Howell Territorial Park

Approvals for Site Conservation Plan

Date first routed: 07-21-2014

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JAS- Would be nice to have conservation target conditions & DFC filled in.

SITE CONSERVATION PLAN

Howell Territorial Park



July 2014

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INTRODUCTION AND PLANNING AREA

Howell Territorial Park is a 120-acre historic farm located on Sauvie Island off of Sauvie Island Road at 13605 NW Howell Park Road. It maps in Section 21 of Township 2N and Range 1W. The site is bordered by Sauvie Island Road and the Multnomah Channel to the west, farms to the north and south, and the Gilbert River to the east. It should be noted that at the time this plan was being written, Metro was in the process of acquiring an adjacent 111-acre parcel to the south of Howell Territorial Park. That parcel will be covered in a future version of the SCP, if it successfully closes.

The park is zoned exclusive farm use (EFU) and contains two agricultural leases covering a combined 20 acres that are renewed on a 5-year basis with Sauvie Island Organics, LLC. The current Term of Lease with Sauvie Island Organics expires December 31, 2014. Janus Youth/Food Works and a private beekeeper also lease small amount of acreage at the site for food production and educational purposes.

The site supports both historic buildings and features associated with human settlement (the Howell home, barn and orchard), and undeveloped natural areas. The dominant natural area features include a seasonally-ponded wetland, often referred to as "Howell Lake," and a flanking oak savanna, as well as small pockets of bottomland forest and shrubland.

The park is open to visitors from sunrise to sunset. Picnic areas are available for rental from noon to 5 p.m. on weekends from Memorial Day to Labor Day.

KEY STAFF

Curt Zonick, natural resources scientist
Adam Stellmacher, lead natural resources specialist
Ryan Jones, natural resources specialist
Rick Scrivens, natural resources technician
Nathaniel Marquiss, natural resources technician
Katy Weil, wildlife monitoring coordinator/natural areas maintenance manager
Robert Spurlock, parks and natural areas planner
Laurie Wulf, property management specialist
Barbara Edwardson, real estate negotiator

EXISTING PLANNING/HISTORICALLY-RELEVANT DOCUMENTS

- *Howell Territorial Park Master Plan*, April 1997.
- *Wetland Delineation of the Howell Territorial Park,* Shapiro and Associates, Inc., January 21, 2000.

SITE DESCRIPTION

Howell Territorial Park is composed of a mosaic of habitats, including small wetlands, upland prairie/oak savanna and riparian forest. These natural features sit within a larger matrix of active agriculture at the site and surrounding lands on Sauvie Island, including two small organic farm tracts managed onsite by Sauvie Island Organics and Janus Youth/Food Works. The site was

historically managed for food production and livestock. Most of the natural areas of the site were heavily altered. The ~15 acre wetland (Howell Lake) located in the northeast portion of the site was artificially-flooded, according to the 1997 master plan, to "…maintain the lake at a desirable level" since 1992. An earthen dam separates Howell Lake from the Gilbert River, which bounds the eastern portion of the site. The dike and pond were used advantageously by cattle, which were pastured at the site until recently. The oak savanna and uplands flanking the lake are heavily dominated by non-native pasture grasses and broadleaf weeds. The site is largely underlain with poorly drained silt loam soils.

Soils present at Howell Territorial Park

Map soil symbol	Map unit name	Description
6	Burlington fine sandy loam	Somewhat excessively drained soil on terraces along the lower Columbia River and its tributaries. In areas not cultivated, the vegetation often contains Douglas fir, Oregon white oak, western redcedar, bigleaf maple, western hazel, common snowberry, tall Oregon grape, creambush oceanspray, roses, willow, trailing blackberry, brackenfern, forbs and grasses.
28	Moag silt loam	Very poorly drained soil on broad floodplains of the Columbia River. In areas not cultivated, the vegetation often contains black cottonwood, willow, roses, snowberry, sedges, cattails and grasses.
40	Rafton silt loam	Very poorly drained soil on broad floodplains of the Columbia River. Where not cultivated, vegetation typically includes black cottonwood, willow, roses, common snowberry, sedges, cattails and grasses.
45	Sauvie silt loam	Poorly drained soil on broad floodplains of the Columbia River. Vegetation in areas not cultivated includes Oregon white oak, Oregon ash, black cottonwood, willow, roses, common snowberry, trailing blackberry, forbs and grasses.

Based on maps and descriptions from the 1850s General Land Office surveys, the site was dominated by wet prairie, with pockets of upland prairie. However, these habitats were largely created and maintained by seasonal flooding from the Multnomah Channel, which once intimately interacted with the site. Dikes constructed along the Multnomah Channel in the 1930s isolated the site from this natural flood regime, leading to site-drying and subsequent encroachment of forest and shrub habitats, which, along with farming, dominate large portions of the site today.

Historic habitats at Howell Territorial Park

~ % cover	Habitat type	Historic habitat description by GLO surveyor notes
85%	Wet prairie	Seasonally wet prairie. May have scattering trees, most with distances > 100 links.
10%	Upland prairie	Upland prairie, xeric. May have scattering trees, most with distances > 100 links.
5%	Closed forest; upland	Douglas fir-white oak (bigleaf maple) forest, with brushy understory of hazel, young oak, oak brush, oak sprout bracken, briars, sometimes willow.

RECENT MANAGEMENT HISTORY

Prior to 2012, the site's (non-farmed) natural areas have been primarily managed via targeted mows to suppress broadleaf weeds, especially the savanna unit and uplands adjacent to the organic farms. Occasional spot sprays targeted yellow flag iris in Howell Lake. The savanna unit was planted with numerous oak and snowberry clusters. Unfortunately, the presence of these clusters

made the savanna unattractive to farmers that once pastured and hayed the field, requiring Metro to substitute flail mowing as a surrogate practice to control weed cover in that unit. The northeast upland was planted with native tree and shrub species, and the southern boundary between the organic farm and the savanna was planted with a hedgerow of shrubs to delineate the boundary of the farm and provide pollinator plants. The two farm units and the flanking shrub hedgerow have been managed organically for the better part of the last decade.

