum*) infested sites (Ogle 1997). This makes squirreltail one of the more competitive native grasses available for reseeding disturbed rangelands.

Squirreltail is considered to be fair to desirable forage for cattle, horses and sheep in spring before seed head development and in late summer to fall after seeds shatter. The long, sharp awns can cause mechanical injury to grazing animals during mid to late spring into summer. In the fall, leaves green up following rains and are palatable. Some leaves are persistent and remain green through the winter making squirreltail an important winter forage species, despite the lack of nutritional value.

### **Cheatgrass (*Bromus tectorum*)**

Cheatgrass, or downy brome is native to the Mediterranean region and is an extremely invasive species. This grass, first found near Denver, Colorado in the late 1800's (Whitson *et al.* 1991), was introduced into the U.S. in packing materials and perhaps as a



contaminant of crop seeds. Cheatgrass is one of the most widespread introduced annual grasses U.S. as it occurs in all 50 states as well as in most of the Canadian provinces and in parts of Mexico (USDA 2007). Since its introduction, cheatgrass has spread far and wide by livestock, by trains and other vehicles, and by wildlife and livestock. The seeds, which mature before the harvest of alfalfa and winter wheat, contaminate hay and grain.

Cheatgrass is a small annual or winter annual approximately 4-30 inches tall. The entire plant, aside from the stalks, is soft and hairy. The stems are solitary or in a few-stemmed tuft.



The leaf blades are up to 2-4 inches long, flat, relatively narrow, and generally hairy near the base, with short ligules that are membranous, and fringed at the top. Cheatgrass does not have auricles. The inflorescence is a soft and drooping, multi-branched, open panicle which turns a dull red-purple color as it matures. Spikelets are about  $\frac{3}{8}$ - $\frac{1}{4}$  inch long with 3-6 florets.

The characteristic drooping seed heads become brittle as the plant dries and shatters upon disturbance which disseminates the sharp-tipped lemmas with their barbed awns. Mature plants are unpalatable as the awns can work their way into eyes, nostrils, mouths, and intestines of grazers. Dense stands of cheatgrass on rangeland are highly flammable in late spring and summer after maturation.

### **Great Basin Wildrye (*Leymus cinereus*)**

Basin wildrye is a long-lived, cool season perennial bunchgrass with an extensive root system that could develop taproots that reach to 14 feet deep. It is native to the Great Plains and Intermountain regions of the western U.S. Basin wildrye are common along drainage basins and rocky slope at elevations up to 8,000 feet.



Basin wildrye grows in upright clumps that may reach 3 feet in diameter and 3-6 feet tall. Basin wildrye has flat or somewhat inrolled leaf blades are 15-25 inches long and up to  $\frac{3}{4}$  inch wide. The leaves have smooth sheaths and long pointed auricles. The reproductive stems are dense, stout, and strongly erect. Flower heads are 6-10 inches long.

Basin wildrye is palatable to wildlife and livestock. It is preferred forage for horses in spring and is considered a desirable feed for elk, deer, antelope, cattle, and sheep in the spring. However, basin wildrye is generally not recommended for spring or summer forage because it has an elevated growing point and is easily damaged by overgrazing. Additionally, it is considered excellent cover habitat for small animals and birds, excellent nesting cover for upland birds, and excellent standing winter feed and cover for big game animals. The seeds of basin wildrye are believed to have been a food source for many tribes of Native Americans.

### **Idaho Fescue (*Festuca idahoensis*)**

Idaho fescue is a native perennial, cool-season grass that grows 1 to 3 feet tall. Idaho fescue occupies many diversified habitats including exposed benchlands, hillsides and ridges, parks, meadows, forestlands, and open ponderosa and lodgepole pine stands. Altitudinal variation in Idaho fescue habitat extends from 984 feet to 13,120 feet.



Idaho fescue culms are erect and sparsely leaved and most leaves are basal. The narrow leaves usually have a bluish green to green color. The leaf sheaths are flattened, keeled, either glabrous or scabrous; the basal sheaths are short, open and wider than the blade. The inflorescence is a panicle, 4 to 8 inches long, with ascending and spreading branches and is rough to the touch. The spikelets are 4 to 8 flowered with rachilla joints visible. The lemma is awned from the tip and straight and the glumes are unequal the first being shorter than the second.

It is good year-around forage for elk and is grazed in spring by deer. Since Idaho fescue begins senescence later in the growing season than most other range plants, it is particularly useful for late season grazing.

### **Indian Ricegrass (*Oryzopsis hymenoides*)**

Indian ricegrass is a widely distributed, native, cool-season bunchgrass generally found in the plains, foothills, mountains, and intermountain basins of the western United States on dry and primarily loamy-sandy-gravelly sites. Indian ricegrass is 8-30 inches tall. It has many tightly rolled, slender leaves, growing from the base of the bunch giving it a slightly wiry appearance. It has a wide spreading panicle inflorescence with a single flower at the end of each hair-like branch. It forms an airy inflorescence when it goes to seed. Seed production occurs from mid-June through mid-July.



Indian ricegrass is highly palatable to livestock and wildlife. It is preferred forage for cattle, horses and elk in all seasons and for sheep, deer and antelope in spring, late fall and winter. The abundant plump, nutritious seeds produced by Indian ricegrass are considered an



excellent food source for birds such as mourning doves, pheasants, and songbirds. Rodents collect the seed for winter food supplies. In addition to food, Indian ricegrass provides good cover for small animals and birds. Historically, the nutritious seeds of Indian ricegrass were one of the staple foods of Native Americans.

### **Intermediate Wheatgrass (*Thinopyrum intermedia*)**

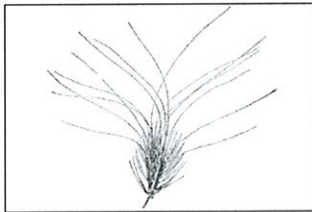
Intermediate wheatgrass, introduced in 1932, is a perennial grass native to Europe and Asia. The species performs best above 3,500 and up to 9,000 feet elevation.

Intermediate wheatgrass grows to 3-4 feet tall. It is a long-lived cool season grass with short rhizomes and a deep feeding root system. Intermediate wheatgrass' vegetative structures are for the most part smooth, but may have a fringe of hairs on the leaf margins. The seed spikes may be up to 4-8 inches long. The leaves green to blue-green in color and sometimes drooping. There are usually seven or less florets.



Intermediate wheatgrass is palatable to wildlife and livestock. It is preferred forage for deer, antelope, elk, cattle, sheep, and horses, in the spring, early summer and fall. It is considered desirable forage for elk, cattle, sheep, and horses in summer and winter. Strips of ungrazed intermediate wheatgrass provide good nesting cover for game birds and migratory waterfowl.

### **Medusahead Wildrye (*Taeniatherum asperum*)**



Medusahead is an extremely competitive, invasive grass introduced from Eurasia. It is an aggressive winter annual that grows 6-24 inches. It is extremely aggressive and can even crowd out other invasive species

such as cheatgrass. The leaf blades are  $\frac{1}{8}$  inch wide and rolled. The inflorescence is a long-awned spike as wide as it is long. The awns are stiff and finely barbed, and range from 1-4 inches long. Medusahead, worthless as foliage, has reduced grazing capacity 40-75% on infested ranches (Whitson *et al.* 2002).



