DRAFT

HR-07/26

Debbie Manna, Project Manager / Environmental Safety
Johnson & Johnson Health Care Systems, Inc.
425 Hoes Lane
PO Box 6800
Piscataway, New Jersey 08855-6800

Re: Restoration at the Health Care Systems, Inc. property in Piscataway, Middlesex County, New Jersey.

Dear Ms. Manna:

Thank you for showing an interest in working with the U.S. Fish and Wildlife Service (Service) *Partners for Fish and Wildlife* (Partners) program. The referenced project will help restore approximately 0.3 miles of riparian, upland, and wetland habitat as well as facilitate employee involvement in Johnson & Johnson's biodiversity initiative.

Based on our discussions with you and our March 20, 2007 site visit, we have drafted a restoration plan for the project. Please review the enclosed Fish and Wildlife Habitat Restoration Agreement (Agreement) (Enclosure 1), appendices (Enclosure 2), and Habitat Restoration Site Plan Forms (Enclosure 3). If you agree to the proposed project, please sign the Agreement on page three above the heading "Cooperator." After the requested information is completed, please return the original to our office.

On page one of the Fish and Wildlife Habitat Restoration Agreement and on page one of the Restoration Plan, please provide the number of years that Johnson & Johnson Health Care Systems, Inc. agrees to maintain the area in its restored condition. As you are aware, one of the requirements of the Partners program is that a landowner must sign an agreement to maintain restoration measures for at least 10 years. While the Service only requires a 10-year commitment, we are interested in establishing longer term agreements. Such an agreement does not necessarily imply that all project components will be maintained for that length of time, but rather the area will not be changed from its natural, restored state.

The work by the Service associated with this restoration project cannot be initiated until the Agreement is signed, therefore your timely attention to this matter is requested. If you have any questions, concerns, or modifications to the enclosed documents, please contact Brian Marsh of my staff at (609) 383-3938, extension 22.

Sincerely,

Eric Schrading
Private Lands Coordinator

Enclosures

cc: NJFO (1)
ES:NJFO:BMarsh:03/28/07 C:\Marsh's Shared Docs\HR0726 – JJ Piscataway.doc

ENCLOSURE 1

FISH AND WILDLIFE HABITAT RESTORATION AGREEMENT

PARTNERS FOR FISH AND WILDLIFE

FISH AND WILDLIFE HABITAT RESTORATION AGREEMENT

This fish and wildlife habitat restoration agreement, dated_____, between Johnson & Johnson Health Care Systems, Inc. (Cooperator) and the U.S. Fish and Wildlife Service (Service) is entered into pursuant to authority contained in Section 1 of the Fish and Wildlife Coordination Act (16 U.S.C. 661) and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j).

This agreement allows the Service and/or its partners to undertake fish and wildlife habitat restoration activities on land in Middlesex County, State of New Jersey. These activities are described in Appendix A and are depicted on enclosed site maps. The Cooperator agrees to place _____ acres and __0.3__ miles, as depicted in Appendix A, under this agreement for years beginning on _____(day/month/year) and ending on _____(day/month/year).

In signing this agreement, the Cooperator joins as a participant in a fish and wildlife habitat restoration program and grants to the Service, or its designees, the authority to complete necessary habitat restoration, creation, or improvement activities or to personally carry out fish and wildlife habitat activities with financial or material support from the Service or its partners, as described in Appendix A.

The estimated construction costs of the habitat project and the amount contributed by the Service and its partners are identified in Appendix B. Any donation of supplies or equipment, or direct payment from the Service or its partners to the Cooperator for carrying out these habitat activities, is also identified in Appendix B. If the Cooperator is being reimbursed for actions taken as part of this agreement, these actions will also be described in Appendix B.

The Cooperator grants the Service and its partners access to the site at reasonable times for conducting project-related activities, such as inspecting completed work, surveying wildlife populations, operation of structures, *etc.* The Cooperator retains all rights to control trespass and retains all responsibility for taxes, assessments, granting rights-of-way, control and eradication of noxious weeds, and other incidences of ownership.

The Cooperator assumes responsibility for all maintenance after the initial habitat work is complete, except for initial maintenance required because of inadequate construction by the Service or its partners. Inadequate construction performed by the Cooperator under the special provisions in Appendix B must be rectified by the Cooperator at his/her expense.

Significant modifications to the original habitat site plan that the Cooperator may want to undertake shall require the written concurrence of the Service. The agreement may be modified at any time by mutual consent. It may also be terminated in writing by either party with thirty (30) days receipt of the written notice. Any written notice to the Service shall be sent to the Assistant Regional Director - Ecological Services, U.S. Fish and Wildlife Service, 300 Westgate

Center Drive, Hadley Massachusetts 01035. Any written notice to the Cooperator shall be sent to Debbie Manna, Project Manager / Environmental Safety, Johnson & Johnson Health Care Systems, Inc., 425 Hoes Lane, PO Box 6800, Piscataway, New Jersey 08855-6800.

If this agreement is terminated by the Cooperator, the Cooperator will reimburse the Service and its partners for their project construction costs, as identified in Appendix B. If the agreement is terminated in writing by the Service, then the Service may at its option remove any habitat restoration structures placed on the land.

