

# Habitat<sup>®</sup>

## Herbicide

SePRO

For the control of undesirable vegetation growing within specified aquatic sites and nonirrigation ditchbanks.

### Active Ingredient

isopropylamine salt of imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)†.....28.7%

Other Ingredients.....71.3%

**TOTAL**.....100.0%

† Equivalent to 22.6% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

Keep Out of Reach of Children

# CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Refer to inside of label booklet for additional precautionary information and directions for use, including storage and disposal.

**Notice:** Read the entire label before using. Use only according to label directions. **Before buying or using this product, read Terms and Conditions of Use, Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies inside label booklet.**

Habitat is a registered trademark of BASF Corporation.

Manufactured for: **SePRO Corporation** 11550 North Meridian Street, Suite 600, Carmel, IN 46032 U.S.A. Product of U.S.A.

### FIRST AID

#### If on skin or clothing

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.

#### If in eyes

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eyes.
- Call a poison control center for treatment advice.

#### If inhaled

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

### HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **INFOTRAC** for emergency medical treatment information: **1-800-535-5053**.

EPA Reg. No. 241-426-67690  
FPL102010



Herbicide

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**CAUTION.** Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

# KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

### FIRST AID

<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If in eyes</b>	<ul style="list-style-type: none"><li>• Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eyes.</li><li>• Call a poison control center for treatment advice.</li></ul>
<b>If inhaled</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>

### HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact INFOTRAC for emergency medical treatment information: 1-800-535-5053.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemically resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

#### Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are given for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

### USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands with plenty of soap and water before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### Engineering Controls

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(6)].

### PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of **Habitat® herbicide** should be mixed, stored and applied only in stainless steel, fiberglass, plastic and plastic-lined steel containers. Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

## ENVIRONMENTAL HAZARDS

This product is toxic to plants. Drift and runoff may be hazardous to plants in water adjacent to treated areas. **DO NOT** apply to water except as specified in this label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss may cause the suffocation of some aquatic organisms. **DO NOT** treat more than 1/2 of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

This pesticide is toxic to vascular plants and should be used strictly in accordance with the drift precautions on the label.

## DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

**Habitat® herbicide** may be used only in accordance with the instructions on the leaflet label attached to the container. Keep containers closed to avoid spills and contamination.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

## NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Noncrop weed control is not within the scope of the Worker Protection Standard. See the **Product Information** section of this label for a description of noncrop sites.

**DO NOT** enter or allow others to enter treated areas until sprays have dried.

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food or feed by storage or disposal.

### Pesticide Storage

**DO NOT** store below 10° F.

### Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

### Container Disposal

**Nonrefillable Container. DO NOT reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Triple rinse containers too large to shake (capacity >5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container.** Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

**Triple rinse as follows:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

## IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call:

- INFOTRAC 1-800-535-5053

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- INFOTRAC 1-800-535-5053.

### Steps to be taken in case material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

## IMPORTANT

- **DO NOT** use on food crops.
- **DO NOT** apply this product within 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir.
- **DO NOT** apply to water used for irrigation except as described in **Product Use Precautions and Restrictions** section of this label.
- Keep from contact with fertilizers, insecticides, fungicides and seeds.
- **DO NOT** drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the treated soil may be washed or moved into contact with their roots.
- **DO NOT** side trim desirable vegetation with this product unless severe injury and plant death can be tolerated. Prevent drift of spray to desirable plants.
- Clean application equipment after using this product by thoroughly flushing with water.

## PRODUCT USE PRECAUTIONS AND RESTRICTIONS

Applications may be made for the control of undesirable vegetation growing within specified aquatic sites. Aquatic sites consist of standing and flowing water, estuarine/marine, wetland and riparian areas and nonirrigation ditchbanks.