### **Sandberg Bluegrass (*Poa secunda*)**

The Sandberg bluegrass is a cool-season, native perennial bunchgrass that matures early in the growing season. It is probably the most common bluegrass species in the in the drier portions of the Intermountain West. Plants occur in dry areas in sagebrush and mountain shrub communities, and occasionally in alpine sites. It has a wide altitudinal range, from 1,000-12,000 feet.



This grass is one of the first to green up in the spring, but is cured and dormant by early summer.

Sandberg bluegrass usually occurs as small tufts, with soft basal leaves and few to many flowering stalks that are naked except for one or two small leaves. The leaves have the typical bluegrass characteristics of prow-shaped tip and double groove down the center of the leaf surface. Sandberg bluegrass has a prominent membranaceous, acute ligule. The seeds are glabrous except for short crisp hairs on the lower portion of the lemmas. The flowers are in narrow panicles that are somewhat spreading during anthesis. Plants seldom exceed 24 inches in height. Sandberg bluegrass have extensive, deep penetrating, coarse, fibrous roots that make it quite drought tolerant and resistant to grazing and trampling.

Sandberg bluegrass is an important forage species for animals in spring and fall. Deer, pronghorn antelope, and bighorn sheep utilize Sandberg bluegrass forage and birds and small mammals utilize the seed (Johnson and Larson 1999).

## **GLOSSARY**

Acute – Tapering to a pointed tip with more or less straight sides.

Altricial – Hatchling birds are naked and blind and dependent on parents for food.

Anthesis – The time and process of budding and unfolding of blossoms.

Arthropods – Jointed-foot invertebrates: arachnids; crustaceans; insects; millipedes; centipedes.

Awns – A narrow, bristle like appendage, usually at the tip or dorsal surface.

Bract – A reduced leaf or leaflike structure at the base of a flower.

Canids (canines) – Any of various widely distributed carnivorous mammals of the family Canidae, which includes the foxes, wolves, dogs, jackals, and coyotes

Carrion – Dead and decaying flesh.

Chaparral – A dense thicket of shrubs and small trees.

Coniferous – Bearing cones.

Corymb – A flat-topped or round-topped flower cluster, with lower flower stems longer than the upper.

Deciduous – Falling off, as leaves from a tree, not evergreen, not persistent.

Disturbance – Any management activity that has the potential to accelerate erosion or mass movement. Also, any other activity that may tend to disrupt the normal movement or habits of a particular wildlife or plant species.

Diurnal – Occurring or active during the daytime rather than at night

Diversity – The distribution and abundance of different plant and animal communities and species within an area.

Dorsolateral – Of or involving both the back and the side.

**Ecosystem** – An interacting system of organisms considered together with their environment; for example, a marsh, watershed, or lake ecosystem.

**Edge** – The site where different plant communities, successional stages, or vegetative condition classes meet and change in flora, fauna, and microclimate occur. For example: the boundary between riparian vegetation (e.g., willows) and sagebrush-grasslands.

**Endangered Species** – Any plant or animal species that is in danger of extinction throughout all or a significant portion of its range, and has been officially listed as endangered by the Secretary of Interior or Commerce under the provisions of the Endangered Species Act. A final rule for the listing has been published in the Federal Register.

**Environment** – The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

**Ephemeral Stream** – A stream which has no predictable flow pattern and only flows in direct response to precipitation (rainfall), and whose channel is at all times above the water table.

**Estivate** – To pass the summer in a dormant or torpid state.

**Fauna** – The animal life characterizing a specific geographic region or environment.

**Fire Suppression** – All work and activities associated with fire extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

**Flora** – The plant life characterizing a specific geographic region or environment.

**Foliage** – The leaves of a plant, collectively.

**Forage** – All browse and non-woody plants that are available to wildlife for grazing or harvested for feeding livestock. Normally includes only the current year's growth.

**Forb** – Any herbaceous plant species other than those in Gramineae (grasses), Cyperaceae (sedges), and Juncaceae (rushes) families; fleshy leaved plants.

**Fragmented** – A term describing a landscape where large areas of suitable habitat are broken up into smaller patches which are surrounded or bisected by unsuitable habitat.



Fuel Break – A strip of land of variable width that has been treated through biological, chemical or mechanical means to reduce fuels.

Fuel Reduction – Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or lessen potential damage and resistance to control.

Fuel Suppression – All the work of extinguishing or containing a fire.

Grizzled – Having fur or hair streaked or tipped with gray.

Habitat – Specific set of physical conditions that surround a species, group of species, or large community. For example, major habitat components for wildlife are food, water, living space, and cover.

Herbaceous – Plants that are green and leaf like in appearance or texture and have characteristics typical of an herb, as distinguished from a woody plant.

Hibernate – To pass the winter in a dormant or torpid state

Hiding Cover – Vegetation capable of hiding all or a portion of an animal.

Intermittent Stream – A stream or segment of stream that flows only at certain times of the year when it receives water from springs or from some surface source, such as melting snow in mountainous areas.

Invertebrates – A group of organisms lacking a backbone, including insects, butterflies, spiders and worms.

Involute – With the margins rolled inward toward the upper side.

Lanceolate – Lance-shaped; much longer than wide, the widest point below the middle.

Ligule – A tongue-shaped projection at the base of the leaves.

Melanistic – Dark coloration of the hair or fur because of a high concentration of melanin.

Membranaceous – Thin, soft, flexible, and more or less translucent, like a membrane.

Montane – A plant growing in the mountains.

Native Plants – Plants originating, growing, or produced in a certain place or region; indigenous.

Neotropical – Belonging to, or designating, a region of the earth's surface which comprises most of South America, the Antilles, and tropical North America.

Nocturnal – Most active at night.

Non-Game – Species of animals which are not managed as a sport hunting resource.

Noxious Weed – Any plant designated as noxious by the Director of the Idaho Department of Agriculture.

Obovate – Inversely ovate, with the attachment at the narrower end.

Ovate – Egg-shaped in outline and attached at the broad end.

Palmate – Lobed, veined, or divided from a common point, like fingers of a hand.

Perennial Stream – A stream that flows continuously and is generally associated with a water table in the areas through which it flows.

Pesticide – Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Pinnate – A compound leaf with leaflets arranged on opposite sides of an elongated axis.

Precocial – Hatchling birds are covered with down and have eyes open; capable of leaving the nest within a few days.

Rachilla – The axis or connecting stem of a structure, such as a compound leaf or a flower.

Raptor – A bird of prey with sharp talons and strongly curved beak (i.e., hawk, owl, vulture, eagle).

Rare Species – Plant or animal species which are uncommon to a specific area. All threatened or endangered and sensitive species can be considered rare, but the converse is not true.

Riparian – Of, pertaining to, situated, or dwelling on the bank of a river or other body of water.

Riparian Area – The area between permanently saturated wetland and upland areas, which exhibits vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Typical riparian areas include lands along, adjacent to, or contiguous with perennial and intermittent streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

Sensitive Species – Plant or animal species designated by the BLM State Director as sensitive, usually in cooperation with the State agency responsible for managing the species. Sensitive species are those (1) which are under status review by the FWS or NMFS; or (2) whose numbers are declining so rapidly that Federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) inhabiting specialized or unique habitats.

Species of Concern – Those animals and plants that because of low population numbers, a downward trend in population and/or habitat, restricted ranges, or restricted habitats may become candidates for threatened or endangered status.

