# Smith and Bybee Wetlands Natural Area Management Committee

Dave Helzer, Chair



# Smith and Bybee Wetlands Management Committee Meeting

5:30 p.m. - 7:00 p.m., Tuesday, May 4, 2010 Metro Regional Center, 600 N E Grand Ave., Room 270 Portland, Oregon 97232

# **AGENDA**

Welcome and introductions	(Dave Helzer)	5:30 pm
Approve April's meeting notes	(Dave Helzer)	5:30 – 5:35 pm
Bridge & trail study update	(Jane Hart)	5:35 – 5:50 pm
Natural Resource Management Plan update (consultant team)	(Janet Bebb)	5:50 – 6:30pm
Committee meeting schedule for NRMP update	(Janet Bebb)	6:30 – 6:35 pm
Merit USA/Fuel Processors DEQ clean-up	(Dale Svart)	6:35 – 6:45 pm
Multnomah County evergreen trees / veg buffer at Wapato	(Troy Clark)	6:45 – 6:55 pm
General updates		6:55 – 7:00 pm
Adjourn		7:00 pm

# MEETING SUMMARY Smith and Bybee Wetlands Management Committee May 4, 2010

#### In Attendance:

Port of Portland
Audubon Society of Portland
Portland Parks & Recreation
Portland Bureau of Environmental Services
N. Portland Neighborhoods
40-Mile Loop Trust
Friends of Smith & Bybee Lakes
Oregon Dept. of Fish & Wildlife
Metro Parks & Environmental Services
David Evans & Associates
David Evans & Associates
Confluence Planning
Metro Sustainability Center
Metro Parks & Environmental Services
np Greenway
Portland State University
Friends of Smith & Bybee Lakes
Metro Sustainability Center
Metro Sustainability Center

<sup>\*</sup> Denotes voting SBWMC member

The meeting was called to order at 5:36 PM. Introductions.

### **Approve January's Meeting Notes**

January's meeting summary was approved with one abstention (a member who hadn't had a chance to read it).

#### **Bridge & Trail Study Update**

Jane Hart updated the group on two studies relating to the four-mile trail gap in and near the Smith & Bybee Lakes natural area. The North Slough Feasibility Study has found that the bridge is, indeed feasible (based on regulatory and structural criteria). Council has instructed staff that cost will not be a fatal flaw criteria.

The second study was to determine trail alignments; specifically, what land owners want in order to enter into discussions about allowing parts of the trail to cross their property. Metro's acquisition staff will now be able to begin contacting the land owners.

Ms. Hart is currently reviewing draft reports for both studies, and expects to finalize them in the coming weeks. When the reports are complete, an informational meeting will be set to present the findings. Metro Council will also be briefed on the report results, and asked for their authorization to proceed.

Meeting Summary: Smith and Bybee Management Committee May 4, 2010

It should be easier to leverage funding for the whole project once the neighborhood connection piece is completed. No one piece will hold up the rest, she assured the group.

#### Natural Resource Management Plan (NRMP) Update (consultant team)

Dave Helzer briefly reviewed the upcoming process. The Committee will send a final recommendation to the Council on a consensus basis. Patt Opdyke asked that citizens who come to the meetings be allowed time to voice concerns / opinions.

Janet Bebb introduced representatives from the consulting firm chosen for the update, Kevin O'Hara and Gill Williams of David Evans & Associates, and Kelly Rodgers of Confluence Planning. Mr. Williams expressed the team's enthusiasm for this project; they are all looking forward to the work, and feel this project will set a precedent for the City.

The team's process will be to "start with the end in mind." What will spell success for the project? Scenarios will be set up to reach those goals. Phase 1 – Set goals and conduct a thorough assessment. The goal is protection of the resource, and to deliver a workable management plan to achieve this. Fostering stewardship, getting people interested is crucial. The team has already gathered literally reams of information, and have done site visits, as well. An entire process has been set up to come back and work actively with the Committee. Phase I will include three meetings (including this one); Phase II - two meetings; Phase III plans include one meeting.

A gap analysis will literally fill in the gaps – what information is missing?

Phase 2 – integrated solutions – the integration of trails will be an important part of this, making certain that the needs of the natural setting are met as people are integrated further into the site. This phase will work through strategies such as funding and policy directions needed to support the conservation target work.

Phase 3 is the delivery of the document. The updated plan will be titled a master plan and need to be agreed to by the property owners as well as the local government; regulatory compliance will be a crucial part.

Kelly Rodgers introduced the public involvement piece, which is geared to create enthusiasm for the public stewardship of the site. Including local schools is a very helpful way to educate not only the students, but for that information to trickle down to the parents.