### Aquatic Sites

- **DO NOT** apply more than 1.5 lbs ae imazapyr (equivalent to 96 ozs of **Habitat® herbicide**) per acre per year.
- **Public waters.** Application of **Habitat** to water can only be made by federal or state agencies, such as Water Management District personnel, municipal officials, and the U.S. Army Corps of Engineers, or those applicators who are licensed or certified as aquatic pest control applicators and are authorized by the state or local government. Treatment to other than non-native invasive species is limited to only those plants that have been determined to be a nuisance by a federal or state government entity.
- **Permitting.** Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.
- **Private waters.** Applications may be made to private waters that are still, such as ponds, lakes and drainage ditches where there is minimal or no outflow to public waters.
- **Aerial application.** Aerial application to aquatic sites is restricted to helicopter only.
- **Irrigation water.** Application to water used for irrigation that results in **Habitat** residues > 1.0 ppb **MUST NOT** be used for irrigation purposes for 120 days after application or until **Habitat** residue levels are determined by laboratory analysis or other appropriate means of analysis to be 1.0 ppb or less. When applications are made within 500 feet of an active irrigation intake, **DO NOT** irrigate for at least 24 hours following application to allow for dissipation.

**Recreational use of water in treatment area.** There are no restrictions on the use of water in the treatment area for recreational purposes, including swimming and fishing.

**Livestock use of water in/from treatment area.** There are no restrictions on livestock consumption of water from the treatment area.

**Precautions for potable water intakes.** **DO NOT** apply **Habitat** directly to water within 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as a lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of active potable water intakes, the water intake **must** be turned off during application and for a minimum of 48 hours after the application. These aquatic applications may be made only in the cases where there are alternative water sources or holding ponds that would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications.

**NOTE:** Existing potable water intakes that are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes.

**Quiescent or Slow-moving Waters.** In lakes and reservoirs, **DO NOT** apply **Habitat** within one (1) mile of an active irrigation water intake during the irrigation season. Applications less than one (1) mile from an active irrigation water intake may be made during the off-season, provided that the irrigation intake will remain inactive for a minimum of 120 days after application or until **Habitat** residue levels are determined by laboratory analysis or other appropriate means of analysis to be 1.0 ppb or less.

## **PRODUCT INFORMATION**

**Habitat® herbicide** is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control undesirable vegetation growing within specified aquatic sites. Aquatic sites consist of standing and flowing water, estuarine/marine, wetland, riparian areas and nonirrigation ditchbanks.

**Herbicidal Activity.** **Habitat** will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. **Habitat** is readily absorbed through emergent leaves and stems and is translocated rapidly throughout the plant with accumulation in the meristematic regions. For maximum activity, weeds should be growing vigorously at the time of application, and the spray solution should include a surfactant (see **Adjuvants** section for specific recommendations). Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until 2 or more weeks after application. Complete kill of plants may not occur for several weeks. Applications of **Habitat** are rainfast 1 hour after treatment.

**Application Methods.** **Habitat** may be selectively applied by using low-volume directed application techniques or may be broadcast applied by using ground equipment, watercraft, or aircraft (aerial applications to aquatic sites must be made by helicopter). In addition, **Habitat** may also be applied using cut stump, cut stem, and frill and girdle treatment techniques within aquatic sites (see **Aerial Application** and **Ground Application** sections for additional details).

## **PRECAUTIONS FOR AVOIDING INJURY TO NONTARGET PLANTS**

Untreated desirable plants can be affected by root uptake of **Habitat** from treated soil. Injury or loss of desirable plants may result if **Habitat** is applied on or near desirable plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots. When making applications along shorelines where desirable plants may be present, caution should be exercised to avoid spray contact with their foliage or spray application to the soil in which they are rooted. Shoreline plants that have roots which extend into the water in an area where **Habitat** has been applied generally will not be adversely affected by uptake of the herbicide from the water. If treated vegetation is to be removed from the application site, **DO NOT** use the vegetative matter as mulch or compost on or around desirable species.

## **MANAGING OFF-TARGET MOVEMENT**

### **Aerial Applications**

- Applicators are required to use a coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a very coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

### **Ground Boom Applications**

- Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

### **Wind Erosion**

Avoid treating powdery, dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

## **ADJUVANTS**

Postemergence applications of **Habitat** require the addition of a spray adjuvant. Spray adjuvants that are approved or appropriate for aquatic use must be utilized.

**Nonionic Surfactants.** Use a nonionic surfactant (NIS) at the rate of 0.25% volume/volume (v/v) or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with an HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 with at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

**Methylated Seed Oils or Vegetable Oil Concentrates.** Instead of a surfactant, a methylated seed oil (MSO) or vegetable-based seed oil concentrate may be used at the rate of 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable-based seed oil concentrates should be mixed at a rate of 1% of the total spray volume, or alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in **Habitat** deposition and uptake by plants under moisture or temperature stress.