Special Status Species – Species which have official recognition of rarity or decline, including specified identified in the Federal Register as “threatened”, “endangered”, “proposed”, or “candidate” and species listed as “sensitive” by a State or the Bureau of Land Management (Also see Threatened Species, Endangered Species, Proposed Species, Candidate Species, State Listed Species, and Sensitive Species).

Spikelets – A small spike; the ultimate flower cluster of grasses and sedges, consisting of 1 to many flowers below 2 bracts.

State Listed Species – A plant or animal species proposed for listing or listed by a State in a category implying potential endangerment or extinction. Listing is either by legislation or regulation.

Steppe – A treeless tract of land characterized by dry land shrub and grass communities.

Thermal Cover – Vegetative or topographic cover used by animals to ameliorate the effects of weather.



Threatened Species – A plant or animal species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and is officially listed as threatened by the Secretary of Interior or Commerce under the provisions of the Endangered Species Act. A final rule for listing has been published in the Federal Register.

Upland – The portion of land located away from riparian and floodplain areas.

Wetland Area/Habitat – An area where at least periodic inundation or saturation with water (either from the surface or subsurface) is the predominant factor determining the nature of soil development and the types of plant and animal communities living there. These include the entire zones associated with streams, lakes, ponds, canals, seeps, wet meadows, and some aspen stands.

Xeriscape – A trademark used for a landscaping method that employs drought-resistant plants in an effort to conserve resources, especially water.

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## **APPENDIX A**

### **Recommended Idaho Native Firewise Plant List**





## Idaho Native Firewise Plants

<u>Common Name</u>	<u>Scientific Name</u>
<b>Trees</b>	
Big-tooth Maple	<i>Acer grandidentatum</i>
Black Cottonwood	<i>Populus trichocarpa</i>
Hackberry	<i>Celtis spp.</i>
Water Birch	<i>Betula occidentalis</i>
<b>Shrubs</b>	
Bitterbrush	<i>Purshia tridentata</i>
Chokecherry	<i>Prunus virginiana</i>
Currant	<i>Ribes spp.</i>
Kinnikinnick	<i>Arctostaphylos uva-ursi</i>
Oakleaf Sumac	<i>Rhus trilobata</i>
Oregon Grape	<i>Mahonia spp.</i>
Rabbitbrush	<i>Chrysothamnus spp.</i>
Red-osier Dogwood	<i>Cornus sericea</i>
Rocky Mountain Maple	<i>Acer glabrum</i>
Saltbush	<i>Atriplex spp.</i>
Spirea	<i>Spirea spp.</i>
Sumac	<i>Rhus spp.</i>
Syringa/ Mock Orange	<i>Philadelphus lewisii</i>
Utah serviceberry	<i>Amelanchier utahensis</i>
Wild Rose	<i>Rosa woodsii</i>
Willow	<i>Willow spp.</i>
<b>Forbs</b>	
Apache Plume	<i>Fallugia paradoxa</i>
Buckwheat	<i>Eriogonum spp.</i>
California poppy	<i>Eschscholzia californica</i>
Coreopsis	<i>Coreopsis spp.</i>
Evening Primrose	<i>Oenothera spp.</i>
Fireweed	<i>Epilobium angustifolium</i>
Flax	<i>Linum perenne var. lewisii</i>
Fleabane	<i>Erigeron spp.</i>
Geranium	<i>Geranium spp.</i>
Goldenrod	<i>Solidago spp.</i>
Lambs' Ears	<i>Stachys byzantina</i>
Lewis Flax	<i>Linum perenne var. lewisii</i>
Louisiana Mugwort	<i>Artemisia ludoviciana</i>
Narrowleaf Yucca	<i>Yucca glauca</i>
Penstemon	<i>Penstemon spp.</i>
Prairie Smoke	<i>Geum triflorum</i>
Prickly Pear Cactus	<i>Opuntia spp.</i>
Red Hot Poker	<i>Kniphofia uvaria</i>
Red yucca	<i>Hesperaloe parviflora</i>
Rocky Mountain Iris	<i>Iris missouriensis</i>
Rosy Pussytoes	<i>Antennaria microphylla</i>
Silver Lupine	<i>Lupinus argenteus</i>
Skyrocket	<i>Ipomopsis (Gilia) aggregata</i>
Snow in Summer	<i>Cerastium tomentosum</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Wild strawberry	<i>Fragaria chiloensis</i>
Yarrow	<i>Achillea millefolium</i>
<b>Grasses/ Grasslike</b>	
Bluebunch Wheatgrass	<i>Pseudoroegneria spicata</i>
Carex	<i>Carex spp.</i>
Festuca	<i>Festuca spp.</i>
Sand Dropseed	<i>Sporobolus cryptandrus</i>
Sandberg Bluegrass	<i>Poa secunda</i>



Kinnikinnick



Lewis's perennial flax



Oregon grape

## **APPENDIX B**

### **Boise Foothills Wildlife Checklist**





<b>Mammals</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Masked shrew	<i>Sorex cinereus</i>
Merriam's shrew*	<i>Sorex merriami</i>
Dusky shrew	<i>Sorex obscurus</i>
Northern water shrew	<i>Sorex palustris</i>
Vagrant shrew	<i>Sorex vagrans</i>
California myotis	<i>Myotis californicus</i>
Long-eared myotis	<i>Myotis evotis</i>
Little brown myotis	<i>Myotis lucifugus</i>
Small-footed myotis	<i>Myotis subulatus</i>
Fringed myotis*	<i>Myotis thusanodes</i>
Long-legged myotis*	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Hoary bat	<i>Lasiurus cinereus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Western big-eared bat	<i>Plecotus townsendi</i>
Black bear	<i>Ursus americanus</i>
Raccoon	<i>Procyon lotor</i>
Short-tailed weasel	<i>Mustela erminea</i>
Long-tailed weasel	<i>Mustela frenataa</i>
Mink	<i>Mustela vison</i>
Badger	<i>Taxidea taxus</i>
Spotted skunk	<i>Spilogale putorius</i>
Striped skunk	<i>Mephitis mephitis</i>
Coyote	<i>Canis latrans</i>
Red fox	<i>Vulpes fulva</i>
Mountain lion	<i>Felis concolor</i>
Bobcat	<i>Lynx rufus</i>
Yellowbelly marmot	<i>Marmota flaviventris</i>
Townsend ground squirrel	<i>Citellus townsendi</i>
Golden-mantled squirrel	<i>Citellus lateralis</i>
Forest chipmunk	<i>Eutamias minimus</i>
Yellow pine chipmunk	<i>Eutamias amoenus</i>
Fox squirrel	<i>Sciurus niger</i>
Northern pocket gopher	<i>Thomomys talpoides</i>
Great Basin pocket mouse	<i>Perognathus parvus</i>
Ord's kangaroo rat	<i>Dipodomys ordi</i>