In 2012, a more intensive effort was made to restore the lake and savanna unit. The restoration of the lake began with several rounds of targeted spot sprays to suppress extremely heavy infestations of yellow flag iris, nightshade and reed canarygrass. Unmanaged hydrology was identified as a significant problem; therefore, a partnership with Ducks Unlimited and the U.S. Fish and Wildlife Service (NAWCA grant) catalyzed a project to install a small water control structure in the earthen dike at the confluence of the lake with the Gilbert River. The water control structure will allow seasonal flooding during the winter and spring, while allowing the pond to be dewatered during the summer. This regime should help restore the hydrologic cycle lost to the site when it was isolated from the Multnomah Channel in the 1930s.

Most of the woody clusters were removed from the savanna unit to promote a return to grazing/ haying. Additionally, the field was boom sprayed in 2013 to begin suppressing the non-native vegetation, which represented 100 percent of the cover throughout the field in 2013. The savanna will be managed fallow through 2014 before likely being seeded with native grasses in 2015, and eventually planted with native wildflowers.

ACCESS AND RECREATION

Howell Territorial Park has undergone significant public access planning in the past. Between 1997 and 1999 Metro and partners joined to support a transformation of the historic property at Howell Territorial Park. The vision included protecting the cultural and natural resources on the site while providing for public access and enjoyment. The vision was also sensitive about the Sauvie Island context, the historic value of the Bybee-Howell house and the site, and considered both farm use and natural resource protection. The master plan document can be found here: M:\suscntr\Natural Areas and Parks\Regional Properties\Howell Territorial Park\Planning\Background documents\Howell Territorial Park 1997.

The process unraveled at the land use stage and stakeholders moved onto other projects. Since that time incremental progress has been made at the park including additional land acquisition, interpretative signage, restroom renovation and property leasing to Sauvie Island Organics and Janus Youth/Food Works.

Multnomah County purchased the original tract that now makes up Howell Territorial Park in 1962. The effort was led by the desire to rescue and preserve the historic Bybee-Howell house, and to use the land as a park and wildlife refuge. These intents are articulated in both the original and 1996 sale agreements and in the national register nomination, completed in 1974. Key steps that followed are summarized:

- In 1994, management responsibility for the park transferred from Multnomah County to Metro and in 1996, ownership of the land was officially transferred.
- In 1995, Metro hosted a Master Plan process for Howell Territorial Park to seek an appropriate and unified vision for the park with two years of public involvement. It was completed in 1997. Support and enthusiasm for the project was high.
- In 1997, the Metro Council adopted the Howell Territorial Park Master Plan with no opposition.
- Funding sources for master planning, design development and the permit processes were secured, including $600,000 Multnomah County local share bond funds, a $242,000 grant from OPRD, a $25,000 grant to Oregon Historical Society for interpretive signs, and general planning.
- A conditional use permit application was submitted to Multnomah County in 2000. Issues were identified that prevented approval and the project was put on hold.
- Metro purchased an adjacent 18-acre parcel of land from Judith Taber-Bridge in 2002, adding to the park boundary.

The original goal of Metro's bond acquisition for the Multnomah Channel target area emphasized the idea of public access along Multnomah Channel. The 2006 Willamette River Greenway target area goals state, "Protect fish and wildlife habitat, water quality, scenic resources and improve public access to the river along the greenway from Wilsonville to the Multnomah Channel." Tier 1 objectives include, "Secure remaining unique and rare habitats. These include Multnomah Channel," and land surrounding Howell Territorial Park. Additional farmland and natural area adjacent to the original Howell property was purchased with the intention of providing some level of access and natural area experience to the residents of the region.

The stated goals of the 1997 master plan include:

- Provide recreational facilities and opportunities which are consistent with the character of Howell Territorial Park and compatible with its natural and cultural resources.
- Provide educational opportunities which enhance visitor understanding and appreciation of Sauvie Island's natural and cultural history.
- Serve as an orientation center for Sauvie Island.

Over the next five years, actions will be taken to continue progress toward these goals. Master plan recommendations include:

PARKING AND VEHICULAR ACCESS

- Request County to install appropriate directional signage near the Sauvie Island Bridge to orient island visitors to the park.
- Create an all-weather parking area with capacity for 25 standard vehicles, 2 handicapped vehicles and 2 buses.
- Install security gates to control vehicle access into the site.

- Provide dry-weather parking (turf) for an additional 530 vehicles (implementing this recommendation may not be feasible because of land use restrictions).
- Install visitor orientation signage at the park.
- Provide separate access to barn area and shelters for maintenance and operations purposes.
- Provide parking to serve ranger residence.

TRAILS

- Provide accessible trails from parking area to all shelters, restrooms, barn, house and wildlife viewing areas.
- Construct trails in a manner that allows for use by light equipment for operations and maintenance purposes.
- Locate trails adjacent to or within vegetation buffers where feasible.
- Provide informational displays as necessary to convey information related to natural and cultural history and park regulations.
- Total length of recommended soft surface trails is 3,000 feet.
- Total length of recommended hard surface trails is 1,200 feet.

ACCESS

Metro staff conducted an internal process to consider an appropriate level of access for each of its natural areas. That process looked at determining, strictly from working staff level, what an appropriate level of access (low, medium, high or no access) would be to Metro natural area properties. The access designation is offered here as a starting point, with the understanding that judgment will always be needed on a case-by-case basis, and indicates that some part of that site can accept people at the stated level. It does not suggest that the entire site should have that level of access.

