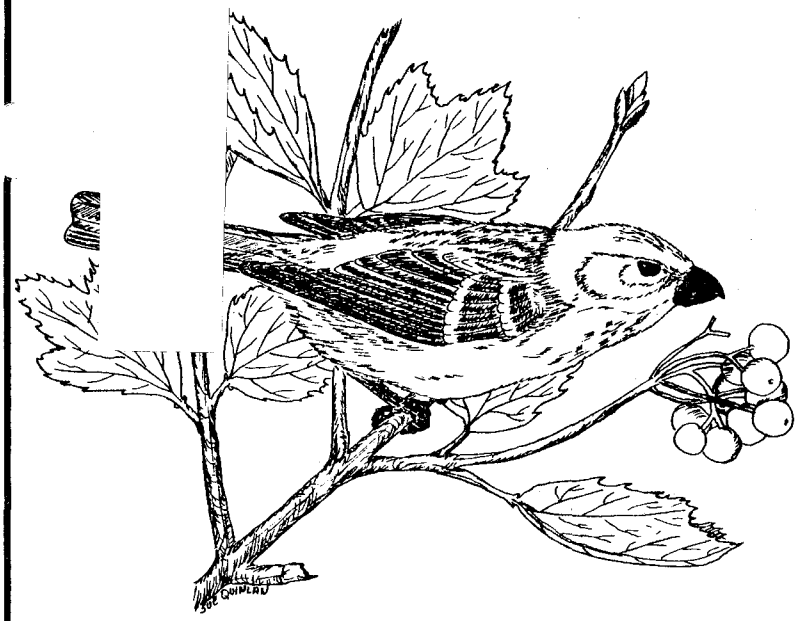


LANDSCAPING FOR WILDLIFE IN ALASKA

BY PLANTING TREES, SHRUBS, AND FLOWERS with the needs of wildlife in mind, Alaskans can create beautiful surroundings that provide food, cover, and water to a variety of birds and mammals.

PINE GROSBEAKS, Tree Swallows, Bohemian Waxwings, Hermit Thrushes, American Robins, and Snow Buntings are just a few of the colorful songbirds that can live amidst Alaska's cities, villages, farms, and homesteads—if we landscape the places we live and work with their needs in mind. Snowshoe hares, flying squirrels, and other interesting small mammals may also find homes in landscaped areas.

THROUGHOUT THE LOWER 48 STATES many songbird populations have declined as a result of disappearing habitat—particularly around towns and cities. In many places, the spring songs of robins and other birds are no longer heard, nor can people enjoy the colors and fascinating habits of woodpeckers, warblers, swallows, and other birds. By landscaping for wildlife, Alaskans can help prevent such a decline in our wild bird populations—in addition to creating more enjoyable surroundings for people.

HABITAT for native birds and small mammals can be easily produced by supplying them the necessities of life: food, cover, water, and space in the proper arrangement. Different species require different kinds and quantities of these necessitites. Seed-, berry-, and insect-eating birds that need only small areas to live are the species whose needs can be most easily provided for by landscaping Alaska's communities.

BACKYARDS, school, office, hospital and nursing home grounds, local parks, shelterbelts, fence rows, and abandoned fields can all be easily landscaped for wildlife. No area is too small for landscaping—if one of every 10 Alaskans created enough habitat for at least one pair of birds, our communities would be alive with beauty, movement, and song.

BY FOLLOWING THE SIX SIMPLE STEPS in this brochure, you can make your community a more pleasant place for people, and a better place for Alaska's nongame wildlife.

Vol. 1 No. 2 1982

ALASKA WILDLIFE WATCHER'S REPORT

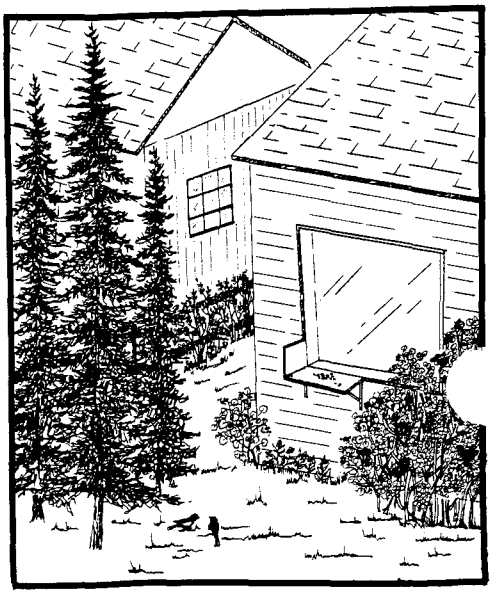
ALASKA DEPARTMENT OF FISH AND GAME — NONGAME WILDLIFE PROGRAM

SIX STEPS TO CREATING WILDLIFE HABITAT:

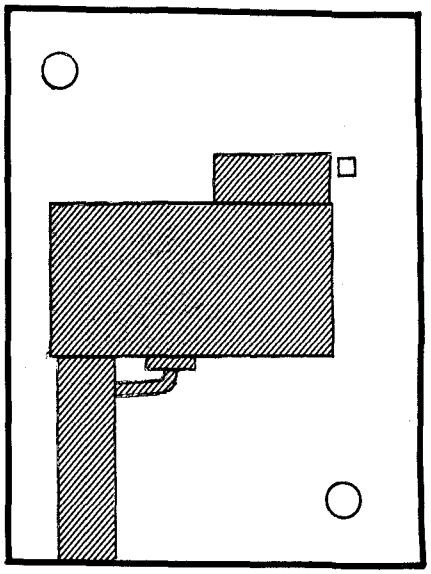
1. Select an area.
2. Find out what wildlife and plants occur nearby.
3. Select plants adapted to your location that attract wildlife.
4. Prepare a landscape design.
5. Obtain plants, cuttings, seedlings, or seeds—then plant your own wildlife refuge.
6. Add water and bird-feeders, nest boxes or other features to meet special wildlife needs.

STEP 1. SELECT AN AREA

ANY AREA—LARGE OR SMALL—can be modified to create a better home for wildlife. The larger the area, the greater variety of wildlife may be attracted, but no area is too small. Several small landscaped yards combined will attract as great a variety of wildlife as a single large area—so neighbors may want to cooperate. Landscaping a local area—such as a park or nursing home grounds—would make a good service project for a club.



Small yards in the middle of cities can be easily landscaped to attract songbirds.