The termination date of the agreement will determine when obligations between the parties shall end. For most freshwater wetlands restored under the terms of this agreement, this termination will initiate the 5-year grace period under which the Cooperator may convert the wetland to its pre-restoration drained condition, as allowed by Nationwide Permit No. 27, issued by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. Final determination about the applicability of Nationwide Permit No. 27 to any wetlands restored under this agreement lies with the Corps of Engineers. It is the responsibility of the Cooperator to contact the Corps to receive that determination. The Cooperator is advised that State and/or local regulations may either prohibit or may require a permit to convert a restored wetland to its pre-restoration drained condition.

At the end of the agreement period, any habitat developments to the land will become the property of the Cooperator. There shall be no obligation to any of the parties after the agreement has expired. Specifically, the Service will be under no obligation to restore land to its original condition.

Restoration of wetlands under this agreement cannot be credited as mitigation required for the receipt of Federal, State, or local wetlands permits.

The Cooperator guarantees ownership of the above-described land and warrants that there are no outstanding rights which interfere with the rights of the Service or its partners under this agreement.

In the event the Cooperator transfers any of the lands designated and described in the attached site plan map, he/she shall take such steps as are necessary to inform the purchaser of the existence of this agreement. Additionally, any deed, lease, or other instrument of transfer will be made subject to this agreement so that the new landowner shall become the Cooperator. The Cooperator will notify the Service of any changes in ownership.

The Service is prohibited by law from making obligations that exceed available funds, and therefore, the Service can only do that work which is funded. In the event funds are not available to do the habitat restoration work within the period of time or in the manner described on the attached site plan, the Service will notify the Cooperator of that fact.

Signature by the parties to this agreement signifies understanding of each parties rights and responsibilities.

_____ _____
JOHNSON & JOHNSON HEALTH CARE SYSTEMS, INC. DATE
COOPERATOR

_____ _____
FIELD REPRESENTATIVE DATE
U.S. FISH AND WILDLIFE SERVICE

_____ _____
PROJECT LEADER DATE
U.S. FISH AND WILDLIFE SERVICE

If there are any other partners, please have them sign below.

_____ _____
NAME DATE

_____
TITLE/ORGANIZATION

_____ _____
NAME DATE

_____
TITLE/ORGANIZATION

ENCLOSURE 2

APPENDICES

APPENDIX A

RESTORATION PLAN,
TOPO MAP,
AERIAL IMAGES

RIPARIAN RESTORATION PLAN

Background

Johnson & Johnson has developed an initiative called the Healthy Plant 2010 Goals for all its facilities. The initiative includes developing Biodiversity Plans for many Johnson & Johnson facilities so that they may support and enhance biodiversity in their watersheds while educating employees about the value of biodiversity. The Service will assist Johnson & Johnson Health Care Systems, Inc. with their Biodiversity Plan by writing this restoration plan and assisting them with several restoration measures at their Piscataway, Middlesex County facility. Most of the restoration work will take place around Earth Day 2007 and be focused on increasing the native plant diversity on the property. The neighboring property to the south along Hoes Lane will likely participate as well by allowing riparian planting on a small portion of their property.

Invasive species management

Invasive species can dominate the plant community, decreasing plant diversity and resulting in decreased wildlife habitat diversity. Some invasive species provide abundant food or cover to wildlife. However, abundant food and cover from one plant species over part of the year is gained at the expense of diverse native plant communities that provide many kinds of food and cover throughout the year with different attractiveness to a variety of species. Once well established, dense stands of invasive plants out compete native species and shade the native seedbank preventing germination. Invasive species often have toxic effects upon other plants (*i.e.*, allelopathy) and make the soil less hospitable to other plants via other mechanisms (*e.g.*, change nutrient profile and alter microflora). Native herbivores tend to exacerbate the invasive plant problem by preferentially selecting the few remaining native plants over the less palatable or unfamiliar invasives. Birds and other wildlife also exacerbate the problem by widely distributing the seeds of some invasive plants to other disturbed habitats. Managing and minimizing the invasive plant population helps ensure habitat diversity for wildlife such as migratory birds and insect pollinators.

Invasive species can be controlled by a combination of species specific physical, chemical, and biological methods. Most invasive plants can be hand pulled when small to effectively remove the entire root and prevent coppicing (*i.e.*, resprouting from old roots and stems). However, most invasive plant species require at least some chemical control for effective management. Well devised chemical control can be very effective in removing targeted plants with relatively little field time and limited disturbance to the soil. Chemical selection is critical for effectiveness and environmental safety. Some herbicides will have no impact whatsoever to some kinds of plants. Some herbicides rapidly breakdown and/or are relatively harmless while others persist in the environment, enter groundwater, and/or are associated with adverse impacts to wildlife or humans. Generally, herbicide mixtures are used. The mixtures may include multiple herbicides and adjuvants (*e.g.*, penetrants, activators, or surfactants) that help the herbicide to stick and/or enter into plant tissue.

The following is a list of some of the species present at the Health Care Systems, Inc. property. Volunteers can help remove the invasives by pulling them up. The Service can help manage the densest areas of invasives through use of herbicide.

● Cool-season nonnative grasses

Description: Cool-season grasses, such as Eurasian fescues (*Festuca* spp.), begin growing earlier in the year under cooler temperatures than other plants. They are the dominant grasses used in landscaping and forage production.