Kevin O'Hara took the reins next, explaining how the conservation targets will be identified in Phase I. Get targets, assess ecological attributes, and the condition / viability of the species at the site. (KEA= key ecological attributes) What causes stress to the KEA? What's the severity and scope? The stresses and scope of those stresses will be rated and ranked. These rankings will lead to rating and ranking of what's contributing to the stress, and whether it's a reversible situation. Those two rankings combine to show the threat rank, and an overall ranking of threats can be developed. While the plan will identify targets and strategies for the next ten years, it will lay a foundation for the future evolution of the site with longer-term goals.

Patt Opdyke wondered if the study will just include present conditions: If something is currently a small threat and could grow, is there a monitoring mechanism to prevent further or new stresses? Kevin responded that the plan is future-looking and will consider current conditions. Regarding a question about the landfill, Janet Bebb responded that the long-term goal is to knit the needs of the

Wetlands area and the Landfill into one thriving natural area; that the group should think about both the Wetlands and the Landfill together.

Phase II, Mr. O'Hara continued, will include strategies, monitoring / research, and policy / funding plans. The idea is not to be too prescriptive. Trail and bridge schematics will be the result of those plans. Ms. Bebb added that if the group is OK with the document type (master plan), then this plan will lay the foundation for land use decisions and for the trail and bridge design.

In the big picture, Ms. Bebb added, when Phase I is in final draft, a broad range of stakeholders will be invited to meet. Interested parties will be given all meeting notes. Joint meetings with Columbia Slough Watershed Council and Friends of Smith-Bybee will also take place. As this part of the process moves along, a lot of the information will be science-based, but will be interesting enough to really engage people.

Conservation targets are listed in the attached PowerPoint. Susan Barnes suggested that the federal species list be consulted. She noted that the Bald Eagle isn't mentioned, for instance. Dave Helzer assured the group that the target list is just a draft. He explained how some of the determinations were made. Some possible species targets are covered by the habitat targets, but can certainly be called out separately. Ms. Barnes recommended consulting both the state and feds. The consultants will take a closer look, filtering the current draft list through those other lists. (See attached list.) Mr. Helzer suggested including Ms. Barnes in the target identification process, and also engage Jennifer Thompson. Troy Clark commented that the streaked horned lark has already been targeted, so it may not need to be included in this list, as well. The meadow lark might be a better indicator of habitat success.

Send any changes to the target list (and the reasoning behind them) to the group, with a deadline for comment so that progress isn't held back.

Pam Arden is concerned about how to bring in the human element. The way she sees the scope of work is that of creating a zoo that everyone will just be looking at from afar. Ms. Bebb assured the group that educational and enjoyable access is a goal, and stakeholders will be asked throughout the process what their priorities are. Phase I does have strong emphasis on conservation targets, but the over-arching goal is for quality, rich experiences to continue and expand. It's an open process, and the public will be consulted along the way. Stabilizing the habitat is difficult and needs to be done first; once that's established, integrating the human element will be much easier.

Dale voiced a concern about vector control (particularly mosquitoes).

#### **Committee Meeting Schedule for NMRP Update**

The group discussed how to proceed; meeting once a month may be helpful, but it's dependant on progress and getting information to the group ahead of time to make the best use of meetings. PowerPoint handouts with room for notes would be very helpful so members can make their own notes during the meeting. The group discussed meeting on the fourth Tuesday of the month during the Update process, beginning June 22<sup>nd</sup>. Janet is trying to get in touch with Chris Scarzello regarding this group giving testimony for her tree project if she'd like. (Note: A follow-up from Chris is that the Tree Project Ordinance may or may not be included in the final City of Portland budget. Right now there is nothing we can do except wait and see how it plays out.

Meeting Summary: Smith and Bybee Management Committee May 4, 2010

Tour ? Casual paddle on May 12 from 6-8 with Troy. Will reserve July 12 for something more formal and the group can decide later. The July 12 date would include an invitation to interested parties.

#### Merit USA/Fuel Processors' DEQ Clean-up

Dale Svart informed the Committee about an environmental cleanup going on. Arsenic, lead, zinc, benzene, fluorine compounds, chlorine – there are seven or eight hot spots. Highly toxic to "environmental receptors" (birds, animals), but supposedly not humans. (Should new boundaries be drawn?) Mr. Svart is mortified that the DEQ hasn't notified stakeholders. It's been referred to as an "orphan site," but in this case, it means that the owner doesn't have to pay for the mitigation. (*The group decided at the June 27 meeting to change "orphan" to "isolated," which better describes the site.*) The draft feasibility study is out as of March 30. He fears DEQ will do as little as possible to engage the public and will do the cheapest possible remediation. Sheet pile is likely the only solution to keep more from leaching into the groundwater. The whole area is one large pond that drains into Smith Lake through a culvert most of the year. He'd like to see water and sediment sampling take place. Metro staff will contact DEQ – the contact person is Mark Pugh. Dan Kromer will invite him to the June 22 meeting.