At the end of that process, it was determined that in regard to Howell Territorial Park, the level of access is "Natural Area, High." Access at these sites is allowed and may be modestly promoted on a site-by-site basis. Gravel parking areas may or may not be developed at these sites to facilitate access if necessary. Portable or vault restrooms may be installed on a site-by-site basis. Basic rules and site identification signage are standard. Soft surface, mineral soil or gravel trails are formalized and wayfinding signage may be posted to channel access and protect sensitive habitat. These sites are visited weekly or bi-weekly by Metro staff to inspect for unauthorized use and to conduct maintenance. These sites could move to a Nature Park designation in the future.

This designation indicates the highest level of access that is appropriate for some portion of the site. Where, precisely – and how this would be accomplished – is spelled out in the master plan, but should be revisited now that the master plan is 16 years old. The strength and subtlety of the master plan's vision remains valid. However, times and people change. In order to bring the project back to life the following steps are proposed:

Rekindle partner support

Contact and discuss the project with key players to test what role they would like to play and if their vision for the property has changed. Include discussions with Oregon Historical Society, key players in the Sauvie Island community, Metro's lease holders (Sauvie Island Organics and the Sauvie Island Center), Multnomah County leaders and planners.

Review and update site programming

Peer review and update proposed site programming, events and activities. Are changes to the master plan needed to reflect current trends such as urban agriculture (benefits relate to health, education, economic development, urban planning) and sustainable food policy? Is there a link between site activities and revenue generation, such as growing and serving food?

Review and update building program

Professionally review and update the proposed construction program. Are there changes in the site programming, such as leases, that may change the structures needed, or new green building techniques that should be considered? Development plans only included Phase I improvements, which did not address upgrades to the barn. This element might also need additional consideration and design development. This work will include stakeholder participation and provides an opportunity to bring previous and new partners to the table.

Update cost estimates

In 2000 the development cost was estimated at approximately $1 million. Update the cost estimate to include inflation, escalation and an adjusted building program. Include an analysis of the operations and maintenance costs for the various development proposals.

Research and target funding sources

Based on a clear understanding of the programs, partnerships and cost estimates, compile a funding strategy. This is likely to include a suite of funding sources including one or more grants.

Secure funding

Prepare grants professionally.

Secure land use approval

A key step in moving forward will be gaining land use approval from Multnomah County. While other permits will be required, this hurdle needs to be cleared at the same time grants are being prepared.

After funding is available, the project can proceed into final design, permits and construction.

Aside from interpretative signage, Metro does not currently host significant education or volunteer activities at Howell Territorial Park; however, Sauvie Island Organics and Janus Youth/Food Works offer educational and volunteer opportunities relating to the organic farming activities.

NATURAL RESOURCES OF SPECIAL INTEREST

Currently, the wetland portions of Howell Territorial Park support the highest level of wildlife diversity at the site. Ducks and other waterfowl are seasonally abundant and the emergent and perennial wetlands provide breeding habitat to state sensitive northern red-legged frogs and other pond breeding amphibians. The flanking shrub wetlands and bottomland forests provide habitat for many native birds. The large oak trees anchoring the savanna provide important habitat for many wildlife species. Future enhancements to the prairie component of the oak savanna should greatly improve natural resource value and wildlife habitat at the site.

Rare species known to occur at Howell Territorial Park

	ORBIC list	Federal status	Urbanizing Flora (2009)
Rana aurora aurora			State sensitive vulnerable
Chrysemys picta			State sensitive critical

CONSERVATION TARGETS

The conservation targets for Howell Territorial Park are:

- Emergent wetlands
- Shrub wetlands
- Oak savanna
- Upland forest
- Upland forest – shrub
- Prairie

CURRENT AND DESIRED FUTURE CONDITION OF CONSERVATION TARGETS

Non-technical status and desired future condition of targets at Howell Territorial Park

Target	Current condition	Desired future condition
Emergent wetlands – open water	Currently challenged by erratic seasonal hydrology, the quality portions of the emergent wetlands represented by native cover are limited to the very small central core of the lake.	Suppression of iris, canarygrass and other non-native cover, coupled with a restoration of a managed seasonal flood regime following the installation of the 2014 water control structure should lead to a substantial improvement to the quality of this conservation target.
Shrub wetlands	This habitat represents only a very small portion of the site, basically limited to the core of the small pond west of Howell Lake. The unit is comprised of a mix of willow and reed canarygrass.	The short-term plan for this unit is to conduct spot sprays during the dry summer period to suppress canarygrass, following pre-treatment surveys to evaluate the unit to determine whether any priority native species persist.
Savanna	The savanna is currently undergoing restoration, and exists as a relatively sterile fallow field.	The savanna is being managed with the intent of establishing a dominant cover of native bunchgrasses, with a modest complimentary assemblage of native forbs.
Upland closed forest	This habitat exists as isolated pockets between the lake and the Gilbert River, and in western portions of the site. The units are in fairly good condition, with areas of blackberry cover.	Expand in some areas, and treat non-native weeds as needed.

Target	Current condition	Desired future condition
Upland forest – shrub	The upland shrub component of the site exists primarily as hedgerows and transitional habitat between the wetlands and forests/savanna. These are relatively recently established habitat units, and so are challenged with competition from blackberry and other weeds, requiring periodic cut and/or spray release.	Areas of climax shrub habitat will likely remain a feature of the site to provide habitat diversity and to support pollinators which play an important role in the natural and farmed landscape. Occasional weed abatement is likely to be required, although once fully established, the dense shrub pockets resist weed competition. Occasional tree removal may be necessary in these shrub pockets.
Prairie	The prairie units are currently overflow parking fields on the western edge of the site. The condition is very poor, dominated by pasture grasses and non-native forbs. The units are hayed, but exist as weed havens at the site.	These units should be sprayed and/or disked to suppress non-native cover, reseeded with native grasses and possibly planted with native forbs, as is being done for the savanna unit. The unit could then be hayed and/or pastured.