Mountain vole	<i>Microtus montanus</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Desert woodrat	<i>Neotoma lepida</i>
Meadow vole	<i>Microtus pennsylvanicus</i>
Richardson vole	<i>Microtus richardsoni</i>
House mouse	<i>Mus musculus</i>
Porcupine	<i>Erethizon dorsatum</i>
Beaver	<i>Castor canadensis</i>
Snowshoe hare	<i>Lepus americanus</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Mountain cottontail	<i>Sylvilagus nuttalli</i>
Pygmy rabbit *	<i>Sylvilagus idahoensis</i>
Rocky mountain elk	<i>Cervus elaphus</i>
Mule deer	<i>Odocoileus hemionus</i>
<b>Birds</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Great blue heron	<i>Ardea herodias</i>
Mallard	<i>Anas platyrhynchos</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Turkey vulture	<i>Cathartes aura</i>
Bald eagle*	<i>Haliaeetus leucocephalus</i>
Northern harrier	<i>Circus cyaneus</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Northern goshawk*	<i>Accipiter gentilis</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Golden eagle*	<i>Aquila chrysaetos</i>
American kestrel	<i>Falco sparverius</i>
Merlin*	<i>Falco columbarius</i>
Peregrine falcon*	<i>Falco peregrinus</i>
Prairie falcon	<i>Falco mexicanus</i>
Gray partridge	<i>Perdix perdix</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
California quail	<i>Callipepla californica</i>
Virginia rail	<i>Rallus limicola</i>
American coot	<i>Fulica Americana</i>
Killdeer	<i>Charadrius vociferous</i>
Spotted sandpiper	<i>Actitis macularia</i>



Common snipe	<i>Gallinago gallinago</i>
Ring-billed gull	<i>Larus delawarensis</i>
California gull	<i>Larus californicus</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Common barn-owl	<i>Tyto alba</i>
Western screech-owl	<i>Otus kennicottii</i>
Great horned owl	<i>Bubo virginianus</i>
Northern pygmy-owl	<i>Glaucidium gnoma</i>
Long-eared owl	<i>Asio otus</i>
Northern saw-whet owl	<i>Aegolius acadicus</i>
Common nighthawk	<i>Chordeiles minor</i>
Black-chinned hummingbird	<i>Archilochus alexandri</i>
Anna's hummingbird	<i>Calypte anna</i>
Calliope hummingbird	<i>Stellula calliope</i>
Rufous hummingbird	<i>Selasphorus rufus</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Lewis' woodpecker	<i>Melanerpes lewis</i>
Red-naped sapsucker	<i>Sphyrapicus varius nuchalis</i>
Downy woodpecker	<i>Picoides pubescens</i>
Hairy woodpecker	<i>Picoides villosus</i>
Northern flicker	<i>Colaptes auratus</i>
Olive-sided flycatcher	<i>Contopus borealis</i>
Western wood-pewee	<i>Contopus sordidulus</i>
Willow flycatcher	<i>Empidonax trailii</i>
Say's phoebe	<i>Sayornis saya</i>
Western kingbird	<i>Tyrannus verticalis</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Bank swallow	<i>Riparia riparia</i>
Cliff swallow	<i>Hirunda pyrronota</i>
Barn swallow	<i>Hirunda rustica</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Blue jay	<i>Cyanocitta cristata</i>
Clark's nutcracker	<i>Nucifraga columbiana</i>
Black-billed magpie	<i>Pica pica</i>
American crow	<i>Corvus brachyrhynchos</i>

Common raven	<i>Corvus corax</i>
Black-capped chickadee	<i>Parus atricapillus</i>
Mountain chickadee	<i>Parus gambeli</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Brown creeper	<i>Certhia americana</i>
Rock wren	<i>Salpinctes obsoletus</i>
House wren	<i>Troglodytes sedon</i>
Winter wren	<i>Troglodytes troglodytes</i>
Marsh wren	<i>Cistothorus palustris</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Townsend's solitaire	<i>Myadestes townsendi</i>
American robin	<i>Turdus migratorius</i>
Sage thrasher	<i>Oreoasoptes montanus</i>
Bohemian waxwing	<i>Bombycilla garrulous</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Northern shrike	<i>Lanius excubitor</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
European starling	<i>Sturnus vulgaris</i>
Solitary vireo	<i>Vireo solitarius</i>
Warbling vireo	<i>Vireo gilvus</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Nashville warbler	<i>Vermivora ruficapilla</i>
Yellow warbler	<i>Dendroica peyechia</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
MacGillivray's warbler	<i>Oporornis tolmeiei</i>
Wilson's warbler	<i>Wilsonia pusilla</i>
Yellow-breasted chat	<i>Icteria virens</i>
Western tanager	<i>Piranga ludoviciana</i>
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>
Lazuli bunting	<i>Passerina amoena</i>
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>
American tree sparrow	<i>Spizella arborea</i>
Chipping sparrow	<i>Spizella passerina</i>
Lark sparrow	<i>Chondestes grammacus</i>
Fox sparrow	<i>Passerella iliaca</i>
Song sparrow	<i>Melospiza melodia</i>

White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Harris sparrow	<i>Zonotrichia querula</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Northern oriole	<i>Icterus galbula</i>
Cassin's finch	<i>Carpodacus cassinii</i>
House finch	<i>Carpodacus mexicanus</i>
Red crossbill	<i>Loxia curvirostra</i>
Pine siskin	<i>Carduelis pinus</i>
American goldfinch	<i>Carduelis tristis</i>
Evening grosbeak	<i>Coccothraustes vespertinus</i>
House sparrow	<i>Passer domesticus</i>

## Amphibians

Common Name	Scientific Name
Long-toed salamander	<i>Ambystoma macrodactylum</i>
Western toad*	<i>Bufo boreas</i>
Woodhouse's toad*	<i>Bufo woodhousei</i>
Pacific treefrog	<i>Hyla regilla</i>
Striped chorus frog	<i>Pseudacris triseriata</i>
Bullfrog	<i>Rana catesbiana</i>
Northern leopard frog*	<i>Rana pipiens</i>
Great Basin spadefoot toad	<i>Spea intermontanus</i>

## Reptiles

Common Name	Scientific Name
Mohave black-collared lizard	<i>Crotaphytus bicinctores</i>
Western skink	<i>Eumeces skiltonianus</i>
Longnose leopard lizard	<i>Gambelia wislizenii</i>
Short-horned lizard	<i>Phrynosoma douglassi</i>
Sagebrush lizard	<i>Sceloporus graciosus</i>
Western fence lizard	<i>Sceloporus occidentalis</i>
Side-blotched lizard	<i>Uta stansburiana</i>
Rubber boa	<i>Charina bottae</i>
Western whiptail	<i>Cnemidophorus tigris</i>
Racer	<i>Coulber constrictor</i>

Western rattlesnake	<i>Crotalus viridus</i>
Ringneck snake	<i>Diadophis punctatus</i>
Striped whipsnake	<i>Masticophis taeniatus</i>
Gopher snake	<i>Pituophis melanoleucus</i>
Wandering garter snake	<i>Thamnophis elegans vagrans</i>
Common garter snake	<i>Thamnophis sirtalis</i>
<b>Fish</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Bluegill	<i>Lepomis macrochirus</i>
Trout	<i>Oncorhynchus sp.</i>
Inland Redband Trout*	<i>Oncorhynchus mykiss gairdneri</i>
Sculpins	<i>Cottus sp.</i>
Sunfish	<i>Centrarchidae</i>
Dace	<i>Rhinichthys sp.</i>
Mountain Whitefish	<i>Prosopium williamsoni</i>

\* Indicates "Special Status Species" in Ada, Gem, and Boise County

Visit Digital Atlas of Idaho online to look up photos, descriptions, diet, ecology, etc. on each of these wildlife species <http://imnh.isu.edu/digitalatlas/index.htm#>

The US Geological Survey and Patuxent Wildlife Research Center have created an online bird identification guide <http://www.mbr-pwrc.usgs.gov/Infocenter/infocenter.html>