**Silicone-based Surfactants.** See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake.

**Invert Emulsions.** **Habitat** can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray runoff, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

**Other.** An antifoaming agent, spray pattern indicator, or drift-reducing agent may be applied at the product labeled rate if necessary or desired.

## TANK MIXES

**Habitat® herbicide** may be tank mixed with other herbicides.

Consult manufacturer's labels for specific rate restrictions and weeds controlled. Always follow the more restrictive label restrictions and precautions for all products used when making an application involving tank mixes.

## AERIAL APPLICATION

All precautions should be taken to minimize or eliminate spray drift. Only helicopters can be used for aquatic applications. **DO NOT** make applications unless appropriate buffer zones can be maintained to prevent spray drift out of the target area. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a **Microfoil™ boom**, **Thru-Valve™ boom**, or raindrop nozzles, must be used and calibrated. Except when applying with a **Microfoil boom**, a drift control agent may be added at the recommended label rate. Side trimming is not recommended with **Habitat** unless death of treated tree can be tolerated.

Uniformly apply the specified amount of **Habitat** in 2 to 30 gallons of water per acre. A foam-reducing agent may be added at the recommended label rate, if needed.

**IMPORTANT:** Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

## GROUND APPLICATION

### FOLIAR APPLICATIONS

#### Low-volume Foliar Application

Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray solution, thoroughly mix in water 0.5% to 5% **Habitat** plus surfactant (see the **Adjuvants** section of this label for specific recommendations). A foam-reducing agent may be applied at the recommended label rate, if needed. For control of difficult species (see **Aquatic Weeds Controlled** section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes, but **DO NOT** apply more than 6 pints of **Habitat** per acre in aquatic sites. Excessive wetting of foliage is not recommended. See **Spray Solution Mixing Guide for Low-volume Foliar Applications** following for specified volumes of **Habitat** and water.

For low-volume foliar application, select proper nozzles to avoid overapplication. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant. The use of an even, flat-fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Recommended tip sizes include 4004E or 1504E. For a straight-stream and cone pattern, adjustable cone nozzles, such as 5500 X3 or 5500 X4, may be used. Attaching a rollover valve onto a Spraying Systems Model 30 gunjet or other similar spray gun allows for the use of both flat-fan and cone tips on the same gun.

Moisten, but **DO NOT** drench target vegetation causing spray solution to run off.

#### Low-volume Foliar Application with Backpacks

For low-growing species, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

For target species 4 to 8 feet tall, swipe the sides of target vegetation by directing spray to at least 2 sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For target species over 8 feet tall, lace sides of the target vegetation by directing spray to at least 2 sides of the target in smooth zigzag motions from crown to bottom.

#### Low-volume Foliar Application with Hydraulic Handgun Application Equipment

Use the same technique as described above for **Low-volume Foliar Application with Backpacks**.

For broadcast applications, simulate a gentle rain near the top of target vegetation allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution that contacts the understory may result in severe injury or death of plants in the understory.

### Spray Solution Mixing Guide for Low-volume Foliar Applications

Spray Solution Prepared (gallons)	Desired Concentration (fluid volume)				
	0.5%	0.75%	1%	1.5%	5%
	(amount of <b>Habitat® herbicide</b> to use)				
1	0.6 oz	0.9 oz	1.3 ozs	1.9 ozs	6.5 ozs
3	1.9 ozs	2.8 ozs	3.8 ozs	5.8 ozs	1.2 pints
4	2.5 ozs	3.8 ozs	5.1 ozs	7.7 ozs	1.6 pints
5	3.2 ozs	4.8 ozs	6.5 ozs	9.6 ozs	2 pints
50	2 pints	3 pints	4 pints	6 pints	10 quarts
100	4 pints	6 pints	8 pints	6 quarts	5 gallons
2 tablespoons = 1 fluid ounce					

## High-volume Foliar Application

For optimum performance when spraying medium-density to high-density vegetation, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA). Spray solutions exceeding 100 GPA may result in excessive spray runoff, causing increased ground cover injury, and injury to desirable species. To prepare the spray solution, thoroughly mix **Habitat® herbicide** in water and add a surfactant (see **Adjuvants** section for specific recommendations and rates of surfactants). A foam-reducing agent may be added at the recommended label rate, if needed. For control of difficult species (see **Aquatic Weeds Controlled** section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes, but **DO NOT** apply more than 6 pints of **Habitat** per acre in aquatic sites. Uniformly cover the foliage of the vegetation to be controlled, but **DO NOT** apply to runoff. Excessive wetting of foliage is not recommended.