Why it's a problem: Cool-season grasses form dense, low-growing mats of vegetation that restrict the movement, foraging, and nesting opportunities of grassland birds and other wildlife. Cool-season grasses cover the native seed bed, preventing germination and establishment of diverse native plant communities needed for pollinators and other wildlife. Mowed cool season grasses also allow little infiltration of water and thus exacerbate stormwater runoff problems.

Control: Cool-season grasses are very susceptible to herbicide and can usually be removed with one application of glyphosate (*e.g.*, Roundup).

● Garlic mustard (*Alliaria petiolata*)

Description: A biennial with the first year of growth consisting of rounded leaves close to the ground and the second year's growth a flower stalk growing 2 to 3 feet high with more sharply toothed leaves. The plants flower in the spring and spread by thousands of seeds produced by each plant by early summer. Crushed leaves and stems smell of garlic. Garlic mustard is Eurasian and was intentionally brought to the U.S. for food and medicinal purposes.

Why it's a problem: Garlic mustard out-competes native spring wildflowers for light, nutrients, and water and is allelopathic. Garlic mustard can grow under varying conditions, including shaded floodplain, which is especially vulnerable to a competitive invasive.

Control: Garlic mustard must be controlled before seeds set in the late spring. Pulling the plants is easy and effective. If pulled before flowering, plants can be left on site to decompose but should be bagged and removed if plants are pulled after flowering. The plants are very sensitive to glyphosate herbicides. Spraying plants with glyphosate (*e.g.*, Glypro mixed with LI-700) is effective during spring when much of the native vegetation is still dormant and thus protected from the spray.

● Japanese honeysuckle (*Lonicera japonica*)

Description: A perennial fast growing creeping and climbing vine with simple oval leaves about 2 inches long. In most of New Jersey, the leaves are semi-evergreen. Young stems are reddish-brown. Older stems are hollow with light brown bark that peels. The white fragrant flowers bloom in the late spring and form dark fruits in the fall. Honeysuckle was introduced from east Asia as an ornamental, wildlife food and cover, and for erosion control.

Why it's a problem: The vines quickly spread asexually and by seeds dispersed by birds. The dense, tangled growth that forms along the edges of forests or in old fields can out shade native vegetation and prevent the native seedbank from germinating. Small shrubs and trees can collapse under the weight of the vines or can be strangled.

Control: Smaller plants can be easily pulled up. If all the roots are not removed, underground rhizomes will re-sprout. Foliar application of either triclopyr (*e.g.*, Garlon 3A with Spread-It) or glyphosate (*e.g.*, RoundUp) can be conducted from early spring through late fall. Honeysuckle remains green and susceptible to foliar herbicides after most other plants have lost their leaves. Large vines can be cut at ground level and sprayed or painted with triclopyr herbicide (*e.g.*, Pathfinder II).

● Olive - autumn (*Elaegnus umbellate*) and Russian (*E. angustifolia*)

Description: Large deciduous nitrogen fixing shrubs that colonize old fields, hedgerows, and disturbed areas. Leaves are alternately arranged, dark on top, and have distinctive white scale like areas on the undersides. Autumn olive leaves are generally oval in shape whereas Russian olive leaves are more lanceolate in shape. Small white to yellow flowers produce large amounts of small reddish fruits in the fall. Olives were intentionally released for use as wildlife food and cover and soil stabilization.

Why it's a problem: Olive forms dense thickets out competing and out shading native plants and their seedbank. Birds favor the abundant fruit and incidentally disperse the seeds widely. Olive responds to most control measures by vigorously resprouting and forming even denser stands.

Control: Using only physical means to control autumn olive is not effective. Triclopyr (*e.g.*, Pathfinder II) is effective with both cut and stump or basal bark applications. Glyphosate (*e.g.*, RoundUp) at high concentration may also be effective for cut and stump applications. Olive is also sensitive to foliar application of triclopyr (*e.g.*, Garlon 3A with Spread-It) in the fall.

● Tartarian honeysuckle (*Lonicera tartarica*) and Morrow's honeysuckle (*Lonicera morrowii*) (bush honeysuckles)

Description: Deciduous shrubs intentionally planted for landscaping and that tolerate a variety of light conditions but prefer old fields and edges and grow up to approximately 15 feet. The leaves are opposite and often pale green. Fragrant spring flowers produce late summer fruits with numerous seeds dispersed widely by birds.

Why it's a problem: Bush honeysuckles form dense stands that out compete natives for water, nutrients, shade, and pollinators.

Control: Small plants can be pulled up by hand. With thorough coverage, foliar applications of broad spectrum or broad leaf herbicides are effective. Basal bark or cut and stump applications of triclopyr (*e.g.*, Pathfinder II) are also effective.

Planting

A variety of types of plants can be established at the Health Care Systems, Inc. property to improve wildlife habitat, particularly for migratory birds such as orioles, finches, sparrows, robins, warblers, *etc*. and pollinators such as hummingbirds and butterflies. Additionally, supplementing and maintaining a healthy native plant community will reduce the opportunities for invasive plants to (re)establish.