## **APPENDIX C**

### **Boise Foothills Plant List**



## Boise Foothills Plant List

Common Name	Scientific Name
<b>TREES</b>	
big-tooth maple	<i>Acer grandidentatum</i>
black cottonwood	<i>Populus trichocarpa</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
netleaf hackberry	<i>Celtis reticulata</i>
ponderosa pine	<i>Pinus ponderosa</i>
water birch	<i>Betula occidentalis</i>
<b>SHRUBS</b>	
arroyo willow	<i>Salix lasiolepis</i>
basin big sagebrush	<i>Artemisia tridentata</i> ssp. <i>tridentata</i>
bitterbrush	<i>Purshia tridentata</i>
bittercherry	<i>Prunus emarginata</i>
black hawthorn	<i>Crataegus douglasii</i>
blue elderberry	<i>Sambucus cerulea</i>
chokecherry	<i>Prunus virginiana</i>
coyote willow	<i>Salix exigua</i>
creeping Oregon grape	<i>Berberis repens</i>
deer buckbrush	<i>Ceanothus velutinus</i>
fourwing saltbush	<i>Atriplex canescens</i>
golden currant	<i>Ribes aureum</i>
gray rabbitbrush	<i>Chrysothamnus nauseosus</i>
greasewood	<i>Sarcobatus vermiculatus</i>
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>
mountain alder	<i>Alnus incana</i>
mountain big sagebrush	<i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
mountain snowberry	<i>Symphoricarpos oreophilus</i>
netleaf hackberry	<i>Celtis laevigata</i> var. <i>reticulata</i>
ninebark	<i>Physocarpus malvaceus</i>
pacific willow	<i>Salix lucida</i> ssp. <i>caudata</i>
poison ivy	<i>Toxicodendron radicans</i>
red-osier dogwood	<i>Cornus sericea</i>
Rocky Mountain maple	<i>Acer glabrum</i>
Scouler's willow	<i>Salix scouleriana</i>
serviceberry	<i>Amelanchier alnifolia</i>
silver sage	<i>Artemisia cana</i>
skunkbrush sumac	<i>Rhus trilobata</i>
syringa/ mock orange	<i>Philadelphus lewisii</i>
thimbleberry	<i>Rubus parviflorus</i>
Utah serviceberry	<i>Amelanchier utahensis</i>
wax currant	<i>Ribes cereum</i>
western white clematis	<i>Clematis ligusticifolia</i>
white spiraea	<i>Spiraea betulifolia</i>
winterfat	<i>Krascheninnikovia (Ceratooides) lanata</i>
Wood's rose	<i>Rosa woodsii</i>
Wyoming big sagebrush	<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>

FORBS	
yellow willow	<i>Salix lutea</i>
Aase's onion	<i>Allium aaseae</i>
alkali buttercup	<i>Ranunculus cymbalaria</i>
alkali mallow	<i>Sida hederacea</i>
American licorice	<i>Glycyrrhiza lepidota</i>
American speedwell	<i>Veronica americana</i>
American water horehound	<i>Lycopus americanus</i>
arrow-leaf balsamroot	<i>Balsamorhiza sagittata</i>
aspen fleabane	<i>Erigeron speciosus</i>
avens	<i>Geum macrophyllum</i>
bachelor buttons	<i>Centaurea cyanus</i>
basalt milkvetch	<i>Astragalus filipes</i>
beggar's ticks	<i>Bidens cernua</i>
beggar's ticks	<i>Bidens frondosa</i> and/or <i>vulgata</i>
bigbract verbena	<i>Verbena bracteata</i>
blazing star	<i>Mentzelia laevicaulus</i>
blue brodiaea	<i>Triteleia grandiflora</i> ( <i>Brodiaea douglasii</i> )
blue flax	<i>Linum lewisii</i>
blue hackelia	<i>Hackelia micrantha</i>
blue-eyed mary	<i>Collinsia parviflora</i>
branched lagophylla	<i>Lagophylla ramosissima</i>
Canadian waterweed	<i>Elodea canadensis</i>
chicory	<i>Cichorium intybus</i>
cleavers	<i>Galium aparine</i>
common cattail	<i>Typha latifolia</i>
common goldenrod	<i>Solidago canadensis</i>
common sneezeweed	<i>Helenium autumnale</i>
coon's tail	<i>Ceratophyllum demersum</i>
cudweed	<i>Gnaphalium chilense</i>
curlycup gumweed	<i>Grindelia squarrosa</i>
dark blue penstemon	<i>Penstemon cyanus</i>
denseflower willowherb	<i>Epilobium</i> ( <i>Boisduvalia</i> ) <i>densiflorum</i>
Douglas' knotweed	<i>Polygonum douglasii</i>
Douglas' pincushion	<i>Chaenactis douglasii</i>
duckweed	<i>Lemna minor</i>
feathery false lily of the valley	<i>Smilacina racemosa</i>
fern-leaf lomatium	<i>Lomatium dissectum</i>
fiddleneck	<i>Amsinkia menziesii</i>
field bindweed	<i>Convolvulus arvensis</i>
field mint	<i>Mentha arvensis</i>
fireweed	<i>Epilobium angustifolium</i>
flixweed	<i>Descurania pinnata</i>
floating pondweed	<i>Potamogeton natans</i>
fringed loosestrife	<i>Lysimachia ciliata</i>
giant goldenrod	<i>Solidago gigantea</i>
giant sumpweed	<i>Iva xanthifolia</i>
globemallow	<i>Sphaeralcea</i> spp.
grand collomia	<i>Collomia grandiflora</i>
hairy evening primrose	<i>Oenothera villosa</i> ssp. <i>strigosa</i>



FORBS <i>continued...</i>	
hairy willowherb	<i>Epilobium ciliatum</i>
hoary aster	<i>Macaeranthera canescens</i>
hoary cress	<i>Cardaria draba</i>
Holboell's rockcress	<i>Arabis holboellii</i>
Hooker's evening primrose	<i>Oenothera elata (hookeri)</i>
horsemint	<i>Agastache urticifolia</i>
houndstongue hawkweed	<i>Hieracium cynoglossoides (albertinum)</i>
Indian hemp	<i>Apocynum cannabinum</i>
lambs' ears	<i>Stachys byzantina</i>
little phlox	<i>Phlox (Microsteris) gracilis</i>
longleaf groundcherry	<i>Physalis longifolia</i>
longleaf phlox	<i>Phlox longifolia</i>
Louisiana mugwort	<i>Artemisia ludoviciana</i>
mariposa lily	<i>Calochortus</i> sps.
narrowleaf pussytoes	<i>Antennaria stenophylla</i>
oneflower helianthella	<i>Helianthella uniflora</i>
Oregon sunshine	<i>Eriophyllum lanatum</i>
pale bastard toadflax	<i>Comandra umbellata</i>
panicled death camas	<i>Zigadenus paniculatus</i>
perennial pepperweed	<i>Lepidium latifolium</i>
poison hemlock	<i>Conium maculatum</i>
povertyweed	<i>Iva axillaris</i>
prairie fleabane	<i>Erigeron strigosus</i>
prairie smoke	<i>Geum triflorum</i>
prairie starflower	<i>Lithophragma parviflorum</i>
prickly lettuce	<i>Lactuca serriola</i>
prickly pear cactus	<i>Opuntia</i> spp.
prince's plume	<i>Stanleya pinnata</i>
puncturevine	<i>Tribulus terrestris</i>
Pursh seepweed	<i>Suaeda calceoliformis</i>
Pursh's milkvetch	<i>Astragalus purshii</i>
rhomboid clarkia	<i>Clarkia rhomboidea</i>
Rocky Mountain iris	<i>Iris missouriensis</i>
rosy pussytoes	<i>Antennaria microphylla</i>
rough bugleweed	<i>Lycopus asper</i>
rush skeletonweed	<i>Chondrilla juncea</i>
Russian thistle	<i>Salsola kali</i>
Rydberg's penstemon	<i>Penstemon rydbergii</i>
salsify	<i>Tragopogon dubius</i>
scotch thistle	<i>Onopordum acanthium</i>
seaside arrowgrass	<i>Triglochin maritimum</i>
sego lily	<i>Calochortus</i> sps.
showy milkweed	<i>Asclepias speciosa</i>
showy penstemon	<i>Penstemon speciosus</i>
silverleaf phacelia	<i>Phacelia hastata</i>
silvery lupine	<i>Lupinus argenteus</i>
skyrocket	<i>Ipomopsis (Gilia) aggregata</i>
slender cinquefoil	<i>Potentilla gracilis</i>
slender-tipped hawksbeard	<i>Crepis acuminata</i>