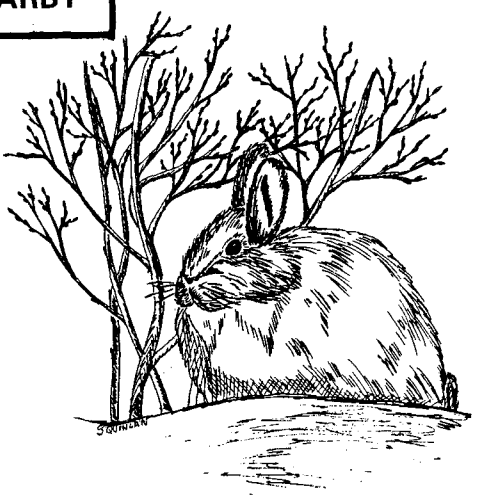
Make a drawing of the area you choose, including locations of buildings, powerlines, and any trees or shrubs already present. Imagine a seed-, insect-, or berry-eating bird visiting the area—could they find food? Water? Places to escape predators, or nest?

Make a list of the food, water, and cover already available, if any. Does any wildlife use the area now?

Food	Water	Cover
birch seeds	none	2 birch trees
lilac seeds		1 lilac bush

Test the soil to find out what plants are likely to grow in the area and to learn how to fertilize for maximum plant growth. Specific instructions for collecting and processing a soil sample can be obtained from the University of Alaska Cooperative Extension Service (see reference list, p. 7). Note the soil moisture at the site, also.

STEP 2. FIND OUT WHAT WILDLIFE AND PLANTS OCCUR NEARBY



Make a list of the birds, mammals, and amphibians that occur in your local area, and try to learn a little about which plants they use for food and cover. Local biology teachers, Alaska Department of Fish and Game biologists, U.S. Fish and Wildlife Service staff, or a local Audubon Society can help you find out what wildlife occurs in your area and tell you some of the plants they use.

These are the animals you can expect to attract to the area you landscape. Animals that are rare or do not occur nearby are unlikely to be attracted.

STEP 3. SELECT PLANTS THAT ATTRACT WILDLIFE

To create wildlife habitat, you must provide food, cover, and water. Plants provide food and cover to most animals. Use the tables on pages 8-12 to select plants that a) occur or will grow in your region, b) are suitable for the soil, moisture, and climatic conditions at your site, and c) provide food or cover for wildlife. Plants you listed in STEP 2 (above) will be among the best choices even if they aren't listed in these tables.

You can attract the greatest variety of wildlife by planting several kinds of plants, since different plants provide different types of food and cover.

FOOD—CHOOSE A VARIETY of seeds and berry producing plants. White spruce trees provide seeds for crossbills, and Pine Siskins, while redpolls prefer alder or birch seeds, and Bohemian Waxwings eat mountain ash berries. Similarly, snowshoe hares eat willow shoots, while a flying squirrel prefers spruce seeds and mushrooms. Insect-eating birds and mammals are also attracted by landscaping with a variety of plants, because many insects live on plants. If possible, avoid using insecticides, as these may be harmful to wildlife.

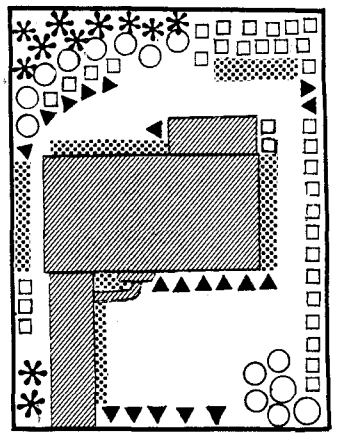
COVER—Food is of little value unless "cover"—places for nesting, escape from predators, and protection from bad weather—is also provided. Again, different species require different sorts of cover. Tall spruce trees provide nesting cover for Townsend's Warblers, but White-crowned Sparrows nest on the ground and need the protection of low shrubs and herbaceous plants. Wilson's Warblers prefer to feed and nest in shrubs of medium height such as willow. You can attract the greatest variety of birds by planting patches of herbs, shrubs, and trees together so that distinct layers of tall, medium, and low vegetation are available.

STEP 4. PREPARE A LANDSCAPE DESIGN

Using the diagram you drew in STEP 1, draw several alternative landscapes. When possible, plant strips, patches, or clumps of trees, shrubs, or herbs. Always plant more than one individual plant of each species, and plant a variety of species. Incorporate any trees or shrubs already present by planting new plants around them. Remember to create distinct layers of vegetation including a tree, tall shrub, low shrub, and herbaceous layer. Be sure to include open meadows or lawns as this type of area is also used by wildlife (robins and swallows, in particular).

FOOD, COVER, and WATER must be interspersed. If food is in one corner of the yard, cover in the other, and water on the other side of a building, few species will be attracted. Place food, cover and water close together.

IN CHOOSING YOUR FINAL DESIGN consider the appearance of your arrangement. Intersperse plants that bloom or turn colors at different times. Avoid planting trees below powerlines, or in front of windows where they may block a desired view. If you are landscaping a yard or the grounds of a hospital, office, or other building, design the area so that visiting wildlife will be visible from the windows. Place tall trees and shrubs behind low shrubs and herbaceous plants, so that wildlife using low vegetation will be visible, also.



IMAGINE WHAT THE AREA WILL LOOK LIKE right after you plant and in 5, 10, or 30-50 years when plants have matured. You can expect the following general patterns of plant growth and wildlife use. . . .

THROUGHOUT FORESTED REGIONS OF ALASKA. . .

If you start with a bare lot, ground-dwelling birds will be the first attracted by seed-producing herbs. Savannah, Golden-crowned Sparrows, and juncos are likely visitors. Robins, flocks of redpolls, Snow Buntings, or longspurs may visit open areas. Add nest boxes to attract swallows, and songposts and open water to enhance the area's attractiveness. Brushpiles or rock gardens will provide birds protection from weather and predators until shrubs have grown.

Within 5-10 years, shrubs and berry-producing plants will attract Hermit and Swainson's Thrushes, robins, grosbeaks, and waxwings. Wilson's, Yellow, and Orange-crowned Warblers will likely nest amidst the shrubbery. Dark-eyed Juncos are certain to nest if adequate ground cover is present. If you started with a few established trees and shrubs, this variety of birds will be attracted even sooner.

In 30-50 years, tall trees will attract kinglets, yellow-rumped warblers, woodpeckers, and chickadees. Varied Thrushes will buzz, while Hermit and Swainson's Thrushes sing their flute-like songs. Grosbeaks and waxwings will feed on the buds and berries of your plants, year-round. A Sharp-shinned Hawk may visit rarely. And the open area and low shrubs you've maintained will still attract Orange-crowned and Yellow Warblers, juncos, robins and various sparrows.

IN TREELESS REGIONS OF ALASKA. . .(excepting northernmost areas).