## Side Trimming

**DO NOT** side trim with **Habitat** unless severe injury or death of the treated tree can be tolerated. **Habitat** is readily translocated and can result in death of the entire tree.

## CUT-SURFACE TREATMENTS

**Habitat** may be used to control undesirable woody vegetation by applying the **Habitat** solution to the cambium area of freshly cut stump surfaces or to fresh cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. **DO NOT** overapply solution causing runoff from the cut surface.

Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

### Cut-surface Applications with Dilute and Concentrate Solutions

**Habitat** may be mixed as either a concentrated or dilute solution. The dilute solution may be used for applications to the cut surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large-diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

- To prepare a dilute solution, mix 8 to 12 fluid ounces of **Habitat** with 1 gallon of water. The use of a surfactant or penetrating agent may improve uptake through partially callused cambiums.
- To prepare a concentrated solution, mix 2 quarts of **Habitat** with no more than 1 quart of water.

### Cut-stump Treatments

• **Dilute Solutions.** Spray or brush the solution onto the cambium area of the freshly cut stump surface. Ensure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

### Cut-stem (injection, hack and squirt) Treatments

• **Dilute Solutions.** Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than 1-inch intervals between cut edges. Ensure that the injector completely penetrates the bark at each injection site.

• **Concentrate Solutions.** Using standard injection equipment, apply 1 milliliter of solution at each injection site. Make at least 1 injection cut for every 3 inches of Diameter at Breast Height (DBH) on the target tree. For example, a 3-inch DBH tree will receive 1 injection cut, and a 6-inch DBH tree will receive 2 injection cuts. On trees requiring more than 1 injection site, place the injection cuts at approximately equal intervals around the tree.

### Frill or Girdle Treatments

• Using a hatchet, machete, or chainsaw, make cuts through the bark and completely around the tree to expose the cambium. The cut should angle downward extending into the cambium enough to expose at least 2 growth rings. Using a spray applicator or brush, apply a 25% to 100% solution of **Habitat** into each cut until thoroughly wet. Avoid applying so much herbicide that runoff to the ground or water occurs.

## AQUATIC WEED CONTROL

**Habitat** may be applied for the control of floating and emergent undesirable vegetation (see the **Aquatic Weeds Controlled** section) in or near bodies of water that may be flowing, nonflowing, or transient. **Habitat** may be applied to aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites, riparian sites, and seasonal wet areas. See **Product Use Precautions and Restrictions** section of this label for precautions, restrictions, and instructions on aquatic uses.

**Habitat** must be applied to the emergent foliage of the target vegetation and has little-to-no activity on submerged aquatic vegetation. **Habitat** concentrations resulting from direct application to water are not expected to be of sufficient concentration nor duration to provide control of target vegetation. Application should be made in such a way as to maximize spray interception by the target vegetation while minimizing the amount of overspray that enters the water.

**Habitat** does not control plants that are completely submerged or have a majority of their foliage under water.

**Habitat** should be applied with surface or helicopter application equipment in a minimum of 2 gallons of water per acre. When applying by helicopter, follow directions under the **Aerial Application** section of this label; otherwise, refer to the **Ground Application** section when using surface equipment.

Applications made to moving bodies of water should be made while traveling upstream to prevent concentration of this herbicide in water. **DO NOT** apply to bodies of water or portions of bodies of water where emergent and/or floating weeds do not exist.

When application is to be made to target vegetation that covers a large percentage of the surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in the suffocation of some sensitive aquatic organisms. If oxygen depletion is a concern, treat no more than 1/2 of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Avoid washoff of sprayed foliage by spray boat or recreational boat backwash for 1 hour after application.

Apply **Habitat® herbicide** at 2 to 6 pints per acre depending on species present and weed density. **DO NOT** exceed the maximum label rate of 6 pints per acre (1.5 lbs ae/A) per year. Use the higher labeled rates for heavy weed pressure. Consult the **Aquatic Weeds Controlled** section of this label for specific rates.