FORBS continued	
lickspot peppergrass	<i>Lepidium papilliferum</i>
small blazing star	<i>Mentzelia albicaulis</i>
spreading dogbane	<i>Apocynum androsaemifolium</i>
starry false lily of the valley	<i>Smilacina stellata</i>
sticky cinquefoil	<i>Potentilla glandulosa</i>
sticky geranium	<i>Geranium viscosissimum</i>
stinging nettle	<i>Urtica dioica</i>
stoneseed/ puccoon	<i>Lithospermum ruderae</i>
storksbill/ redstem filaree	<i>Erodium cicutarium</i>
strict buckwheat	<i>Eriogonum strictum</i>
sulphurflower buckwheat	<i>Eriogonum umbellatum</i>
sunflower	<i>Helianthus annuus</i>
swamp milkweed	<i>Asclepias incarnata</i>
swamp verbena	<i>Verbena hastata</i>
tall annual willowweed	<i>Epilobium brachycarpum</i>
tail phacelia	<i>Phacelia heterophylla</i>
tansy mustard	<i>Descurania sophia</i>
tapertip onion	<i>Allium acuminatum</i>
tarragon	<i>Artemisia dracunculus</i>
tumblemustard	<i>Sysimbrium altissimum</i>
nine-leaf lomatium	<i>Lomatium triternatum</i>
tiny trumpet	<i>Collomia linearis</i>
veiny dock	<i>Rumex venosus</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
water hemlock	<i>Cicuta douglasii</i>
water plantain	<i>Alisma plantago-aquatica</i>
water smartweed	<i>Polygonum amphibium</i> and/or <i>coccineum</i>
water speedwell	<i>Veronica anagallis-aquatica</i>
western aster	<i>Symphotrichum (Aster) adscendens</i>
western goldenrod	<i>Euthamia (Solidago) occidentalis</i>
western meadow aster	<i>Symphotrichum (Aster) campestre</i>
western sweet cicely	<i>Osmorhiza occidentalis</i>
western wallflower	<i>Erysimum capitatum</i>
white panicle aster	<i>Symphotrichum lanceolatum</i> ssp. <i>hesperium</i>
Wilcox's penstemon	<i>Penstemon wilcoxii</i>
wild cucumber	<i>Echinocytis lobata</i>
wild hollyhock	<i>Iliamna rivularis</i>
Wyeth's buckwheat	<i>Eriogonum heracleoides</i>
yarrow	<i>Achillea millefolium</i>
yellowcress	<i>Rorippa palustris (islandica)</i>
GRAMINOIDS	
alkali sacaton	<i>Sporobolus airoides</i>
American mannagrass	<i>Glyceria grandis</i>
ampleleaf bluegrass	<i>Poa ampla</i>
Baltic rush	<i>Juncus balticus</i>
basin wildrye	<i>Leymus (Elymus) cinereus</i>
beaked sedge	<i>Carex utriculata</i>
beaked spikerush	<i>Eleocharis rostellata</i>

GRAMINOIDS <i>continued...</i>	
bearded flatsedge	<i>Cyperus squarrosus</i>
beardless wildrye	<i>Leymus (Elymus) triticoides</i> var. <i>triticoides</i>
Bebb's sedge	<i>Carex bebbii</i>
bigleaf sedge	<i>Carex amplifolia</i>
blue wildrye	<i>Elymus glaucus</i>
bluebunch wheatgrass	<i>Pseudoroegneria (Agropyron) spicata</i>
blunt spikerush	<i>Eleocharis obtusa</i>
bottlebrush squirreltail	<i>Elymus elymoides (Sitanion hystrix)</i>
bulbous bluegrass	<i>Poa bulbosa</i>
chairmaker's bulrush	<i>Schoenoplectus (Scirpus) americanus</i>
cheatgrass	<i>Bromus tectorum</i>
clustered field sedge	<i>Carex praegracilis</i>
Columbia needlegrass	<i>Achnatherum nelsonii (Stipa columbiana)</i>
common reed	<i>Phragmites australis</i>
common rush	<i>Juncus effusus</i>
common spikerush	<i>Eleocharis palustris</i>
cosmopolitan bulrush	<i>Schoenoplectus (Scirpus) maritimus</i>
crested wheatgrass	<i>Agropyron cristatum</i>
cutgrass	<i>Leersia oryzoides</i>
daggerleaf rush	<i>Juncus ensifolius</i>
Douglas' sedge	<i>Carex douglasii</i>
drooping woodreed	<i>Cinna latifolia</i>
floating mannagrass	<i>Glyceria borealis</i>
fox sedge	<i>Carex vulpinoidea</i>
foxtail barley	<i>Hordeum jubatum</i>
Geyer's sedge	<i>Carex geyeri</i>
hardstem and softstem bulrush	<i>Schoenoplectus (Scirpus) acutus</i> and <i>S. tabernaemontani</i>
Idaho fescue	<i>Festuca idahoensis</i>
Indian ricegrass	<i>Achnatherum (Oryzopsis) hymenoides</i>
inland saltgrass	<i>Distichlis spicata</i>
intermediate wheatgrass	<i>Thinopyrum intermedia</i>
Japanese brome	<i>Bromus japonicus</i>
jointed goatgrass	<i>Aegilops cylindrica</i>
jointleaf rush	<i>Juncus articulatus</i>
lakeshore sedge	<i>Carex lenticularis</i>
mat muhly	<i>Muhlenbergia richardsonis</i>
medusahead wildrye	<i>Taeniatherum asperum</i>
Mexican muhly	<i>Muhlenbergia mexicana</i>
mountain brome	<i>Bromus carinatus</i>
Nebraska sedge	<i>Carex nebrascensis</i>
needle and thread	<i>Hesperostipa (Stipa) comata</i>
needle or beautiful spikerush	<i>Eleocharis acicularis</i> and/or <i>bella</i>
Nevada bulrush	<i>Scirpus nevadensis</i>
Nuttall's alkaligrass	<i>Puccinellia nuttalliana</i>
oniongrass	<i>Melica bulbosa</i>
panicled bulrush	<i>Scirpus microcarpus</i>
pinegrass	<i>Calamagrostis rubescens</i>
poverty rush	<i>Juncus tenuis</i>