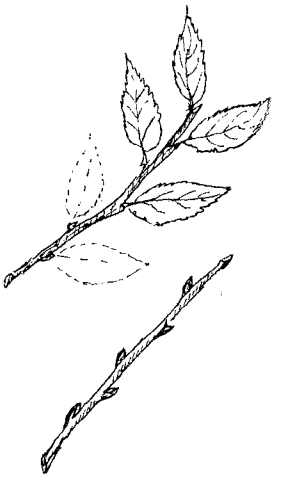
In the years before shrubs are established, Snow Buntings, rosy finches, pipits, Horned Larks, longspurs, and shorebirds will be attracted by seed-producing herbs like arnica, bistort, artemisia, and dock. Anything that provides shelter from wind or predators will also attract birds. Snow Buntings and swallows are likely to use nest boxes. Study the plants and birds of your region, and try to provide vegetation or other features they are using.

When low shrubs have developed, redpolls will visit in flocks. Ptarmigan may visit to feed on willow and dwarf birch. Wagtails, Arctic Warblers, or Tree Sparrows may feed and nest in willow patches. Fox, golden-crowned and other sparrows may feed and sing amidst the low shrubs. Longspurs, pipits, and shorebirds will continue to visit open areas. Tree Swallows and Snow Buntings will use nest boxes. If you've provideda small pond, phalaropes are likely visitors.

Once shrubs are tall and plants are fruiting, robins, Gray Jays, and Gray-Cheeked or Hermit thrushes may visit your area. Yellow and Wilson's warblers may flit amidst the willow and alder. Rusty Blackbird Blackpoll Warblers, and Alder Flycatcher may also feed and nest in the area. A shrike may perch on a branch to hunt. Swallows and Snow Buntings will still use nest boxes, and open areas will continue to attract longspurs and shorebirds.

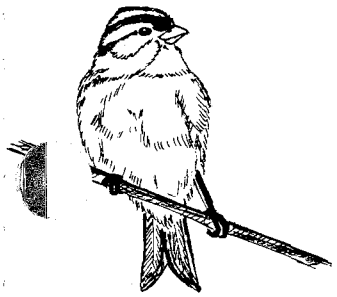
STEP 5. OBTAIN SEEDLINGS, CUTTINGS, OR SEEDS, AND PLANT

Check first with local greenhouses to find out what plants, seedlings, cuttings, or seeds you can obtain locally. Also, check with the University of Alaska Cooperative Extension Service for a list of greenhouses and companies that stock native plants. Those plants ...t can not be obtained commercially can be obtained from the wild, either by transplanting or by collecting cuttings or seeds. In ...tion to the information provided here, you may wish to consult other references on plant propagation techniques — see the ...itional references listed on page 7.



CUTTINGS—SOFTWOOD CUTTINGS—Cut leafed out branches 3-8'' long with 2-6 leaf nodes, during spring or early summer when the plant is growing rapidly. Protect the cutting from sun and drying winds by collecting only on cool, cloudy days, and by loosely wrapping each cutting in wet cloth. As soon as possible after collecting, remove the lower leaves and place the base of the cutting in a wet rooting medium (vermiculite, pearlite, or a sand-peat mixture). Rooting hormones such as indolebutyric acid will increase success. Until roots are formed, the cutting should be kept moist, warm, and protected from direct sunlight. Once roots are established, the plants should be transferred to soil.

HARDWOOD CUTTINGS—Cut branches 8-10'' long when plants are dormant, preferably March or early April. These cuttings should include only the current year's growth and be less than 1/2'' in diameter at the base. Cuttings can be rooted inside, then planted as seedlings, or stored and planted when the soil is warm. The former method is generally more successful. If you choose to store the cuttings, wrap the bases in wet paper towels or cloth, and store in a plastic bag in the freezer. Be sure to keep the soil around a cutting moist throughout the first summer. A commercial preparation of indolebutyric acid (rooting hormone) will improve the success of cuttings whether they are rooted inside or out.



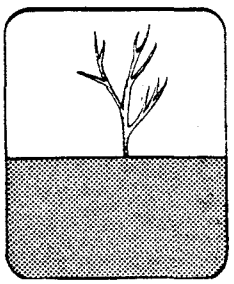
SEED-COLLECTING—Seeds of some native plants can be collected from the wild and planted in fall or spring. Specific collecting methods vary widely among plants. Most amateur gardeners may find the simplest method is to treat the seeds just as nature would. Collect seeds just as they are falling off the adult plant, then spread them on the ground in the area you want the plants to grow. This method will not work for all plants, but a few seeds of most species will germinate. Germination rates will be low, however, so be sure to collect many more seeds than you need plants.

Collect seeds when they are ripe and from on or near healthy plants growing in a habitat similar to the area you are landscaping. Most plant seeds ripen in late summer or fall, though some willow, aspen, black cottonwood, and balsam poplar ripen in spring. You will probably need to observe the plants in your region to select the best time for seed collection. A few days can make the difference between immature and ripe seeds, and thus affect germination rates. By collecting many seeds on a few different days, you can probably assure some success. Some seeds require two winters in the soil before germinating, so don't be discouraged if nothing comes up the first year.

Commercial seed collectors have developed specific techniques for a variety of plant seeds to improve germination rates and storability. These techniques include drying, mechanically or chemically abrading the seed coat, and stratifying (placing moist seeds at a particular temperature for a specified length of time). To learn specific techniques for some Alaskan species, consult *Seeds of the Woody Plants in the U.S.* (U.S.D.A. Agricultural Handbook No. 450, 1974). Copies of this publication are available at libraries, and at U.S. Soil Conservation Service and University of Alaska Cooperative Extension Service offices.

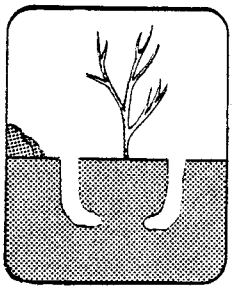
TRANSPLANTING—This method is attractive because plants are relatively large when put in place, but one must be careful to avoid harming wild areas from which one is transplanting. Digging up a few small, young plants is less visible and less destructive then digging up large plants. In addition, seedlings less than 3 years old survive transplanting much better than large plants.

BEFORE DIGGING UP ANY PLANTS, be sure to obtain permission from the land owner or responsible agency. The Alaska Department of Natural Resources, Forestry Division sometimes has selected areas for seedling thinning and will give permission and directions to a specific area. Areas scheduled for building projects also provide good places to obtain plants for transplanting, provided the landowner gives permission. Successful transplanting requires a lot of care and attention to individual plants; each plant must be replanted the same day it is dug up. Thus, you will have more success if you transplant no more than 2 or 3 plants in a single day.