Key ecological attributes for shrub wetlands at Howell Territorial Park

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native shrub richness	Number of native shrub species per acre	<2 species	3-4 species	4-5 species	>6 species	TBD	Very Good	Very Good	Currently using species list from McCain and Christy 2005, Technical Paper R6-NR-ECOL-TP-01-05.
Condition	Vegetative structure: shrub layer	Percent native shrub canopy cover	<30% cover or >80% cover	30-50% cover	50-70% cover	70-80% cover	TBD	Fair to Very Good	Fair to Very Good	Scrub-shrub wetlands have minimum 30% shrub cover (Cowardin 1979). PIF biological objective for willow flycatcher and yellow-breasted chat up to 80% shrub cover with scattered herbaceous openings (Partners in Flight 2003).

*Desired future condition

Key ecological attributes for emergent wetlands at Howell Territorial Park

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native wetland plant cover in emergent area	Dominance of native herbaceous plants characteristic of the region's wetlands	<25% cover of vegetated areas	25-50% cover of vegetated areas	50-75% cover of vegetated areas	>75% cover of vegetated areas	TBD	Fair	Good	Estimate based on site walk. Based on page 44 in the Division of State Lands HGM-based assessment guidebook (Adamus and Field 2001).
Condition	Hydrology	Hydroperiod	Both the filling/inundation and drawdown/drying of the site deviate from natural conditions (either increased or decreased magnitude and/or duration).	Site's filling/inundation patterns are characterized by natural conditions, but are subject to more rapid/ extreme drawdown or drying compared to more natural wetlands. OR Patterns are of substantially lower magnitude or duration than under natural conditions, but thereafter site is subject to natural drawdown or drying.	The filling or inundation patterns in the site are of greater magnitude (and greater or lesser duration than would be expected under natural conditions, but thereafter, the site is subject to natural drawdown or drying.	Hydroperiod of the site is characterized by natural patterns of filling or inundation and drying or drawdown.	TBD	Good	Very Good	From WDNR's *Ecological Integrity Assessment: Temperate Pacific Freshwater Emergent Marsh* (Rocchio 2011).

*Desired future condition.

Key ecological attributes for upland forest at Howell Territorial Park

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native tree and shrub richness	Number of native tree and shrub species per ac	<5 species per 0.4 ha (1 ac)	5-8 species 0.4 ha (1 ac)	8-12 species per 0.4 ha (1 ac)	>12 species per 0.4 ha (1 ac)	TBD (likely Good)	Good	Very Good	Estimate overall via site walk. Native wildlife species diversity is associated with native vegetation. A diversity of shrubs is more likely to provide food and shelter for species over the seasons. Shrub diversity is particularly important to pollinators and songbirds (Hagar 2003; Hennings 2006; Burghardt et al. 2009).
Condition	Vegetative structure: native tree and shrub layer	% native tree and shrub canopy cover (combined)	<25% cover	25-50% cover	50-75% cover	>75% cover	TBD (likely Good)	Good or Very Good	Very Good	Estimate overall via site walk. Native bird species richness is associated with amount of native shrub cover (Hagar 2003; Hennings 2006). Numbers based on data analysis from local studies at 54 riparian sites (Hennings 2001). Native shrub cover as high as ~60%, with highest native shrub cover in 50-60% tree canopy cover range.

*Desired future condition

Key ecological attributes for oak savanna at Howell Territorial Park

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native grass and forb presence	Native species richness	<20 native herbaceous plant species with high fidelity to the system types present within the patch.	20-39 native herbaceous plant species with high fidelity to the system types present at the patch.	40-59 native herbaceous plant species with high fidelity to the system types present at the patch.	> 60 native herbaceous plant species with high fidelity to the system types present at the patch.	Poor	Poor	Fair	Estimate based on habitat inspection. Fidelity is a term that describes the degree to which a native plant species is associated with prairie or oak systems; high fidelity species are always or almost always found in prairie or oak habitats in the WPG ecoregion (Alverson 2009).
Condition	Native forb and grass abundance	Percent cover native forbs and grasses	<20%	20-30%	30-50%	>50%	Poor	Fair	Good	Good prairie habitats are covered >50% by native species. *Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington* (USFWS 2010).

*Desired future condition

Key ecological attributes for prairie (wet and dry) at Howell Territorial Park

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native grass and forb presence	Native species richness (for the mosaic)	<20 native herbaceous plant species with high fidelity to the system types present within the patch.	20-39 native herbaceous plant species with high fidelity to the system types present at the patch.	40-59 native herbaceous plant species with high fidelity to the system types present at the patch.	> 60 native herbaceous plant species with high fidelity to the system types present at the patch.	Poor	Poor	Poor	Estimate based on habitat inspection. Fidelity is a term that describes the degree to which a native plant species is associated with prairie or oak systems; high fidelity species are always or almost always found in prairie or oak habitats in the WPG ecoregion (Alverson 2009)
Condition	Native forb and grass abundance	Percent cover native forbs and grasses	<20%	20-30%	30-50%	>50%	Poor	Poor	Fair	Good prairie habitats are covered >50% by native species. *Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington* (USFWS 2008).

*Desired future condition

THREATS AND THEIR SOURCES FOR THE NEXT 10 YEARS

CLIMATE CHANGE CONSIDERATIONS

Climate change is anticipated to affect summer temperatures and availability of water in summer. Other indirect effects of climate change may include range shifts of plants and animals, some native to North America and some not, and increased competition by these species. It is possible that climate change may touch every key ecological attribute, though effects on some KEAs may be more important than others.

Direct effects that may occur

- Increased summer temperatures
- Increased severity of winter rain events
- Decreased water availability in summer

Indirect effects that may occur

- Increased risk of wildfire in hotter, drier summers
- Range shifts by undesirable plants increasing competition
- Disease introductions and/or increased vulnerability to disease
- Loss of synchronicity of plant reproduction and pollinators
- Loss of synchronicity of resident and migratory animals and food sources (e.g., insect hatches)
- Increased erosion in streams caused by the flashier winter rain events
- In upland forests, plant growth and survival may be affected by increased summer temperatures and reduced water availability in summer.