Native plant species can be purchased wholesale from native plant nurseries such as Pinelands Nursery and Supply (www.pinelandsnursery.com). The Service recommends Health Care Systems, Inc. purchase the plants as a mix of containerized and plug stock that will quickly become established and that volunteers can plant. The attached table lists many species that are appropriate for the property and of particular value to wildlife. The Service can provide the plant species in bold text in the table. The table lists approximately the number of plants of each species to purchase, although this is only a suggestion. The table also recommends the size of the plants to purchase and the approximate price per plant from typical wholesale native plant nurseries. Plugs are generally about 2 inches in length and can be planted with garden trowels and the containers are about 7 inches deep and should be planted with shovels. Larger containerized stock is also available if desired.

The Service recommends planting numerous species for two reasons. First, the greater the diversity of plant species then the greater diversity of habitat provided to wildlife. Second, some species may not do well due to the site's specific soil, hydrology, *etc.* and therefore planting numerous species ensures finding some plants that will be well adapted for the site. Most of the plant species recommended in the table are incidentally very attractive (flowers, fall foliage, *etc*.) and suitable for integration into a heavily landscaped area.

The attached map of the property provides an outline of where the different plants may be established. The plants include shrubs and trees, grasses, and forbs. The table lists the wetland indicator status of the plants. This important categorization indicates approximately where the plants should be located in relation to hydrology. A rough indication of how much sun or shade the different species prefer is also provided.

Shrub and tree plantings can take place in several locations at the property. First, plantings along the riparian area between Hoes Lane and the pond will provide a buffer that will help improve water quality by filtering nutrients and other pollutants, will introduce additional organic matter into the stream, and will shade the stream. The Service recommends a strip of shrubs and trees at least 30 feet wide on each side of the stream. Second, shrubs and trees can be planted in areas around the pond. Third, shrubs and trees can be planted in the two riparian areas immediately north and south of the building. Although some dogwoods are already established in this area, additionally plantings will add to the biodiversity and attract more pollinators. Fourth, shrubs and trees can be established at the downstream (north) edge of the property. Shrubs and trees can also be planted in several small islands made in the lawn. These islands will provide attractive foraging and resting habitat for birds while reducing the amount of turf on the property.

Prior to planting, these island areas will need to be cleared of their sod and loosely tilled. The islands can be approximately 100 square feet.

Forbs can also be planted in a variety of upland, wetland, and riparian locations. These species are generally perennials so there will be no need to replant. Many of the forbs are excellent species for attracting pollinators such as butterflies. The species listed include wildflowers that can be concentrated in butterfly gardens close to the building. The area immediately to the south of the causeway is a good area for establishing butterfly gardens. Prior to planting, the butterfly gardens will need to be cleared of their sod and loosely tilled. The gardens can be approximately 100 to 200 square feet. Some of the recommended forbs in the table are obligate wetland species that will be planted in the pond or immediately along the stream. These species have submerged, floating, or emergent leaves.

The table includes some native warm-season grass species. These perennial grasses are deep-rooted, clump forming, relatively tall, grow most vigorously in mid-summer, and remain standing during the winter. These grasses provide food and cover to migratory birds and are an attractive accent for the landscape. A buffer of these grasses can be made along the shrub and tree buffer at the southeast corner of the property. Some of these grasses can also be added to the butterfly gardens.

Nest box

The Service recommends erecting a screech owl nest box in the northeast corner of the property. The Service can provide the nest box. To avoid nest predation, the nest box should be placed on a tall pole with a sheet of metal flashing underneath the box and around the pole.

Maintenance / Mowing regime

The nest box should be cleaned each spring. Placing wood shavings in the bottom of the box may help attract screech owls.

The dead growth from the native grasses and forbs can be left in place over the winter to provide seed sources and cover for birds. The dead growth can be cut back in the spring or every other spring if desired.

Mulching native shrubs and trees is generally not necessary. However, native shrubs and trees can benefit from mulching like other plants especially in an area where competition from invasive species such as Japanese honeysuckle needs to be managed. Although in an ecological context mulching is not necessarily attractive, in a landscaped area mulching may be necessary to maintain a desired appearance.

Buffers of currently mowed grass along the wooded margins of the property can be left unmowed or mowed only once every 1-3 years. The denser, taller grass and forbs that will develop without mowing are better for habitat, provide a greater variety of foraging possibilities

for birds, they allow for more water infiltration, and they help filter nutrients and other pollutants from water coming from more heavily managed landscapes.

Recommended timeline

● Sometime prior to the 24th:

1. Health Care Systems, Inc. or their contractors need to prepare areas that are currently covered in cool-season grasses to become shrub islands or butterfly gardens by removing the sod either physically or chemically and then loosening the soil.

2. Health Care Systems, Inc. will need to order plants recommended in the table or similar species from a wholesale native plant nursery and have them delivered on or before the 24th. The Service can help putting the order together if necessary.

3. Health Care Systems, Inc. will need to purchase a post (approximately 4" x 4" x 12' or x 15') and a sheet of metal flashing from a lumber or home improvement store.

● Approximately 2 weeks prior to the 24th:

1. The Service will herbicide the densest areas of garlic mustard and Japanese honeysuckle using a glyphosate-based herbicide such as Glypro or Rodeo.

● On the 24th:

1. Volunteers will install a screech owl nest box (at least 2 volunteers for < 1 hour). The nest box will be nailed to the top of the post and the metal flashing will be nailed around the post below the nest box as a predator guard. The post will then be sunk into the ground. Volunteers will need a shovel and a post hole digger (Service can provide).