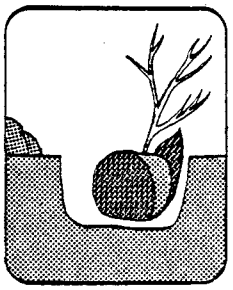


1. SELECTING A PLANT—Choose a small healthy seedling from an area of soil, moisture, and shade similar to the area you are landscaping. Plants should be dug up ONLY if they are abundant in the area. In many areas of Alaska, soils are shallow and underlain by permafrost, so plant roots often extend farther horizontally than vertically. The older the plant, the farther the roots may extend. For example, a blueberry plant's roots may extend out 10 feet from the plant stem. If most of a plant's roots are destroyed during transplanting, the plant will not survive. This is another reason to choose small, young plants rather than large ones.

Transplanting continued. . . from page 5

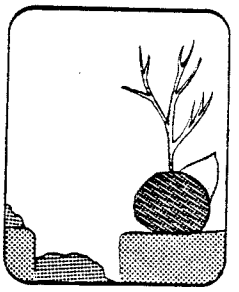


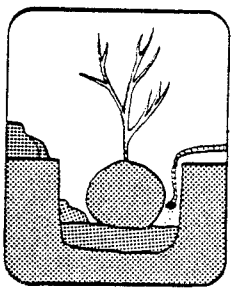
2. DIGGING UP THE PLANT—Transplanting is best done in late fall or early spring when plants are dormant, and on cool, cloudy days to reduce plant moisture loss. Dig up the plant to be transplanted by digging far enough from the main stem or trunk to keep the roots intact. To find out how far the plant's roots extend, scrape the plant litter and a few inches of surface soil away with your hands. If the roots extend more than 1 or 2 feet out, you should select a different plant. Be sure to replace the soil and plant litter to the original level whether you decide to dig up the plant or not. Use a sharp shovel, axe, or pruning tool to dig up the plant, as cleanly cut roots are less susceptible to root rot.



3. MOVING THE PLANT—Ball the roots and soil in wet burlap and cut the bottom roots away with a sharp tool. Carefully remove the plant from the hole, being sure to keep the root-soil ball intact.

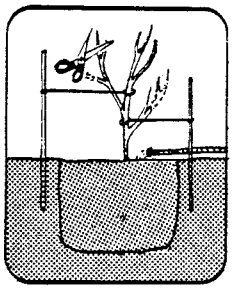
Wrap the root ball in plastic to keep the burlap wet. Replace any loose dirt to the hole, and cover with plant litter if any is nearby.





4. PLANTING—Dig a hole about 12'' wider than the diameter of the root ball. If necessary, partially fill the hole with soil so that the plant will be at the same depth as it was when dug up. Use a board leveled across the hole to insure the depth is correct. If the soil is wet, a foot of gravel in the bottom of the hole will improve drainage.

Remove plastic, loosen burlap, then spread the roots evenly in the hole. Carefully prune all damaged roots and apply a commercial preparation of indolebutyric acid (rooting hormone) according to package instructions. Fill in the hole with top soil about half way, then soak the soil with water. When the water has soaked in to the soil, finish filling the hole with soil, then soak once more with water.



5. CARE FOR THE TRANSPLANT—Trees larger than 3 feet should be supported by guy wires (see inset) and poles for 1-2 years or until the roots become established. Pruning some branches from trees or shrubs may improve their survival, but do not cut away the top branch of a conifer.

Fertilize the plant carefully, according to the specific soil type in your area—be careful not to over-fertilize. Keeping the roots of a transplant wet until it becomes established is critical. This should be accomplished by soaking the ground around the tree whenever the soil appears dry. Shallow watering may do more harm than good. Do not fertilize after mid-July or the plants will suffer more frost damage.

As the tree or shrub grows, proper watering and fertilization will insure a healthy plant. Do not prune the lower branches of shrubs or trees once they are established, as these provide valuable cover for many types of wildlife.

STEP 6. ADD WATER, AND OTHER FEATURES TO MEET SPECIAL WILDLIFE NEEDS

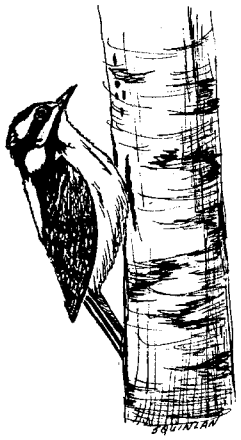
In addition to planting, you can make your area more attractive to wildlife by meeting other wildlife-habitat requirements. All species require water in addition to food and cover, and many species have special habitat requirements. If you are interested in attracting a certain species that occurs in your area, take time to research the animal's specific habitat requirements to find out if you could provide the particular food or cover it requires. Below are a few examples of features you can add to make the area you landscaped even more attractive to wildlife. These features can also be used to enhance areas that already attract wildlife.

WATER—Water is a necessity for wildlife. Though small birds can obtain drinking water from dew, rain, snow, and their foods, they use open water for drinking and bathing. Small pools of water on the ground may be more attractive than elevated bird baths, but birds are more exposed to roaming cats when bathing on the ground.

Land with natural or artificial ponds can be modified to attract a variety of wildlife associated with open water including frogs, ducks, and shorebirds. If you own a large parcel of land, you may wish to create a pond for wildlife. The feasibility of this will depend on the particular soil type, slope, local climate, and amount of money you want to invest. In general, ponds with shallow, gentle-sloping shorelines, and of irregular shapes provide the best wildlife habitat. Logs and rocks along the pond edges, as well as small islands offshore will enhance the value of the pond to wildlife. Thick grasses and shrubs along part of the pond shore will provide nesting and roosting cover for some birds.

BIRD FEEDERS—While you wait for trees and shrubs to grow, a bird feeder can attract a variety of birds particularly during winter. See ADF&G's Alaska Wildlife Watcher's Report Vol. 1, No. 1 for more information on bird-feeding in Alaska.

SNAGS AND NEST BOXES—Dead trees, or snags, are often cut down as they are presumed to be of no value. However, snags provide feeding and drumming sites for woodpeckers, songposts for a variety of birds, and hunting perches for owls and hawks. odpecker holes and cavities in snags provide nest sites and shelter from wind, snow and cold during winter for many birds and all mammals. Thus, dead trees should be left standing whenever possible, particularly snags 6 inches or more in diameter and any containing cavities. If no dead trees occur in your area, nest boxes can provide suitable nesting and roosting sites for some species.