GRAMINOIDS <i>continued...</i>	
prairie junegrass	<i>Koeleria macrantha (cristata)</i>
redrooted flatsedge	<i>Cyperus erythrorhizos</i>
Rocky Mountain sedge	<i>Carex saximontana (backii)</i>
rough bentgrass	<i>Agrostis scabra</i>
sand dropseed	<i>Sporobolus cryptandrus</i>
Sandberg bluegrass	<i>Poa secunda</i>
scratchgrass	<i>Muhlenbergia asperifolia</i>
sheep fescue	<i>Festuca ovina</i>
Sheldon's sedge	<i>Carex sheldonii</i>
six weeks fescue	<i>Vulpia octoflora</i>
slender flatsedge	<i>Cyperus bipartitus (rivularis)</i>
slender wheatgrass	<i>Elymus (Agropyron) trachycaulus</i>
slenderbeak sedge	<i>Carex athrostachya</i>
strawcolored flatsedge	<i>Cyperus strigosus</i>
tall mannagrass	<i>Glyceria elata</i>
threeawn	<i>Aristida purpurea var. longiseta</i>
threesided bulrush	<i>Schoenoplectus (Scirpus) pungens</i>
Thurber's needlegrass	<i>Stipa thurburii</i>
Torrey's rush	<i>Juncus torreyi</i>
western wheatgrass	<i>Pascopyrum (Agropyron) smithii</i>
Wheeler's bluegrass	<i>Poa wheeleri (nervosa)</i>
wooly sedge	<i>Carex lanuginosa</i>
FERNS AND ALLIES	
common horsetail	<i>Equisetum arvense</i>
hairy waterclover	<i>Marsilea vestita</i>
Mexican waterfern	<i>Azolla mexicana</i>
scouring horsetail	<i>Equisetum hyemale</i>
smooth horsetail	<i>Equisetum laevigatum</i>
wood fern	<i>Cystopteris fragilis</i>



## **APPENDIX D**

### **Avimor Bird Checklist**



# Avimor Bird Checklist

(Last updated-summer 2007)

<b>Great Blue Heron</b>	<i>(Ardea herodias)</i>
<b>Turkey Vulture</b>	<i>(Cathartes aura)</i>
<b>Swainson's Hawk</b>	<i>(Buteo swainsoni)</i>
<b>Red-tailed Hawk</b>	<i>(Buteo jamaicensis)</i>
<b>Ferruginous Hawk</b>	<i>(Buteo regalis)</i>
<b>American Kestrel</b>	<i>(Falco sparverius)</i>
<b>Gray Partridge</b>	<i>(Perdix perdix)</i>
<b>California Quail</b>	<i>(Callipepla californica)</i>
<b>Rock Dove</b>	<i>(Columba livia)</i>
<b>Northern Flicker</b>	<i>(Colaptes auratus)</i>
<b>Western Wood-Pewee</b>	<i>(Contopus sordidulus)</i>
<b>Western Kingbird</b>	<i>(Tyrannus verticalis)</i>
<b>Black-billed Magpie</b>	<i>(Pica pica)</i>
<b>Common Raven</b>	<i>(Corvus corax)</i>
<b>Horned Lark</b>	<i>(Eremophila alpestris)</i>
<b>Tree Swallow</b>	<i>(Tachycineta bicolor)</i>
<b>Violet-green Swallow</b>	<i>(Tachycineta thalassina)</i>
<b>Barn Swallow</b>	<i>(Hirundo rustica)</i>
<b>Black-capped Chickadee</b>	<i>(Poecile atricapillus)</i>
<b>Rock Wren</b>	<i>(Salpinctes obsoletus)</i>
<b>American Robin</b>	<i>(Turdus migratorius)</i>
<b>European Starling</b>	<i>(Sturnus vulgaris)</i>
<b>Yellow Warbler</b>	<i>(Dendroica petechia)</i>
<b>Yellow-breasted Chat</b>	<i>(Icteria virens)</i>
<b>Brewer's Sparrow</b>	<i>(Spizella breweri)</i>
<b>Lark Sparrow</b>	<i>(Chondestes grammacus)</i>
<b>Song Sparrow</b>	<i>(Melospiza melodia)</i>
<b>Western Meadowlark</b>	<i>(Sturnella neglecta)</i>
<b>Brewer's Blackbird</b>	<i>(Euphagus cyanocephalus)</i>
<b>Lesser Goldfinch</b>	<i>(Carduelis psaltria)</i>

## **APPENDIX E**

### **Deer Resistant Landscaping Plants**





## Deer Resistant Landscaping Plants

### Forbs/Grasses:

Yarrow  
Monkshood  
Wild Ginger  
Aster  
Bellflower  
Chives  
Larkspur  
Sheep Fescue  
Wild Strawberry  
St. Johnswort  
Iris  
Mint  
Forget-me- not  
Penstemon  
Black-eyed Susan  
Blue-eyed Grass  
Trillium  
Verbena  
Bleeding Heart  
Purple Coneflower  
Astilbe  
Tickseed  
Pinks  
Epimedium  
Sunflower  
Candytuft  
Lungwort  
Coneflower  
Goldenrod  
Speedwell  
Yucca  
Spike Gayfeather  
Rose Campion  
Periwinkle  
Dead Nettle  
Lily-of-the-Valley  
Carpet Bugle  
Pachysandra  
Bittersweet  
Baltic Ivy  
Honeysuckle  
Lupine

### Shrubs:

Kinnikinnick  
Butterfly Bush  
Fern  
Lavender  
Oregon Grape  
Monkey Flower  
Shrubby Cinquefoil  
Common Snowberry  
Sumac  
Lilac  
Buffaloberry  
Lead Plant  
Bayberry  
Caragana  
Silverberry  
Beautybush  
Honeysuckle  
Common Buckthorn  
Viburnum  
Adams Needle

### Trees:

Paper Birch  
European White Birch  
Hawthorn  
Honey Locust  
Spruce  
Pine  
Arborvitae