2. Volunteers will pull up invasives, particularly garlic mustard and Japanese honeysuckle (at least 10-20+ volunteers for 1-2 hours). Volunteers will need gloves and Health Care Systems, Inc or their contractors will need to dispose of the removed plants.

3. Volunteers will plant the various species (at least 10-20+ volunteers for 1-2 hours). Volunteers will need gloves and shovels or trowels. Some of the volunteers may need boots if planting in wet areas.

4. The Service will deliver those plants in bold in the table for planting by the volunteers. And the Service will have one or two staff present to assist the volunteers.

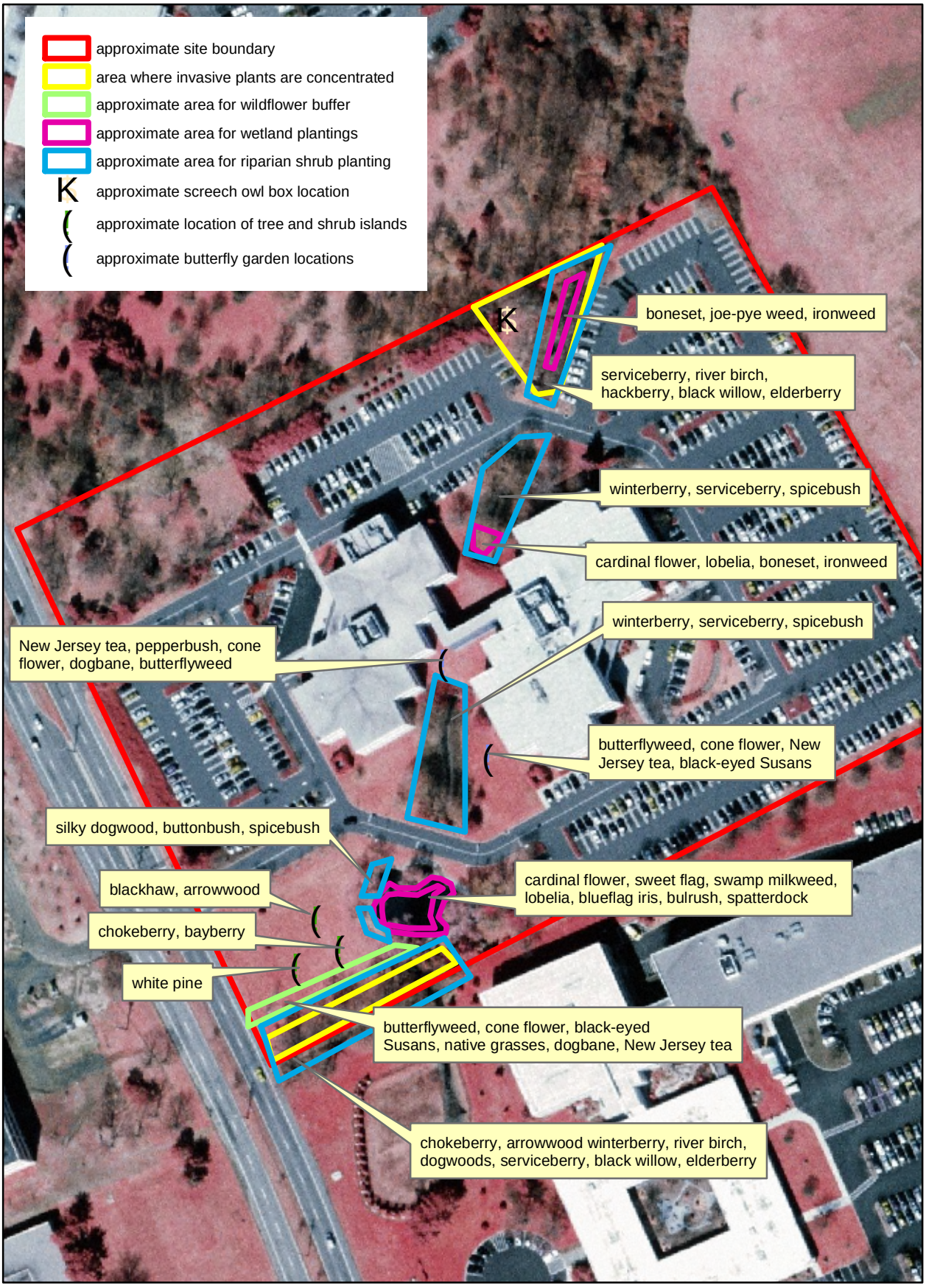
Examples of native plants suitable for restoration plantings at Johnson and Johnson Health Care Systems, Inc., Piscataway, New Jersey (the Service can provide the species in bold print)