CHICKADEES, WOODPECKERS, SMALL OWLS, SWALLOWS, NUTHATCHES AND SOME WATERFOWL nest in tree cavities and will sometimes use nest boxes. Nest boxes are most valuable if built the proper size, placed at the correct height, and faced in the right direction.

SAY'S PHOEBES, CLIFF SWALLOWS, and ROBINS will sometimes use small ledges placed under eaves of bridges.

See ADF&G's Alaska Wildlife Watcher's Report Vol. 1, No. 3 to learn how to construct and place nest boxes and ledges for Alaskan birds.

SONGPOSTS provide birds places to perch above other vegetation where they can see large areas, sing, be conspicuous, and detect predators. Fenceposts, clotheslines, or any pole will be used by singing birds, particularly in areas where shrubs and trees are sparse. Songposts should stick up one foot or more above surrounding vegetation.

ESCAPE COVER can be provided by a brush pile, a pile of rocks, or a log. DARK-EYED JUNCOS and snowshoe hares are particularly attracted by brush piles. In treeless areas, almost any sort of protection from wind will attract birds. A discarded Christmas tree can provide valuable cover.

GRIT provided by a patch of sand or gravel will often attract seed-eating birds like PTARMIGAN, GROSBEAKS, SPARROWS, and CROSSBILLS.

MUD PUDDLES will be used in spring by CLIFF SWALLOWS, if they are placed in open areas near buildings or cliffs where these birds can build their mud nests.

ADDITIONAL REFERENCES:

Alaska Rural Development Council. 1977. A revegetative guide for Alaska. Rural Development Council Publication No. 2. 238 pp.
Provides useful information for revegetating large areas including seed-broadcast rates (lbs/acre), fertilizer amounts, and plant viability by region of Alaska. More information on planting methods. Available from the Univ. of Alaska Cooperative Extension Service.

Epps, A. C. 1977. A key to flower growing in Alaska. Cooperative Extension Service. Univ. of Alaska and U.S. Dept. of Agriculture, cooperating. 25 pp.
Provides information on flower propagation, planting dates, and tips for beginning gardeners in Alaska.

Epps, A. C. 1980. Landscape plant materials for Alaska. Cooperative Extension Service. Univ. of Alaska and U.S.D.A. cooperating. 35 pp.
Provides additional information of transplanting techniques, selection and placement of plants, and availability and suitability of a variety of trees and shrubs for landscaping in Alaska.

Epps, A. C. and T. E. Loynachan. 1980. Soil Sampling. Cooperative Extension Service. Univ. of Alaska and U.S.D.A. cooperating. 6 pp.
Detailed instructions on how to take soil samples to insure accurate results, and specific addresses to send soil samples for analysis in Alaska.

Hulten, E. 1968. Flora of Alaska. Stanford Univ. Press. Stanford, CA. 1008 pp.
Provides detailed drawings, identification keys, distribution maps, and habitat information on Alaskan plants. Helpful for locating various species for seed-collecting, cuttings, or transplanting. Available at libraries.

Hartmann, H. T. and D. E. Kester. 1959. Plant propagation, princiles and practices. Prentice-Hall, Inc. Englewood Cliffs, N.J. 559 pp.
Provides more detailed information on transplanting, cuttings, seed-collecting and plant care. Any good text on plant propagation should provide similar information. Check your local library.

U.S.D.A. 1974. Seeds of woody plants of the U.S. U.S.D.A. Agricultural Handbook No. 450. pp.
Provides species-specific information on seed-collecting and handling techniques for many Alaskan species. Reference copies available at Cooperative Extension Service and Soil Conservation Service offices.

Viierick, L. A. and E. L. Little, Jr. 1972. Alaska trees and shrubs. U.S.D.A. Agricultural Handbook No. 410. U.S. Forest Service, Washington, D. C. 265 pp.
Specific identification and distribution information on Alaska trees and shrubs. Available at libraries, and the U.S. Govt. Printing Office. Stock No. 001-000-01344-1.

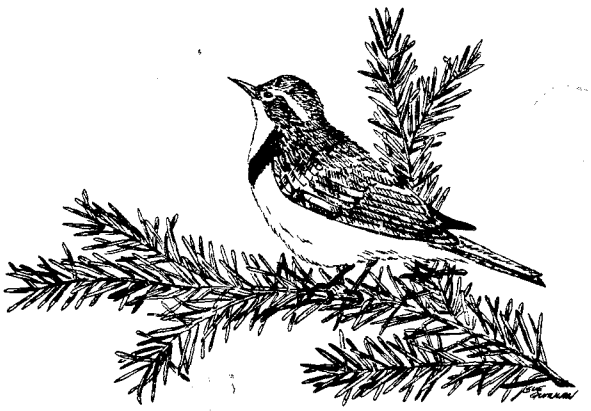
NATIVE ALASKAN AND EXOTIC PLANTS USED BY WILDLIFE

Use these tables to select plants for landscaping. In addition to their values to wildlife, these plants will add natural beauty to an area. Trees also provide shade in summer, and protection from winter winds, which can mean energy savings in heating and cooling your home. Real estate records show that landscaping with trees and shrubs often increases property values 10-20%.

Local Alaskan greenhouses carry seeds and seedlings of many species; other species can be obtained from mail-order greenhouses. The University of Alaska Cooperative Extension Service publishes a list of plant sources for Alaska.

*Commercially available in Alaska. **Non-native, but similar species available commercially.

Plant species with low shade tolerance in sunny areas. Do not apply lime to soil near plants with low or moderate acid tolerance.



CONIFEROUS TREES	Height	Alaska Distribution† NO	WE	SW	SC	CE	SE	Tolerance Acid	Shade	Soil Moisture	Propagation Methods††
*White Spruce *Picea glauca*	40-115′		P	P		x		high	mod	dry	SE, TR
*Black Spruce *Picea mariana*	15-60′		P	P		x		high	mod	wet	SE, TR
Sitka Spruce *Picea sitchensis*	160-225′				x		x	high	mod	moist	SE, TR
Mountain Hemlock *Tsuga mertensia*	50-100′				x	P	x	mod	high	moist	SE, TR
Western Hemlock *Tsuga heterophyla*	100-150′				x	P	x	mod	high	moist	SE, TR, SC
Alaska Redcedar *Chamaecyparis nootkatensis*	40-80′				P		x	high	mod	wet	SE, TR, SC
*Tamarack (Larch) *Larix laricina*	30-60′					x		high	mod	dry or wet	SE, TR
*Siberian Larch *Larix sibirica*	30-60′					E		high	mod	dry or wet	SE, TR

DECIDUOUS TREES	Height	Alaska Distribution† NO	WE	SW	SC	CE	SE	Tolerance Acid	Shade	Soil Moisture	Propagation Methods††
Balsam Poplar *Populus balsamifera*	30-50′	P	P	x	P	x	P	mod	low	moist	ST, SE, TR, RC
*Black Cottonwood *Populus trichocarpa*	80-100′				x	P	x	mod	low	moist	ST, SE, TR, RC
*Quaking Aspen *Populus tremuloides*	20-80′				P	x	P	mod	low	dry	SE, TR, RC
*Birch *Betula papyrifera*	20-80′		P	x	x	x	x	high	low	moist	SE, TR

VALUES TO WILDLIFE

Coniferous trees provide food in the form of seeds to Red and White-winged Crossbills, Pine Siskins, Chestnut-backed, and Boreal Chickadees, Pine Grosbeaks, Red-breasted Nuthatches, Red and Northern Flying Squirrels, and a variety of other species.