**Habitat** may be applied as a draw-down treatment in areas described above. Apply **Habitat** to weeds after water has been drained and allow 14 days before reintroduction of water.

## WEEDS CONTROLLED

### Aquatic Weeds Controlled

**Habitat** will control the following target species as specified in the **Use Rates and Application Directions** column of the table. Rates are expressed in terms of product volume for broadcast applications and as a % solution for directed applications including spot treatments. **For % solution applications, DO NOT apply more than the equivalent of 6 pints of Habitat per acre.**

Common Name	Scientific Name	Use Rates and Application Directions
<b>Floating</b>		
*Floating heart	<i>Nymphodes</i> spp.	2 to 4 pints/A (0.5 to 1.0% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Frogbit	<i>Limnobium spongia</i>	1 to 2 pints/A (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Spatterdock	<i>Nuphar luteum</i>	Apply a tank mix of 2 to 4 pints/A <b>Habitat</b> + 4 to 6 pints/A glyphosate (0.5% <b>Habitat</b> + 1.5% glyphosate) in 100 GPA water for best control. Ensure 100% coverage of actively growing emergent foliage.
*Water hyacinth	<i>Eichhornia crassipes</i>	1 to 2 pints/A (0.5% solution) applied in 100 GPA water to actively growing foliage.
*Water lettuce	<i>Pistia stratiotes</i>	1 to 2 pints/A (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
<b>Emerged</b>		
*Alligatorweed	<i>Alternanthera philoxeroides</i>	1 to 4 pints/A (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Arrowhead, duck-potato	<i>Sagittaria</i> spp.	1 to 2 pints/A (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Bacopa, lemon	<i>Bacopa</i> spp.	1 to 2 pints/A (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Parrot feather	<i>Myriophyllum aquaticum</i>	Must be foliage above water for sufficient <b>Habitat</b> uptake. Apply 2 to 4 pints/A to actively growing emergent foliage.
*Pennywort	<i>Hydrocotyle</i> spp.	1 to 2 pints/A (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Pickerelweed	<i>Pontederia cordata</i>	2 to 3 pints/A (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Taro, wild Dasheen Elephant's ear Coco yam	<i>Colocasia esculentum</i>	4 to 6 pints/A (1.5% solution) applied in 100 GPA with a high quality "sticker" adjuvant. Ensure good coverage of actively growing emergent foliage.
*Water chestnut	<i>Trappa natans</i>	
*Water lily	<i>Nymphaea odorata</i>	2 to 3 pints/A (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Water primrose	<i>Ludwigia uruguayensis</i>	4 to 6 pints/A (1.5% solution). Ensure 100% coverage of actively growing emergent foliage. Tank mix with glyphosate is NOT recommended and may reduce water primrose control.

\*Use not permitted in California unless otherwise directed by supplemental labeling.

(continued)