SPECIES	COMMON NAME	# TO PLANT	SIZE	PRICE / PLANT	NWI STATUS[1]	SHADE[2]	HEIGHT	WILDLIFE BENEFITS	OTHER BENEFITS
TREES AND SHRUBS									
Amelanchier canadensis	serviceberry	10	container	$6	FAC	SPHSh	6-15 ft	dark purple berries in summer fed on by birds	attractive early spring flowers and berries, orange fall follage
Aronia arbutifolia	**red chokeberry**	15	container	0	FACW	SP	6-10 ft	fruits in late fall providing migratory birds food	attractive flowers and berries
Betula nigra	river birch	10	container	$6	FACW	SP	30-70 ft	wildlife eat seeds throughout summer	rapid growth, stabilizes pondbanks
Celtis occidentalis	hackberry	10	container	$6	FACU	SP	40-60 ft	birds feed on fruit during winter	very hearty, wind tolerant, urban tolerant
Cephalanthus occidentalis	buttonbush	10	container	$6	OBL	SPHSh	6-10 ft	good for pond banks, flowers and fruits attract wildlife	white flowers in July and August.
Clethra alnifolia	sweet pepperbush	15	container	$6	FACW	PHSh	4-8 ft	great for pollinators	attractive white flowers
Cornus amomum	**silky dogwood**	20	container	0	FACW	SP	6-10 ft	blue berries in August very good for birds	attractive flowers and berries, fast growth
Ilex verticillata	winterberry	15	container	$6	FACW+	SPHSh	6-10 ft	fall orange fruits persist through winter providing food source	attractive berries
Lindera benzoin	spicebush	10	container	$6	FACW	SPHSh	5-12 ft	scarlet Sept berries valuable food source in later summer and early fall	can grow in areas regularly inundated
Pinus strobus	white pine	10	container	$6	FACU	PH	70-100 ft	food and cover to variety of wildlife	
Myrica pensylvanica	**bayberry**	10	container	0	FAC	SPH	15 ft	fruits available to birds through the winter	
Salix nigra	**black willow**	15	container	0	FACW	SPH	50 ft	provides cover and nesting habitat	fast growing, stabilizes stream banks
Sambucus canadensis	elderberry	10	container	$6	FACW-	SPH	8-12 ft	fruits in midsummer when few other fruits available	stabilizes riparian areas, attractive flowers
Viburnum dentatum	arrowwood	15	container	$6	FAC	SP	6-15 ft	good pollen source in spring, food source during fall songbird migration	attractive flowers and berries
Viburnum prunifolium	blackhaw viburnum	15	container	$6	FACU	SP	12-15 ft	good pollen source in spring and fruit source in fall and winter	attractive flowers
UPLAND FORBS									
Apocynum cannabinum	hemp dogbane	50	plug	$0.85	FACU	SP	2-4 ft	food source for pollinators	very browse resistant
Asclepias tuberosa	butterflyweed	50	plug	$0.85	FACU	S	1-3 ft	food source for pollinators	very browse resistant, orange flowers
Echinacea purpurea	purple cone flower	50	plug	$0.85	NA	SP	2 ft+	great for butterflies	attractive purple flowers
Eupatorium purpureum	joe-pye weed	50	plug	$0.85	FAC	S	2-6.5 ft	food source for pollinators	attractive pink flowers
Rudbeckia hirta R. triloba	black-eyed-Susan	50	plug	$0.85	FACU	SP	1-3.5 ft	food source for pollinators	attractive yellow flowers
Ceanothus americanus	New Jersey tea	50	plug	$0.85	UPL	SPH	1-3 ft	flowers attract a diversity of insects	attractive white July blossoms followed by maroon seedpods
WETLAND FORBS									
Acorus americanus	sweet flag	50	plug	$0.85	OBL	SP	1-4 ft	waterfowl eat seed	attractive tall growth
Asclepias incarnata	swamp milkweed	50	plug	$0.85	OBL	SP	3-6 ft	nectar source for pollinators	attractive pink flowers

Examples of native plants suitable for restoration plantings at Johnson and Johnson Health Care Systems, Inc., Piscataway, New Jersey (the Service can provide the species in bold print)

SPECIES	**COMMON NAME**	**# TO PLANT**	**SIZE**	**PRICE / PLANT**	**NWI STATUS[1]**	**SHADE[2]**	**HEIGHT**	**WILDLIFE BENEFITS**	**OTHER BENEFITS**
Eupatorium perfoliatum	boneset	50	plug	$0.85	FACW+	SP	1-5 ft	food source for pollinators	attractive white flowers
Iris versicolor	blueflag iris	50	plug	$0.85	OBL	SP	18-30 in	may attract hummingbirds	attractive blue flowers
Lobelia cardinalis	cardinal flower	50	plug	$0.85	FACW	SPH	2-4 ft	food source for pollinators	attractive red flowers
Lobelia siphilitica	blue lobelia	50	plug	$0.85	FACW	SP	1-5 ft	food source for pollinators	attractive blue flowers
Scirpus atrovirens	green bulrush	50	plug	$0.85	OBL	S	6 ft	seed and cover high value to wildlife	tall attractive growth
Vernonia noveboracensis	New York ironweed	50	plug	$0.85	FACW+	S	3.5-8 ft	food source for pollinators	attractive purple flowers
Nuphar lutea	spatterdock	50	plug	$1.15	OBL	SP	1-1.5 ft	submerged or floating cover	
UPLAND GRAMINOIDS									
Andropogon gerardii	big bluestem	50	plug	$0.85	FAC	S	2-6.5 ft	cover and forage for birds	attractive upright stems in winter, grows vigorously during midsummer
Panicum virgatum	switchgrass	50	plug	$0.85	FAC	S	3-6 ft	cover and forage for birds	attractive upright stems in winter, grows vigorously during midsummer
Sorghastrum nutans	Indiangrass	50	plug	$0.85	UPL	S	2.5-8 ft	cover and forage for birds	attractive upright stems in winter, grows vigorously during midsummer
Schizachyrium scoparium	little bluestem	50	plug	$0.85	FACU	S	1.5-4 ft	cover and forage for birds	attractive upright stems in winter, grows vigorously during midsummer
[1]NWI STATUS									
OBL	Obligate Wetland	Occurs almost always (estimated probability 99%) under natural conditions in wetlands.							
FACW	Facultative Wetland	Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.							
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).							
FACU	Facultative Upland	Usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found on wetlands (estimated probability 1%-33%).							
UPL	Obligate Upland	Occurs almost always (estimated probability 99%) under natural conditions in non-wetlands.							
[2]SHADE									
S	SUN								
P	PARTIAL SUN								
H	PARTIAL SHADE								
Sh	SHADE								