Coniferous trees also provide feeding and nesting sites for insect-eating birds including Ruby-crowned and Golden-crowned Kinglets, Yellow-rumped and Townsend's Warblers, Varied Thrushes, Gray Jays, and Northern Three-toed Woodpeckers.

Gray Jays and Steller's Jays also r... in coniferous trees.

Excepting larch, these trees provide excellent winter cover for chickadees, Pine Grosbeaks, Bohemian Waxwings, Dark-eyed Juncos, Boreal Owls, grouse and many others.

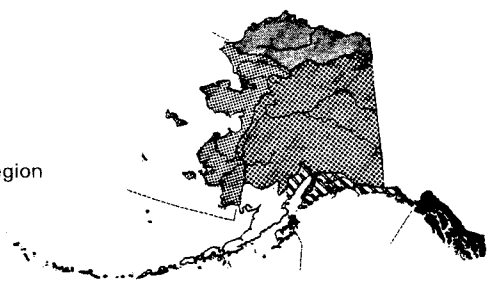
VALUES TO WILDLIFE

Deciduous trees are important feeding sites for Yellow-rumped, Blackpoll, and Orange-crowned Warblers, Black-capped Chickadees, Hermit and Swainson's Thrushes, American Robins, Common Flickers, and Downy and Hairy Woodpeckers.

Redpolls thrive on birch seeds in winter and spring. Pine Grosbeaks, Ruffed and Blue Grouse, snowshoe hare, and moose feast on the buds, shoots, and twigs of these deciduous trees. During summer, these trees provide valuable cover.

† No—Northern
Ce—Central
We—Western
Sw—Southwestern
Sc—Southcoastal
Se—Southeastern

x present throughout most of the region
P present in portions of the region
E exotic species



††More information on propagation techniques are given in STEP 5. The most successful methods, if known are underlined.

SE SEED (see seed-collecting, Step 5)

SC SOFTWOOD CUTTING (see cuttings, Step 5)

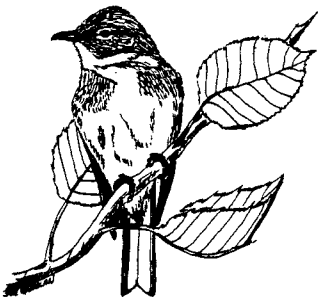
ST HARDWOOD CUTTING (see cuttings, Step 5)

RC ROOT CUTTING (see suggested references, p. 7)

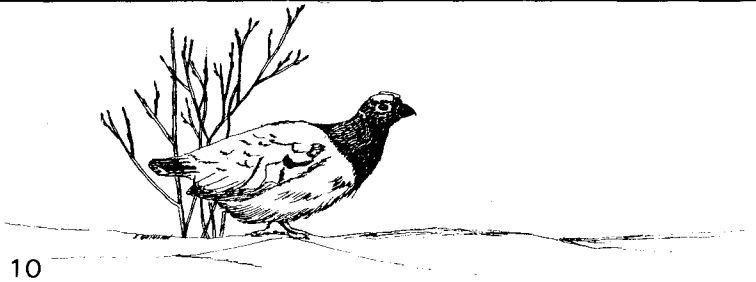
TR SEEDLING OR TRANSPLANT (see Step 5-Transplanting)

LA LAYERING (see suggested references, p. 7)

TALL SHRUBS	Height	Alaska Distribution NO	WE	SW	SC	CE	SE	Tolerance Acid	Shade	Soil Moisture	Propagation Methods	VALUES TO WILDLIFE
ltleaf Willow *Salix alaxensis*	20-30′	x	x	x	x	x	x	mod	low	moist to wet	ST, SE, TR	Willow catkins, buds, and twigs are excellent food for Pine Grosbeaks, Ruffed Grouse, Ptarmigan and moose. Wilson's and Yellow Warblers, Tree Sparrows, and Blackpoll Warblers frequent them for feeding and/or nesting.
Douglas Maple *Acer glabrum*	20-30′					E	x	mod	mod	moist	SE, TR, SC	Maple seeds are eaten by Ruffed Grouse, Yellow-bellied Sapsuckers, Red-breasted Nuthatches, Pine Grosbeaks, and Northern Flying Squirrels. Maple also provides excellent cover.
Sitka Alder *Alnus sinuata*	5-30′		P	x	x	P	x	mod	low	dry to moist	SE, TR, ST	Alder provides food and cover for Savannah Golden-crowned, White-crowned, Tree, Song, and Fox Sparrows; cover for Hermit, Swainson's, and Varied Thrushes, a variety of flycatchers (notably Alder Flycatchers), and is particularly popular with Redpolls.
Red Alder *Alnus rubra*	20-40′						x	mod	mod	moist	SE, TR, ST	
Thinleaf Alder *Alnus tenuifolia*	15-30′			P	x	x	P	high	low	moist	SE, TR, ST	
American Green Alder *Alnus crispa*	3-13′	P	x	P		x		high	low	dry to wet	SE, TR, ST	
Oregon Crabapple *Malus diversifolia*	25′				x		x	mod	mod	wet	TR, SE	These native plants produce fruits that attract a variety of birds including American Robin, Hermit, Gray-cheeked, and Swainson's Thrushes, Pine Grosbeaks, Bohemian Waxwings, Common Flicker, and Steller's Jays. Black-capped and Boreal Chickadees, Yellow-rumped Warblers and other birds will use these shrubs for cover during summer and fall.
Greene Mountain Ash *Sorbus scopulina*	3-13′		P	P	P	P	P	mod	mod	well-drained	SL, TR, ST, SE	
itka Mountain Ash *orbus sitchensis*	4-20′			P	x		x	mod	mod	well-drained	SL, TR, ST, SE	
askatoon Serviceberry *Amelanchier alnifolia*	16′				P	P	P	mod	low	dry	SE, TR	
**Pacific Serviceberry *Amelanchier florida*	16′			P	P		P	mod	low	dry to moist	TR, SE	
Red-osier Dogwood *Cornus stolonifera*	3-12′					P	x	mod	mod	well-drained to wet	SE, TR, RC	
Pacific Red Elder *Sambucus callicarpa*	6-12′			x	x		x	mod	mod	well-drained to wet	TR	
*High Bush Cranberry *Viburnum edule*	2-12′	P	P	P	x	x	x	mod	mod	dry	SE, TR, ST	
Early Blueberry *Vaccinium ovalifolium*	5′				x	x	P	x high	high	wet or *dry*	SE, TR	
*Siberian Crabapple *Malus spp.*	20′				E	E	E	mod	mod	wet	TR, SE	These exotic fruit-producing plants attract some of the same species as the above native Alaskan plants, and these have been shown to be hardy in parts of Alaska. Bohemian Waxwings and Pine Grosbeaks in particular seem to be attracted by the berries of these plants.
*European Mountain Ash *Sorbus aucuparia*	20-90′				E	E	E	mod	mod	well-drained	TR, SE	
*Chokecherry *Prunus virginiana*	20′			E	E	E	E	mod	mod	moist	SE, TR	
*Bird Cherry *Prunus paedus*	10-15′				E	E	E	mod	mod	dry to moist	TR	
lac *Syringa spp.*	6′				E	E	E	mod	mod	moist	TR	These plants produce fragrant flowers and provide cover for a variety of birds. Lilac seeds are eaten by Pine Grosbeaks.