Threats to conservation targets at Howell Territorial Park

CONSERVATION TARGET	STRESS (DEGRADED KEA)	SEVERITY	SCOPE	OVERALL STRESS RANK	SOURCE (THREAT)	CONTRIBUTION	IRREVERSIBILITY	OVERALL SOURCE RANK	OVERALL THREAT RANK	COMMENTS
Savanna	Native grass and forb presence	Very High	Very High	Very High	Competition from non-native pasture grasses and broadleaf weeds	Very High	Moderate	High	Very High	
Savanna	Native grass and forb abundance	Very High	Very High	Very High	Competition from non-native pasture grasses and broadleaf weeds	Very High	Moderate	High	Very High	
Emergent wetland	Hydrology	High	High	High	Lack of water control structure prevents seasonal flood management	High	Low	Moderate	High	
Emergent wetland	Native wetland plant cover	High	High	High	Invasive herbs (iris, canarygrass, nightshade)	High	Moderate	High	High	
Emergent wetland	Vegetation structure	Moderate	Moderate	Moderate	Willow encroachment	Low	Low	Low	Low	
Upland forest	Landscape context	Moderate	Moderate	Moderate	Isolation due to fragmentation	Very High	Moderate	High	Moderate	
Prairie	Native grass and forb presence	Very High	Very High	Very High	Competition from non-native pasture grasses and broadleaf weeds	Very High	Moderate	High	Very High	
Prairie	Native grass and forb abundance	Very High	Very High	Very High	Competition from non-native pasture grasses and broadleaf weeds	Very High	Moderate	High	Very High	

SPECIFIC ACTIONS AND FUNDING REQUIREMENTS

Specific actions to implement strategies at Howell Territorial Park

Strategy	Target	Priority (how soon)	Specific tasks	Estimated cost
Restore native herbaceous cover to prairie component of the oak savanna unit, and establish foundation of management to maintain native prairie component.	Savanna	Next 3-5 years	Restore a habitat structure that reflects savanna habitat (removing excess trees and shrubs) and encourages a return to the maintenance regimes that will support long-term prairie diversity (haying/grazing/ burning).	$30,000
Suppress non-native herbaceous cover and re-establish native grass and forb cover in the savanna.	Savanna	Next 3-5 years	Eradicate the heavy cover of non-native pasture grasses and broadleaf weeds via boom/spot spraying and/or disking, followed by seeding to establish a native grass cover followed by planting of rooted plugs/bulbs/corms, or post-burn seeding of appropriate prairie forbs (e.g., camas, checkermallow, lupine).	$75,000
Suppress non-native cover in Howell Lake.	Emergent wetland	Next 3-5 years	Targeted spot sprays of non-native iris, canarygrass, nightshade, loosestrife, etc.	$50,000
Increased herbaceous diversity in Howell Lake.	Emergent wetland	Next 3-5 years	Planting of rooted plugs/bulbs/corms.	$10,000
Restore a more natural hydrology that mimics pre-Multnomah Channel dike periods of seasonal flooding.	Emergent wetland	Summer 2014	Install small water control structure at outlet of Howell Lake as it drains into the Gilbert River.	$20,000 (funded via NAWCA)
Revegetate edges and open areas of the eastern units that are currently either mowed to suppress herbaceous weeds or covered in non-native blackberry.	Upland forest-shrub	Next 2-3 years	Mow fields and cut blackberry infestations, followed by spray prep and woody planting. Most of the areas will be planted in shrubs or upland forest tree/shrub mix.	$30,000
Restore small pond west of the north farm tracts.	Emergent and shrub wetland	Next 3-5 years	Mow and spray to suppress reed canarygrass, followed by strategic woody and herbaceous planting.	$15,000
Update plant list and continue occasional surveys for rare plants.	Emergent wetlands	Ongoing		$5,000
Continue efforts to release native upland forest-shrub communities.	Upland forest-shrub	Ongoing	Utilize non-chemical methods to suppress blackberry and other competing weeds to release native shrubs in the hedgerow and pockets flanking Howell Lake. Plans for 2014 include involvement of youth crews to cut/dig out blackberries.	$10,000

MONITORING PLAN

In addition to periodic botanic surveys at the site, pond-breeding amphibians have been a focus of volunteer-mediated and professional monitoring/research there. Waterfowl monitoring is planned to support information gathering goals and the development of educational material for the park. The plan will also guide the best placement of a planned bird blind adjacent to Howell Lake.