#### Multnomah County Evergreen Trees / Vegetation Buffer at Wapato

Postponed until a later meeting. Troy would like a Multnomah County representative to attend a meeting addressing the problem.

#### **General Updates**

Next meeting: June 22, 2010

The meeting adjourned at 7:40 p.m.

gbc

Meeting Summary: Smith and Bybee Management Committee May 4, 2010



# Smith and Bybee Wetlands Natural Area Management Plan

# Management Committee Meeting No. 1

May 4, 2010





# Consultant Team

Smith and Bybee Wetlands Natural Area Master Plan

### **David Evans and Associates**

Gill Williams, ASLA – Project Manager

Kevin O'Hara - Conservation Planning Lead

## Confluence Planning and Design

Kelly Rodgers - Public Involvement/Planning Lead



Project Approach
Smith and Bybee Wetlands Natural Area Master Plan

## **Define Project Goals**

Identify desired outcomes

- Protect the resource
- Develop a workable management plan
- Foster stewardship

### Comprehensive Overview

Data collection

Historic perspective

Evolution of Smith Bybee

Gap Analysis

Approach confirmation



# Project Approach Smith and Bybee Wetlands Natural Area Master Plan

## **Integrated Solutions**

Identifying opportunities

Identify funding and policy constraints

Addressing needs - Striking a balance

Seek cooperation

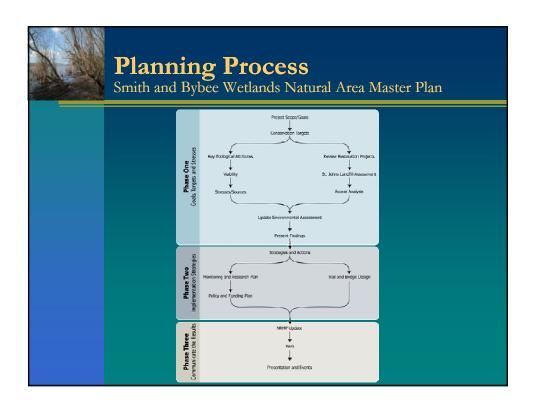
# Regulatory Compliance

Update of the NRMP

City of Portland land-use

## Outreach and Implementation

Political support



# Provide opportunities for meaningful and constructive public input. Provide for early and proactive outreach to interested stakeholders. Ensure the process encourages a partnership between Metro, the Smith and Bybee Wetlands Management Committee, related government agencies and the community.



# **Public Involvement**

- Seek out opportunities to incorporate multicultural perspectives.
- Work with local schools to identify potential youth education opportunities.
- Provide interesting and education information about ecosystems and species at Smith Bybee.



# Conservation Planning

- Situation Analysis (Phase I)
- Action Plans (Phase II)



- Reflect conservation goals of the community and Willamette Valley Ecoregion.
- Represent biodiversity of the site.
- Viable or at least feasibly restorable.



# Key Ecological Attributes

- Aspects of a target's biology or ecology that, if missing or altered, would lead to the loss of that target over time.
  - -Size (area, abundance)
  - Condition (composition, structure, and biotic interactions)
  - Landscape context (processes and connectivity)



# **Key Ecological Attributes**

- Describe a range of variation for each indicator.
- Rate current condition: Very Good, Good, Fair, or Poor.
- SHL KEA: percent bare ground

Poor	Fair	Good	Very Good
< 5%	5-10%	10-20%	>20%



# Conservation Target Viability

- Based on status of the KEAs.
- Rated: Very Good, Good, Fair, or Poor.
  - Very Good: at least two Very Good and no Fair or Poor ranks for size, condition, and landscape context.
  - Poor: viability reflects at least two Poor and no Good or Very Good



# **Identify Stresses**

- A stress is an impaired aspect of a target that results directly or indirectly from human activities.
- Generally equivalent to a degraded KEA.
- Ranked based on severity and scope.
- SHL: lack of bare ground for nesting



# **Severity of Stresses**

- Very High: The threat is likely to destroy or eliminate the conservation target.
- *High:* The threat is likely to seriously degrade the conservation target.
- *Medium:* The threat is likely to moderately degrade the conservation target.
- **Low:** The threat is likely to only slightly impair the conservation target.



# **Scope of Stresses**

- **Very High:** Widespread or pervasive and affects the target throughout its occurrences at the site.
- *High:* Widespread and affects the target at many of its locations.
- *Medium:* Localized and affects the target at some of its locations.
- **Low:** Very localized and affects the target at a limited portion its locations.