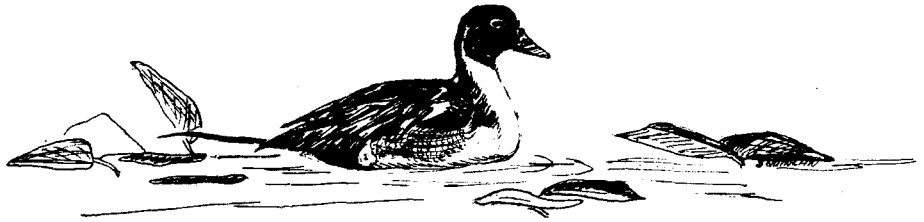


LOW SHRUBS	Height	Alaska Distribution NO	WE	SW	SC	CE	SE	Tolerance Acid	Shade	Soil Moisture	Propagation Methods	VALUES TO WILDLIFE
Willow *Salix spp.*	prostrate to 10'	varies by species x	x	x	x	x	x	mod	low	moist to wet	ST, SE, TR	Willow catkins and buds are eaten by Pine Grosbeaks, Ruffed Grouse, Ptarmigan, and moose. Yellow Warblers frequently nest in willows, as do Wilson's Warblers and Tree Sparrows. Yellow Wagtails, Arctic Warblers, and Redpolls are provided cover and feeding areas by willow patches.
Dwarf Birch												Dwarf birch provides cover and seeds used by Black-capped Chickadees, Redpolls, and a variety of other birds. Rock Ptarmigan and moose eat the buds and twigs.
Betula nana	1-3'	P	x	x	P	x	P	high	low	well-drained	TR, SE	
Betula glandulosa	1-5'	P	P			x	P	high	low	to wet	TR, SE	
**Northern Black Currant *Ribes hudsonianum*	3-6'			P	P	x		mod	mod	well-drained	TR, ST	These berry-eating low shrubs attract White-crowned Sparrows, American Robins, Pine Grosbeak, Bohemian Waxwings, Black-billed Magpies, Ruffed Grouse, Hermit and Varied Thrush, Steller's Jay and other species. These birds feed on the berries and use the shrubs for nesting and escape cover.
**Wild Currant *Ribes triste*	2-3'	P	P	P	x	x	P	mod	mod	moist or well-drained	SE, TR, ST	
**Raspberry *Rubus idaeus*	2-4'			P	P	x	P	mod	low	dry	SE, RC, TR, ST	
Salmonberry *Rubus spectabilis*	2-7'			x	x	x		mod	low	dry	SE, TR, ST, RC	
Thimbleberry *Rubus parviflorus*	2-5'						x	mod	low	moist	SE, TR, RC, ST	
Wild Rose *Rosa acicularis*	1-4'	P	P	P	x	x		high	mod	moist	SE, TR, ST	
Buffaloberry *Sheperdia canadensis*	2-6'	P	P			x	P	mod	low	dry	SE, TR	
*Silverberry *Eleagnus commutata*						P		mod	low	dry	SE, TR, ST	
*Common Juniper *Juniperus communis*	1-2'	P	P	P	P	x	x	high	low	dry	TR, ST, LA	Juniper provides excellent cover for many species as well as berries eaten by Pine Grosbeak, American Robins, Townsend's Solitaire, and Bohemian Waxwings.
Salal *Gaultheria shallon*	2-3'						P	low	low	moist	TR, SE	These species provide valuable cover for wildlife. Blue and Spruce Grouse eat Salal, and snowshoe hare browse on Labrador tea.
Labrador Tea *Ledum spp.*	1-3'	x	x	x	x	x	x	high	high	moist	TR	
*Bush Cinquefoil *Potentilla fruticosa*	1-5'	P	x	P		x	P	mod	high	dry or moist	SE, TR	
Lapland Rosebay *Rhododendron lapponicum*	1-2'	P	P			x		mod	low	dry or wet	SE, TR	Provides nesting cover for Tree Sparrows, White-crowned, Golden-crowned Sparrows, and produces beautiful pink flowers.
*Sweetgale *Myrica gale*	1-4'		P	P	x	P	x	high	low	wet	SE, SL, TR	Provides food and cover to Yellow-rumped Warblers, chickadees, and other birds.