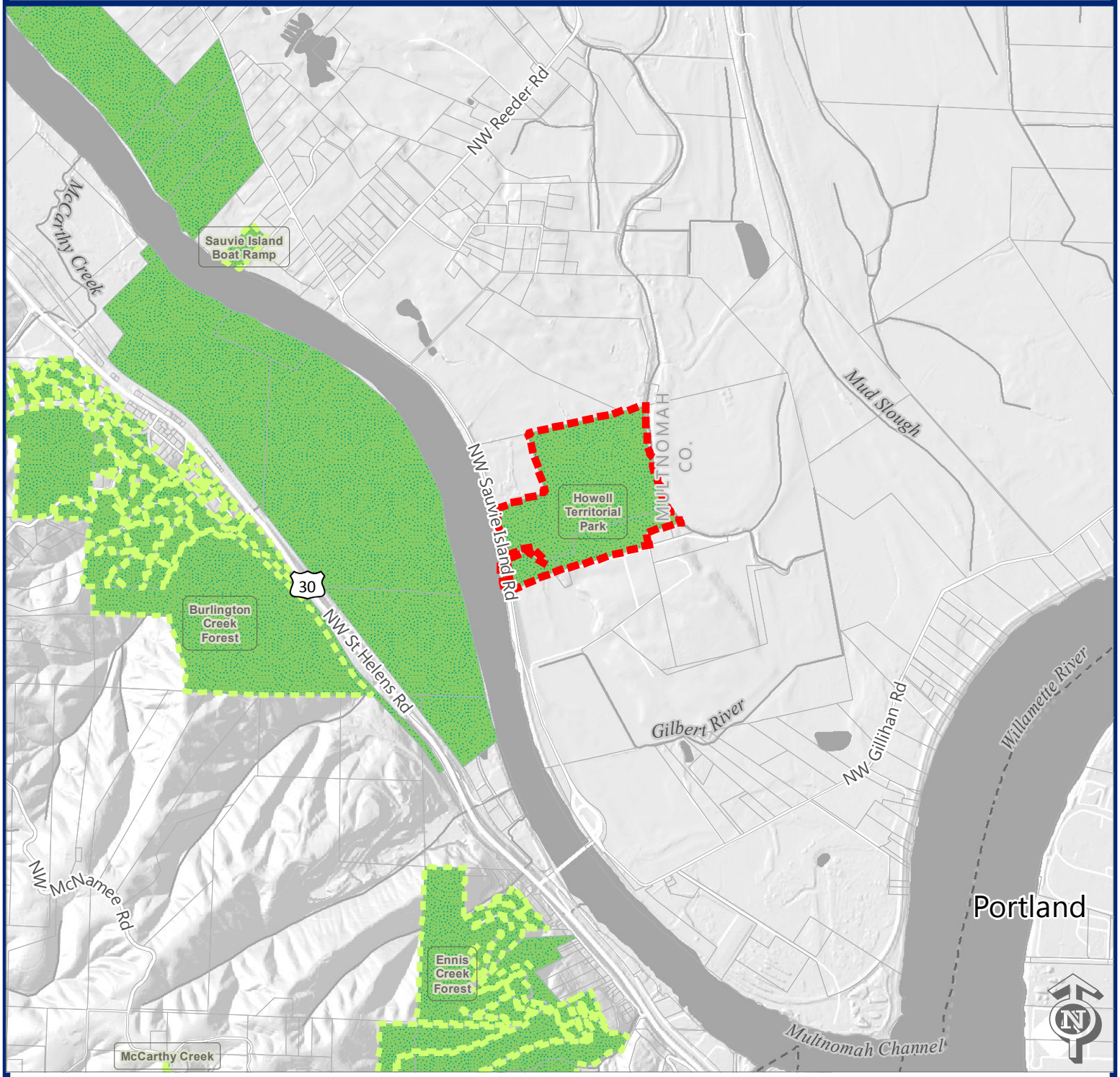
CURRENT PARTNERS, PARTNER PROJECTS AND POTENTIAL PARTNERS

- Sauvie Island Habitat Partnership
- The Wetlands Conservancy
- Sauvie Island Organics
- Sauvie Island Center
- Food Works
- Ducks Unlimited
- US Fish and Wildlife Service (North American Wetland Conservation Act Grant Program)