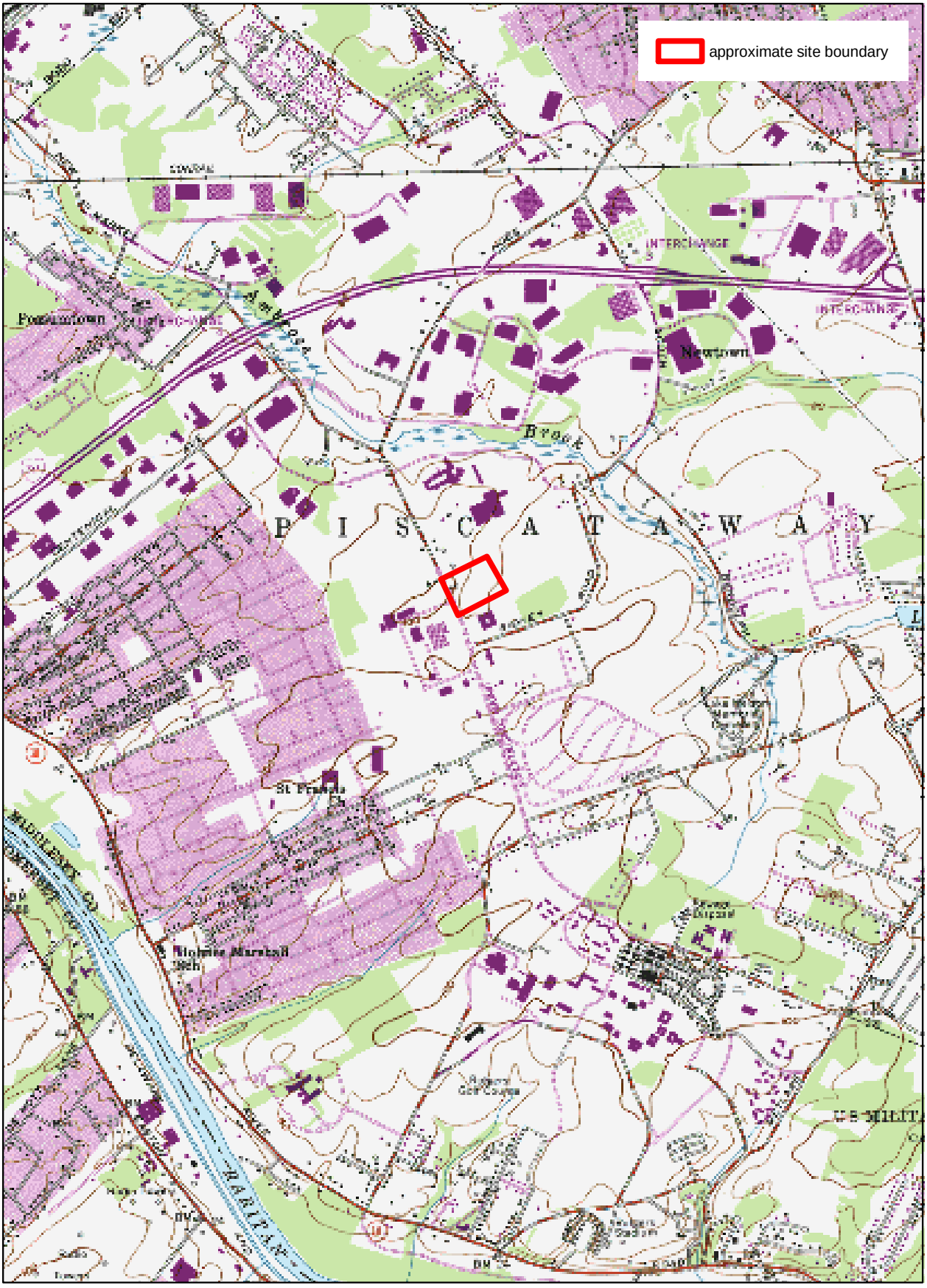
Johnson and Johnson Health Care Systems, Piscataway, Middlesex County



0 50 100 200 300 400 Feet

USGS Quad: Plainfield

Johnson and Johnson Health Care Systems, Piscataway, Middlesex County



0 0.25 0.5 1 1.5 Miles

USGS Quad: Plainfield

3

APPENDIX B

COST ESTIMATES,
SERVICE / PARTNER CONTRIBUTIONS,
SPECIAL PROVISIONS

PARTNERS FOR FISH AND WILDLIFE
HABITAT RESTORATION PROJECT COSTS

Cooperators / Landowners: Johnson & Johnson Health Care Systems, Inc.
County: Middlesex
Watershed: Raritan