## Aquatic Weeds Controlled *(continued)*

Common Name	Scientific Name	Use Rates and Application Directions
<b>Terrestrial/Marginal</b>		
*Soda apple Aquatic nightshade	<i>Solanum tampicense</i>	2 pints/A applied to foliage
*Bamboo, Japanese	<i>Phyllostachys</i> spp.	3 to 4 pints/A applied to the foliage when plant is actively growing; before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Beach, vitex	<i>Vitex rotundifolia</i>	5% solution + 1% MSO foliar spray. 17% solution stem injection (hack and squirt)
Brazilian pepper Christmasberry	<i>Schinus terebinthifolius</i>	2 to 4 pints/A applied to foliage
Cattail	<i>Typha</i> spp.	2 to 4 pints/A (1% solution) applied to actively growing green foliage after full leaf elongation. Lower rates will control cattail in the North; higher rates are needed in the South.
Chinese tallow tree	<i>Sapium sebiferum</i>	16 to 24 ozs/A applied to foliage
Cogon grass	<i>Imperata cylindrica</i>	Burn foliage, till area; then fall-spray 2 quarts/A <b>Habitat</b> ® herbicide + MSO applied to new growth.
Cordgrass, prairie	<i>Spartina</i> spp.	4 to 6 pints/A applied to actively growing foliage
*Cutgrass	<i>Zizaniopsis miliacea</i>	4 to 6 pints/A applied to actively growing foliage
*Elephant grass Napier grass	<i>Pennisetum purpureum</i>	3 pints/A applied to actively growing foliage
*Flowering rush	<i>Butomus umbellatus</i> L.	2 to 3 pints/A applied to actively growing foliage
Giant reed Wild cane	<i>Arundo donax</i>	4 to 6 pints/A applied in spring to actively growing foliage
*Golden bamboo	<i>Phyllostachys aurea</i>	3 to 4 pints/A applied to foliage when plant is actively growing; before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Junglerice	<i>Echinochloa colonum</i>	3 to 4 pints/A applied to actively growing foliage
Knapweeds	<i>Centaurea species</i>	Russian knapweed: 2 to 3 pints + 1 quart/A MSO fall-applied after senescence begins
Knotweed, Japanese (see Fallopia japonica)	<i>Polygonum cuspidatum</i>	3 to 4 pints/A applied post-emergence to actively growing foliage
Melaleuca Paperbark tree	<i>Melaleuca quinquenervia</i>	For established stands, apply 6 pints/A <b>Habitat</b> + 6 pints/A glyphosate + spray adjuvant. For best results, use 4 quarts/A methylated seed oil as an adjuvant. For ground foliar application, uniformly apply to ensure 100% coverage. For broadcast foliar control, apply aerially in a minimum of 2 passes at 10 gallons/A applied cross treatment. For spot treatment, use a 25% <b>Habitat</b> + 25% solution of glyphosate + 1.25% MSO in water applied as a frill or stump treatment.
*Nutmuss Kill'p'opu	<i>Cyperus rotundus</i>	2 pints <b>Habitat</b> + 1 quart/A MSO applied early post-emergence
*Nutsedge	<i>Cyperus</i> spp.	2 to 3 pints post-emergence to foliage or pre-emergence incorporated, nonincorporated, pre-emergence applications will not control.
Phragmites Common reed	<i>Phragmites australis</i>	4 to 6 pints/A applied to actively growing green foliage after full leaf elongation. Ensure 100% coverage. If stand has a substantial amount of old stem tissue, mow or burn, allow to regrow to approximately 5 feet tall before treatment. Lower rates will control phragmites in the North; higher rates are needed in the South.
*Poison hemlock	<i>Conium maculatum</i>	2 pints <b>Habitat</b> + 1 quart/A MSO applied pre-emergence to early post-emergence to rosette prior to flowering
Purple loosestrife	<i>Lythrum salicaria</i>	1 pint/A applied to actively growing foliage
Reed canarygrass	<i>Phalaris arundinacea</i>	3 to 4 pints/A applied to actively growing foliage

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*(continued)*

## Aquatic Weeds Controlled *(continued)*

Common Name	Scientific Name	Use Rates and Application Directions
<b>Terrestrial/Marginal <i>(continued)</i></b>		
Rose, swamp	<i>Rosa palustris</i>	2 to 3 pints/A applied to actively growing foliage
Russian olive	<i>Elaeagnus angustifolia</i>	2 to 4 pints/A or a 1% solution applied to foliage
Saltcedar Tamarisk	<i>Tamarix</i> spp.	Aerial apply 2 quarts <b>Habitat® herbicide</b> + 0.25% v/v NIS applied to actively growing foliage during flowering. For spot spraying, use 1% solution of <b>Habitat</b> + 0.25% v/v NIS and spray to wet foliage. After application, wait at least 2 years before disturbing treated saltcedar. Earlier disturbance can reduce overall control.
Smartweed	<i>Polygonum</i> spp.	2 pints/A applied early post-emergence
Sumac	<i>Rhus</i> spp.	2 to 3 pints/A applied to foliage
Swamp morningglory Water spinach Kangkong	<i>Ipomoea aquatica</i>	1 to 2 pints/A <b>Habitat</b> + 1 quart/A MSO applied early post-emergence
Torpedo grass	<i>Panicum repens</i>	4 pints/A (1 to 1.5% solution); ensure good coverage to actively growing foliage.
*White top Hoary cress	<i>Cardaria draba</i>	1 to 2 pints/A applied in spring to foliage during flowering
Willow	<i>Salix</i> spp.	2 to 3 pints/A <b>Habitat</b> applied to actively growing foliage. Ensure good coverage.

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