MAPS

Map 1

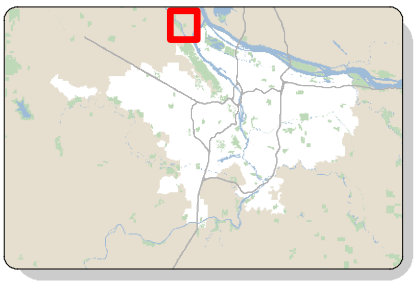
Planning Area



Howell Territorial Park

Other Metro sites

Park and/or natural area



0 2,000 4,000 Feet

Metro

Howell Territorial Park Site Conservation Plan

map date: 11/21/2013

Map 2

Site Map

Howell Territorial Park

Bond Measure

1995 Bond Measure

NHD Flowlines

Intermittent stream

Perennial stream

Artificial path

0 500 1,000 Feet

Metro

Howell Territorial Park Site Conservation Plan

map date: 11/21/2013

Map 3

Soils, Topography, and Hydrological Features

Howell Territorial Park

NRCS soils

Wetlands

NHD Flowlines

Intermittent stream

Perennial stream

Artificial path

0 500 1,000 Feet

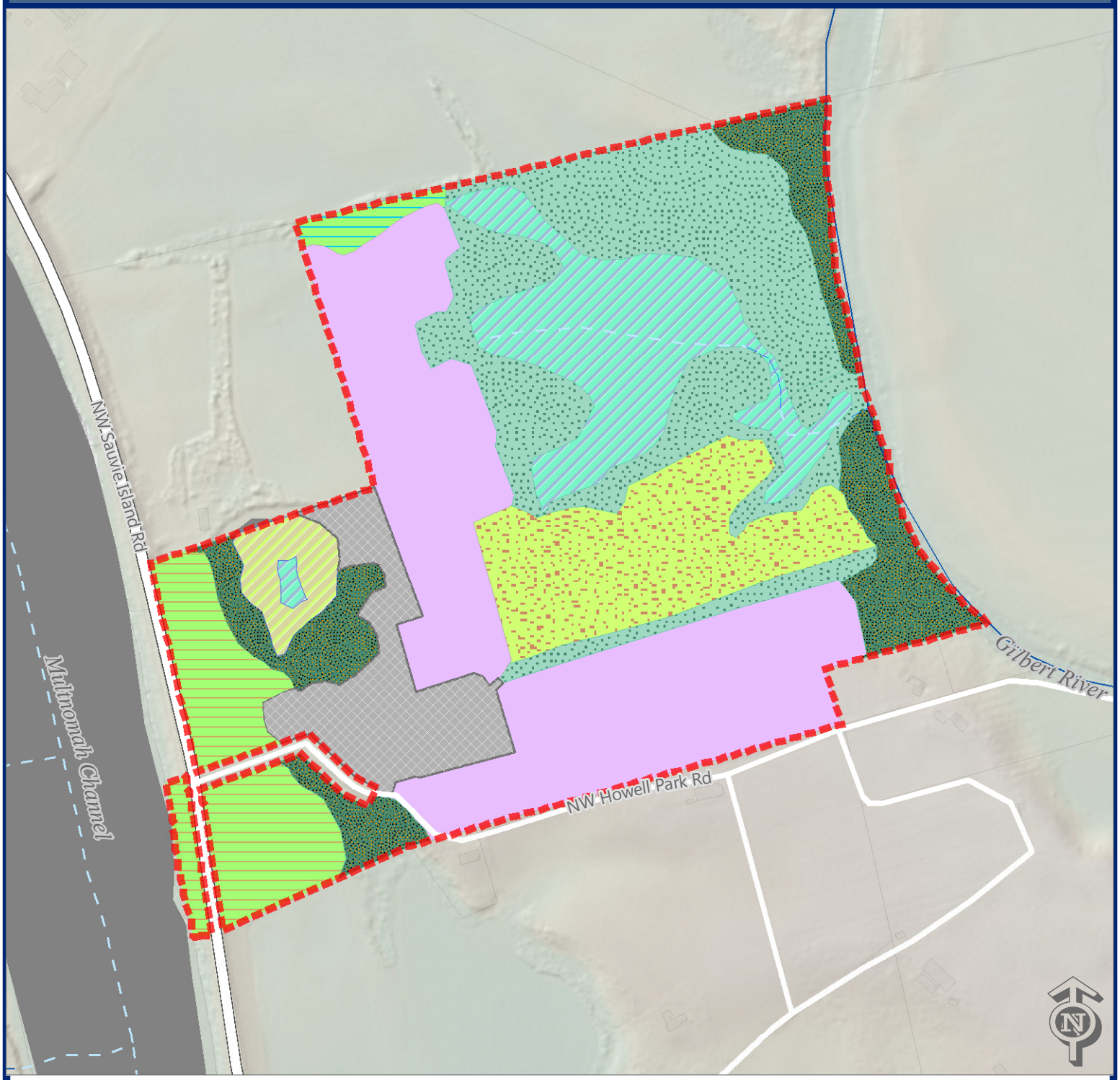
Metro

Howell Territorial Park Site Conservation Plan

map date: 11/22/2013

Current Cover

Map 4



Howell Territorial Park

Current cover

- Agriculture
- Developed - (pervious/non ag)
- Prairie - (dry)
- Prairie - (wet)
- Savanna - oak
- Upland forest - mixed
- Upland forest - shrub (stage)
- Wetland - emergent
- Wetland - shrub