COST ESTIMATES

Technical assistance and field time	(In-kind) Service =	$	1,500.00
~60 containerized shrubs and trees	(Cash) Service =	$	360.00
~130 containerized shrubs and trees	(Cash) Cooperator =	$	780.00
~750 plugs of forbs (wildflowers, etc.)	(Cash) Cooperator =	$	652.00
~200 plugs of native grasses	(Cash) Cooperator =	$	170.00
Delivery of plants purchased from nursery	(Cash) Cooperator =	$	150.00
Site preparation and volunteer time planting and pulling invasives	(In-kind) Cooperator =	$	2,000.00
Nest box	(Cash) Service =	$	20.00
Nest box post and metal flashing	(Cash) Cooperator =	$	50.00
Totals:	**(Cash) Service =**	$	380.00
	(In-kind) Service =	$	1,500.00
	(Cash) Cooperator =	$	1,802.00
	(In-kind) Cooperator =	$	2,000.00
TOTAL PROJECT COST:		$	5,682.00

SERVICE AND PARTNER CONTRIBUTIONS AND SPECIAL PROVISIONS

Service

The Service will: (1) provide technical assistance including the development of the this plan; (2) provide approximately 60 containerized shrubs and trees; (3) assist with directing volunteers in efforts to pull invasives and plant natives; and (4) apply any herbicide that may be needed to control invasives. Estimated cost to the Service is $1,880.00 (includes in-kind services), which is equivalent to a 33 percent cost-share.

Cooperator

Johnson & Johnson Health Care Systems will: (1) organize volunteers; (2) provide plant material; and (3) maintain the restoration measures. Estimated cost to the Cooperator is $3,802.00 (includes in-kind services), which is equivalent to a 67 percent cost share.

SPECIAL PROVISIONS

The Cooperator will notify the Service and other partners if project plans significantly change from those outlined above. Significant changes will require written modification to this Agreement. Supplemental Agreements and / or modifications will be made for additional phases of implementation in subsequent years as funding is available.

ENCLOSURE 3

HABITAT RESTORATION SITE PLAN FORMS

RESTORATION PLAN**

Property Owner Johnson & Johnson Health Care Systems, Inc Site #
Plan Prepared by Brian Marsh -USFWS Date March 29, 2007

Purpose/Goals of the Project (wildlife species to benefit, vegetative community to be achieved, % open water, miles of riparian restoration to be achieved, *etc.*): Restore habitat for migratory birds and pollinators along a stream at a corporate campus by planting a variety of plant species and managing invasive plant species.

This project benefits which of the following priority factors:

	Endangered, threatened, or candidate species		FmHA conservation easement
X	migratory nongame birds of mgmt. concern		national wildlife refuge
	globally or nationally imperiled community		NAWMP goals
	spawning habitat of anadromous fish		existing habitat fragmentation

Project Description: Plant a variety of shrub, tree, wildflower, and wetland plants at the property as well as reduce the population of invasive plants by pulling and some minimal herbicide application.

Previous Habitat Degradation/Alteration at Site: Heavily developed and landscaped property.
Is the project primarily Habitat: (Restoration), Improvement, Creation (circle applicable)

Will endangered species, cultural resources or existing wetlands be impacted by the proposed project?. . . . . Yes. . . . . (No)
If yes, explain
SCS/Corps Wetland Determination
Are any permits required (including Corps NWP 27)?. . . . . Yes. . . . . .(No)
If yes, identify

Acres/Feet Restored 0.3 miles Buffer Size 30 ft
List of Cooperators/Partners Johnson & Johnson Health Care Systems, Inc., Partners for Fish and Wildlife
Length of Landowner Agreement_____
Is monitoring planned for this project? . . . . . (Yes). . . . . No
If yes, describe The Service and Johnson & Johnson Health Care Systems, Inc will periodically monitor the site during the life of the agreement.

** *For the purposes of this form, Habitat Restoration can include improvement and creation projects. All Restoration Plans must include site plan drawings and a completed Restoration Site Habitat Summary (HR-5).*

Habitat Restoration Form HR-4

RESTORATION HABITAT SUMMARY

Property Owner Johnson & Johnson Health Care Systems, Inc. Site #

HABITAT TYPES		EXISTING SITE (ACRES)	ACRES IMPACTED	TYPE OF IMPACT*	POST-PROJECT ACRES
Wetlands	Freshwater Marsh (PEM)				
	Scrub/Shrub (PSS)				
	Forested (PFO)				
	Tidal Marsh (E2EM)				
	Tidal Scrub/Shrub (E2SS)				
	Farmed Wetland				
	Prior Converted Cropland				
Uplands	Grassland				
	Pasture				
	Cropped Field				
	Old Field				
	Scrub/Shrub				
	Deciduous Forest				
	Evergreen Forest				
	Mixed Forest				
Other	Riparian	0.3	0.3	pulling invasives, herbicide, planting	0.3

*Type of Impact should include both positive and negative impacts such as filling, inundating, planting, fencing, *etc.*