## **APPENDIX F**

### **Area Specific Bird List**





## Area Specific Bird List

<b>Great Blue Heron</b>	<i>(Ardea herodias)</i>
<b>Turkey Vulture</b>	<i>(Cathartes aura)</i>
<b>Northern Harrier</b>	<i>(Circus cyaneus)</i>
<b>Sharp-shinned Hawk</b>	<i>(Accipiter striatus)</i>
<b>Cooper's Hawk</b>	<i>(Accipiter cooperii)</i>
<b>Northern Goshawk</b>	<i>(Accipiter gentilis)</i>
<b>Swainson's Hawk</b>	<i>(Buteo swainsoni)</i>
<b>Red-tailed Hawk</b>	<i>(Buteo jamaicensis)</i>
<b>Ferruginous Hawk</b>	<i>(Buteo regalis)</i>
<b>Golden Eagle</b>	<i>(Aquila chrysaetos)</i>
<b>American Kestrel</b>	<i>(Falco sparverius)</i>
<b>Prairie Falcon</b>	<i>(Falco mexicanus)</i>
<b>Chukar</b>	<i>(Alectoris chukar)</i>
<b>Ring-necked Pheasant</b>	<i>(Phasianus colchicus)</i>
<b>Gray Partridge</b>	<i>(Perdix perdix)</i>
<b>California Quail</b>	<i>(Callipepla californica)</i>
<b>Killdeer</b>	<i>(Charadrius vociferus)</i>
<b>Long-billed Curlew</b>	<i>(Numenius americanus)</i>
<b>Common Snipe</b>	<i>(Gallinago gallinago)</i>
<b>Rock Dove</b>	<i>(Columba livia)</i>
<b>Mourning Dove</b>	<i>(Zenaida macroura)</i>
<b>Barn Owl</b>	<i>(Tyto alba)</i>
<b>Western Screech-Owl</b>	<i>(Otus kennicottii)</i>
<b>Great Horned Owl</b>	<i>(Bubo virginianus)</i>
<b>Short-eared Owl</b>	<i>(Asio flammeus)</i>
<b>Northern Saw-whet Owl</b>	<i>(Aegolius acadicus)</i>
<b>Common Nighthawk</b>	<i>(Chordeiles minor)</i>
<b>Common Poorwill</b>	<i>(Phalaenoptilus nuttallii)</i>
<b>Black-chinned Hummingbird</b>	<i>(Archilochus alexandri)</i>
<b>Calliope Hummingbird</b>	<i>(Stellula calliope)</i>
<b>Rufous Hummingbird</b>	<i>(Selasphorus rufus)</i>
<b>Belted Kingfisher</b>	<i>(Ceryle alcyon)</i>
<b>Downy Woodpecker</b>	<i>(Picoides pubescens)</i>
<b>Hairy Woodpecker</b>	<i>(Picoides villosus)</i>
<b>Northern Flicker</b>	<i>(Colaptes auratus)</i>
<b>Western Wood-Pewee</b>	<i>(Contopus sordidulus)</i>
<b>Willow Flycatcher</b>	<i>(Empidonax traillii)</i>
<b>Say's Phoebe</b>	<i>(Sayornis saya)</i>
<b>Western Kingbird</b>	<i>(Tyrannus verticalis)</i>
<b>Eastern Kingbird</b>	<i>(Tyrannus tyrannus)</i>
<b>Warbling Vireo</b>	<i>(Vireo gilvus)</i>
<b>Black-billed Magpie</b>	<i>(Pica pica)</i>
<b>American Crow</b>	<i>(Corvus brachyrhynchos)</i>
<b>Common Raven</b>	<i>(Corvus corax)</i>

<b>Steller's Jay</b>	<i>(Cyanocitta stelleri)</i>
<b>Horned Lark</b>	<i>(Eremophila alpestris)</i>
<b>Tree Swallow</b>	<i>(Tachycineta bicolor)</i>
<b>Northern Rough-winged Swallow</b>	<i>(Stelgidopteryx erripennis)</i>
<b>Cliff Swallow</b>	<i>(Petrochelidon yrrhonota)</i>
<b>Violet-green Swallow</b>	<i>(Tachycineta thalassina)</i>
<b>Barn Swallow</b>	<i>(Hirundo rustica)</i>
<b>Black-capped Chickadee</b>	<i>(Poecile atricapillus)</i>
<b>Brown Creeper</b>	<i>(Certhia americana)</i>
<b>Rock Wren</b>	<i>(Salpinctes obsoletus)</i>
<b>House Wren</b>	<i>(Troglodytes aedon)</i>
<b>Ruby-crowned Kinglet</b>	<i>(Regulus calendula)</i>
<b>Western Bluebird</b>	<i>(Sialia mexicana)</i>
<b>Mountain Bluebird</b>	<i>(Sialia currucoides)</i>
<b>American Robin</b>	<i>(Turdus migratorius)</i>
<b>European Starling</b>	<i>(Sturnus vulgaris)</i>
<b>Cedar Waxwing</b>	<i>(Bombycilla cedrorum)</i>
<b>Yellow Warbler</b>	<i>(Dendroica petechia)</i>
<b>Yellow-rumped Warbler</b>	<i>(Dendroica coronata)</i>
<b>Ovenbird</b>	<i>(Seiurus aurocapillus)</i>
<b>Yellow-breasted Chat</b>	<i>(Icteria virens)</i>
<b>Western Tanager</b>	<i>(Piranga ludoviciana)</i>
<b>Spotted Towhee</b>	<i>(Pipilo maculatus)</i>
<b>Brewer's Sparrow</b>	<i>(Spizella breweri)</i>
<b>Vesper Sparrow</b>	<i>(Pooecetes gramineus)</i>
<b>Chipping Sparrow</b>	<i>(Spizella passerina)</i>
<b>Lark Sparrow</b>	<i>(Chondestes grammacus)</i>
<b>Savannah Sparrow</b>	<i>(Passerculus andwichensis)</i>
<b>Song Sparrow</b>	<i>(Melospiza melodia)</i>
<b>White-crowned Sparrow</b>	<i>(Zonotrichia leucophrys)</i>
<b>Dark-eyed Junco</b>	<i>(Junco hyemalis)</i>
<b>Black-headed Grosbeak</b>	<i>(Pheucticus elanoccephalus)</i>
<b>Lazuli Bunting</b>	<i>(Passerina amoena)</i>
<b>Red-winged Blackbird</b>	<i>(Agelaius phoeniceus)</i>
<b>Western Meadowlark</b>	<i>(Sturnella neglecta)</i>
<b>Brewer's Blackbird</b>	<i>(Euphagus cyanocephalus)</i>
<b>Brown-headed Cowbird</b>	<i>(Molothrus ater)</i>
<b>Bullock's Oriole</b>	<i>(Icterus bullockii)</i>
<b>Yellow-headed Blackbird</b>	<i>(Xanthocephalus anthocephalus)</i>
<b>Gray-crowned Rosy-Finch</b>	<i>(Leucosticte tephrocotis)</i>
<b>Cassin's Finch</b>	<i>(Carpodacus cassinii)</i>
<b>House Finch</b>	<i>(Carpodacus mexicanus)</i>
<b>Pine Siskin</b>	<i>(Carduelis pinus)</i>
<b>American Goldfinch</b>	<i>(Carduelis tristis)</i>
<b>Lesser Goldfinch</b>	<i>(Carduelis psaltria)</i>
<b>Evening Grosbeak</b>	<i>(Coccothraustes vespertinus)</i>
<b>House Sparrow</b>	<i>(Passer domesticus)</i>

## **APPENDIX G**

### **Bird and Butterfly Plants**





## Bird and Butterfly Plants

	Trees					Shrubs										Wildflowers						
	W. Juniper	Hackberry	Black Cottonwood	Crack or Yellow Willow	Ponderosa Pine	Douglas Fir	Golden Currant	Blue Elderberry	Black Hawthorn	Service Berry	Buffalo Berry	Oregon Grape	Woods Rose	W. Chokecherry	Syringa	Penstamen	Agastache	Columbine	Cone Flower	Aster	Salvias	
American Goldenfinch			X																			
Black-capped Chickadee		X			X																	
Black-headed Grosbeak				X					X					X								
Bullock's Oriole			X	X				X		X												
Butterflies															X				X	X	X	
Cedar Waxwing	X						X	X				X										
Golden-crowned Kinglet		X																				
Hummingbirds																X	X	X			X	
Lazuli Bunting							X							X								
Mountain Chickadee					X	X																
Red-breasted Nuthatch						X																
Red-winged Blackbird													X									
Robin	X						X	X		X		X										
Ruby-crowned Kinglet		X																				
Sage Thrasher										X												
Spotted Towhee									X					X								
Townsend's Solitaire	X																					
Warblers			X	X																		
Western Tanager					X																	
White-crowned Sparrow											X											