NHD Flowlines

- Intermittent stream
- Perennial stream
- Artificial path

0 500 1,000 Feet

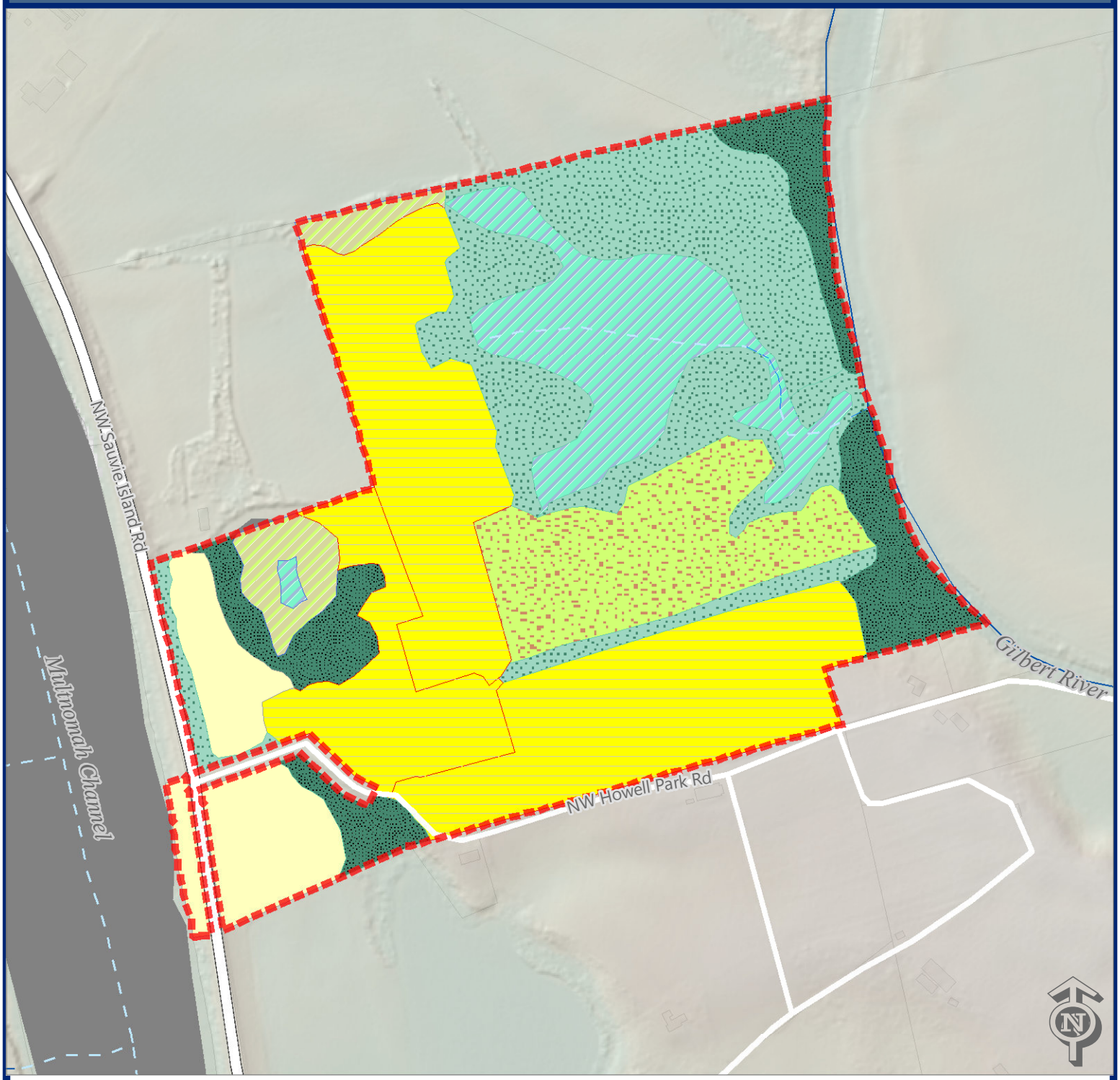
Metro

Howell Territorial Park Site Conservation Plan

map date: 12/2/2013

Map 5

Conservation Targets



Howell Territorial Park

Conservation Targets

- 1 - needs updates
- Emergent wetland
- Oak savanna
- Prairie - wet or dry
- Shrub dominated wetland
- Upland forest
- Upland forest - shrub (early successional)

NHD Flowlines

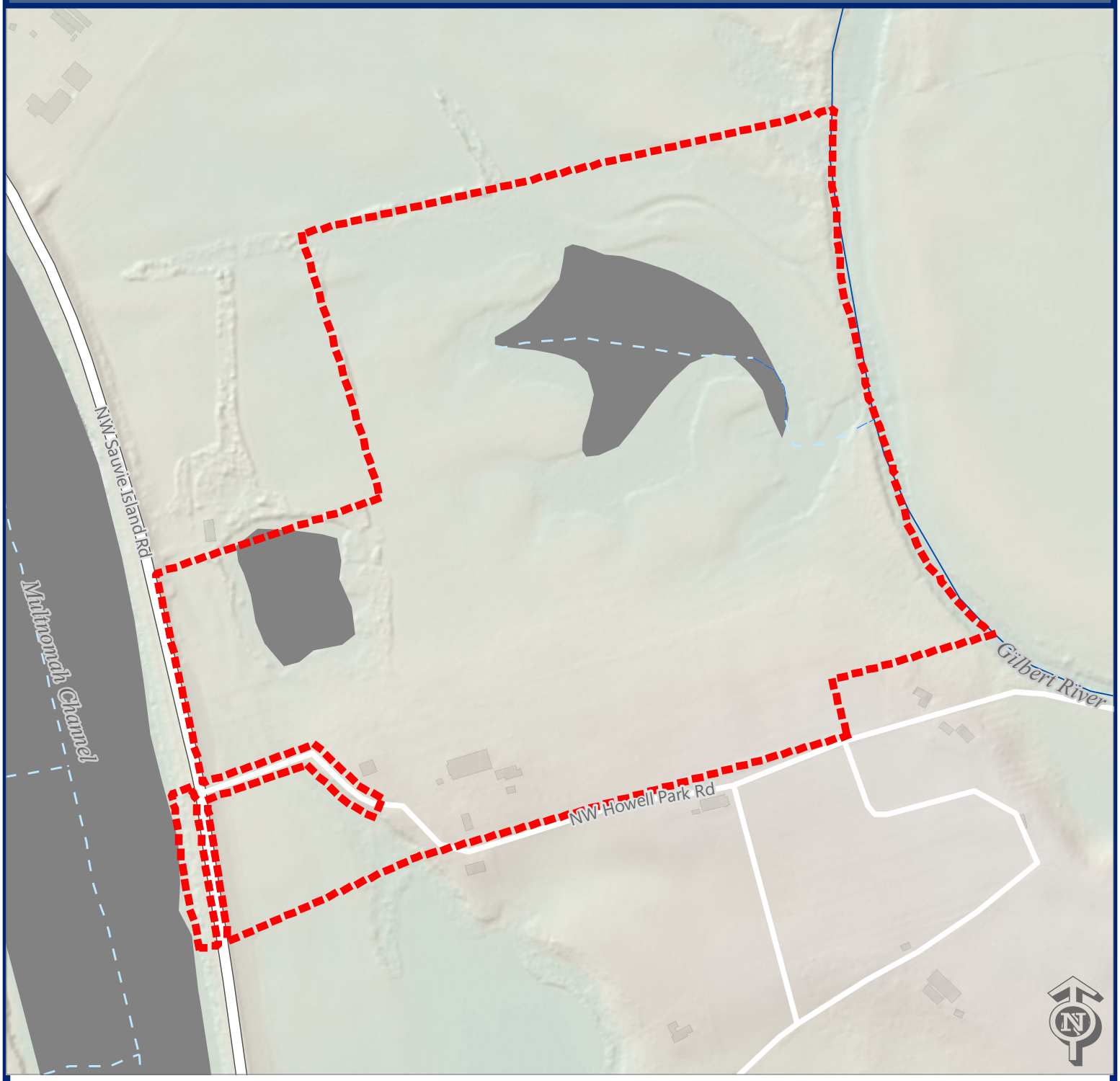
- Intermittent stream
- Perennial stream
- Artificial path

0 500 1,000 Feet

Metro

Map 6

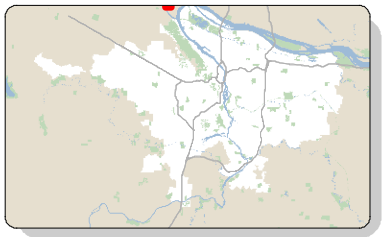
Access & Recreation



Howell Territorial Park

NHD Flowlines

- Intermittent stream
- Perennial stream
- Artificial path



0 500 1,000 Feet

Metro

Howell Territorial Park Site Conservation Plan

map date: 11/22/2013