GROUND COVERS AND HERBACEOUS PLANTS	Alaska Distribution† NO	WE	SW	SC	CE	SE	Tolerance Acid	Shade	Soil Moisture	Propagation Methods††	VALUES TO WILDLIFE
Dwarf Dogwood *Cornus canadensis*		P	x	x	x	x	mod	high	dry to moist	TR, RC, SE	These berry producing ground covers will protect your soil from erosion and provide food for Ruffed, Spruce, and Blue Grouse, Pine Grosbeaks, Tree and Fox Sparrows, American Robins, Common Flickers, Gray-crowned Rosy Finch, and Snow Bunting. They also provide food for voles and lemmings, and cover for these small mammals, shrews, and a variety of ground-feeding and nesting birds.
Cloudberry *Rubus chamaemorus*	x	x	x	x	x	x	mod	mod	moist to wet	SE, TR	
Nagoonberry *Rubus arcticus*		x			x		mod	mod	moist to wet	SE, TR, RC	
*Bearberry (Kinnikinnik) *Arctostphylos uva-ursi*	P		x		x	P	mod	low	dry	ST, SE	
Alpine Bearberry *Arctostaphylos alpina*	x	x	x	x	x		mod	low	dry	SE, ST	
Mountain Cranberry *Vaccinium vitis-idaea*	x	x	x	x	x	x	mod	high	dry to moist	TR, SE	
Blueberry *Vaccinium spp.*	varies by species						high	mod	moist to wet	ST, TR, SE	
Crowberry *Empetrum nigrum*	P	x	x	x	x	x	high	high	moist to wet	ST, SE, TR	
Jacob's Ladder *Polemonium acutiflorum*	x	x	x	x	x	x	mod	low	moist to wet	SE, TR	These flowering herbs will add color to your landscaped area and provide seeds eaten by Redpolls, Snow Buntings, Dark-eyed Juncos, Gray-crowned Rosy Finches, Tree and White-crowned Sparrows, Ruffed Grouse, and other seed-eating birds. Mountain Avens and some others also provide food for Snowshoe Hares. All of these provide cover for small, ground-feeding and nesting birds and small mammals.
Buttercup *Ranunculus spp.*	varies by species							low	moist to wet	SE, TR	
Goldenrod *Solidago multiradiata*	x	x	x	x	x	x		low	dry	SE, TR	
*Aster *Aster sibiricus*	x	x	x	x	x	x		low	dry	SE, TR	
*Mountain Avens *Dryas octopetala*	P	x	x		x	P	high	mod	well-drained or wet	SE, TR	
Arnica *Arnica frigida*	P	x	P	x	x			low	dry	SE, TR	
Cinquefoil *Potentilla spp.*			x	x	x	x		varies	dry to moist	SE, TR, SC	
*Geranium *Geranium erianthum*			P	x	P	x	mod	high	moist	SE, SL, TR	
Lupine *Lupinus nootkatensis*			x	x		x		low	dry to moist	SE, TR	These showy flowering plants will add beauty to your landscaped area. In southwestern and southcoastal Alaska, they will attract and provide food for Rufous Hummingbirds. In addition they provide feeding sites and cover for a variety of ground and shrub feeding and nesting species.
Lupinus arcticus	x	x			x						
*Larkspur *Delphinium spp.*	P	x	x		x		mod	low	wet	SE, TR	
*Columbine *Aquilegia brevistyla*					P			mod	dry to moist	SE, TR	
Aquilegia formosa				x		x		mod			
Dock (Sorrel) *Rumex spp.*	x	x	x	x	x	x	mod	low	moist to wet	SE, TR	These herbaceous plants have small flowers but they produce abundant seeds eaten by Snow Buntings, Gray-crowned Rosy-Finches, Dark-eyed Juncos, Lapland Longspur, Redpolls, Savannah and White-crowned Sparrows, Ptarmigan and other seed-eating birds. They also provide cover for a variety of ground-dwelling animals.
American Bistort *Polygonum bistorta*	x	x	P		x			low	moist to wet	SE, TR	
Buckwheat *Polygonum viviparum*	x	x	x	x	x	x		low	dry	SE, TR	
Artemisia *Artemesia Tilesii*	x	x	x	P	x			low	dry to moist	SE, TR	

GRASSES AND SEDGES	Height	Alaska Distribution NO	WE	SW	SC	CE	SE	Tolerance Acid	Shade	Soil Moisture	Propagation Methods	VALUES TO WILDLIFE
Bluejoint Reedgrass *Calamagrostis canadensis*	3-6′	P	x	x	x	x	x	mod	mod	moist	SE, TR	Unmowed grasses are valuable seed sources for White-crowned Sparrows, Golden-crowned, and Savannah Sparrows, Horned Larks, Snow Buntings, and Gray-crowned Rosy-Finches. They also provide valuable concealing cover for ground-nesting birds like grouse, sparrows, and warblers. Grasses also provide cover for small mammals like voles and shrews.
*Alyeska Polargrass *Arctagrostis latifolia*	3-5′	x	x	x	P	x		mod	mod	moist	SE, TR	
*Arctared Red Fescue *Festuca rubra*		x	x	x	x	x	x	mod	low	moist	SE, TR	
*Bluegrass *Poa spp.*		varies by species						mod	low	moist	SE	
Sedges *Carex spp.*	2-10″	varies by species						high	low	dry to wet	SE, TR	



AQUATIC PLANTS	Height	Alaska Distribution N	W	SW	SC	CE	SE	Planting Methods	VALUES TO WILDLIFE
Duckweed *Lemna spp.*	floating		P				x	TR	Most dabbling ducks feed on aquatic plants. These are among the most valuable food-producing aquatics in Alaska and are used by Mallard, Gadwall, Pintail, Northern Shoveler, Green-winged Teal, and American Wigeon. Common Snipe, Pectoral Sandpipers, Red-winged Blackbirds, and other marsh birds also occasionally consume their seeds.
Spikerush *Eleocharis spp.*	2-7″			P	x	x	x	TR	
*Pondweed *Potamogeton spp.*	submerged or floating	P	x	x	x	x	x	TR	
Wigeongrass *Ruppia spiralis*	submerged			x	x		x	TR (brackish water)	
Water Milfoil *Myriophyllum spicatum*	submerged		P			x	P	TR	
Smartweed *Polygonum amphibium*	submerged or floating				x	P		TR, SE	
Buckbean *Menyanthes trifoliata*	floating	P	P	x	x	x	x	TR	
*Cattails *Typha latifolia*	2-6′					P		TR, RC	Cattails, bulrushes, arrowgrass, and other emergents provide many species cover for nesting and escape from predators, and also produce seeds eaten by ducks and other waterbirds.
Bulrushes *Scirpus spp.*	12-40″					P	x	TR	
*Burreed *Sparganium spp.*	1-3′	P	x	x	x	x	x	TR	
Arrowgrass *Triglochin spp.*	30″		P	x	x	P	x	TR	
Pendent Grass *Arctophila fulva*	1-3′	x	x	P	x	x	P	TR	
Pond Lily *Nuphar polysepalum*	floating		P	x	x	x	x	TR	Pond lily provides cover for young ducklings as well as frogs, and is eaten by moose, and other animals.

Landscaping for wildlife is a new concept for Alaska. As you use this pamphlet in your own area, you may find other plants or techniques for attracting nongame wildlife. We'd appreciate hearing about your landscaping efforts. Write Nongame Wildlife Program, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, AK. 99701 or 333 Raspberry Road, Anchorage, AK. 99503.

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