# Ranking Stresses

	Scope			
Severity	Very High	High	Medium	Low
Very High	Very High	High	Medium	Low
High	High	High	Medium	Low
Medium	Medium	Medium	Medium	Low
Low	Low	Low	Low	Low



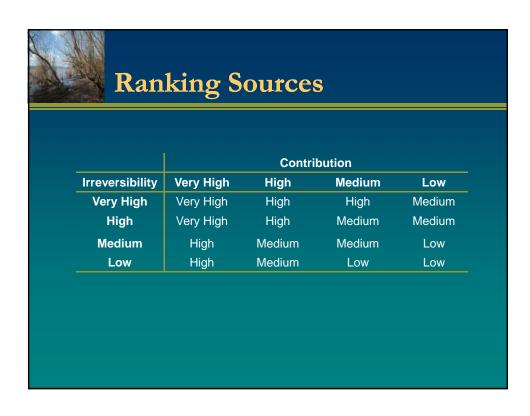
# **Sources of Stress**

- The proximate activities or processes that directly have caused, are causing, or may cause stresses.
- Rated in terms of contribution and irreversibility.



# **Sources of Stress**

- **Contribution:** expected contribution of the source, acting alone, under current circumstances.
- *Irreversibility:* the degree to which the effects of a source of stress can be restored.







- A single source may contribute to multiple stresses.
- Combines Stress and Source rankings.





# **Overall Threat Rank**

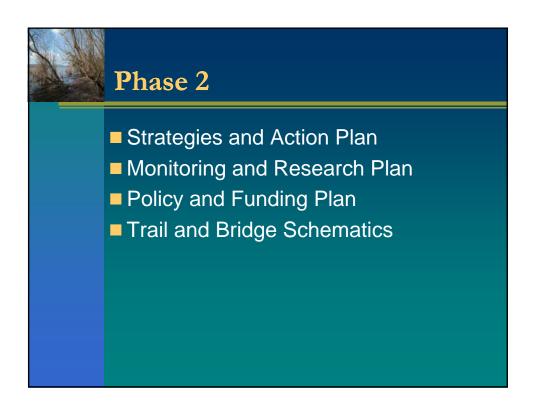
- Represents the degree to which a particular source causes stress to the conservation target.
- Determined by combining Threat-to-System ranks across all System/Targets affected by that threat.
- Overall Threat Rank: Very High, High, Medium, or Low.



# **Overall Threat Rank**

	Target 1	Target 2	Target 3	Overall Threat Rank
Threat A	High*	Very High	High	High
Threat B	Medium**	Medium	High	Medium
Threat C		Medium	Low	Low







# **Future Meetings**

- ■Phase 1
  - -Overview / Conservation Targets
  - -Key Ecological Attributes
  - Threat Analysis (stresses and their sources)



# **Future Meetings**

- ■Phase 2
  - Strategies & Action Plan /Monitoring & Research Plan
  - Policy & Funding / Bridge & TrailSchematics
- Phase 3
  - -NRMP Update

# Questions?





- Upland prairie
  - -St. Johns landfill
  - ->95% converted
  - OCS Strategy Habitat
  - Subbasin Plan Focal Habitat



# **Conservation Targets**

- Emergent wetland
  - -~450 acres
  - Columbia sedge meadows critically imperiled
  - Mudflats seasonal habitat
  - -OCS Strategy Habitat
  - -TNC Autumnal mudflats



- Scrub/shrub wetland
  - -~550 acres
  - -OCS Strategy Habitat
  - Little willow flycatcher (OCS species, PIF, TNC)
  - Mudflats important seasonal habitat

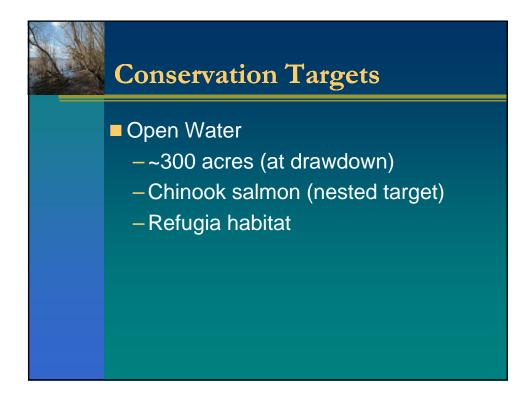


# **Conservation Targets**

- Bottomland forest wetland
  - -~90 acres
  - Oregon ash forests
  - -OCS Strategy Habitat
  - -Subbasin Plan & TNC focal habitat



- -OCS Strategy Habitat
- PIF, Subbasin Plan, & TNC focal habitat





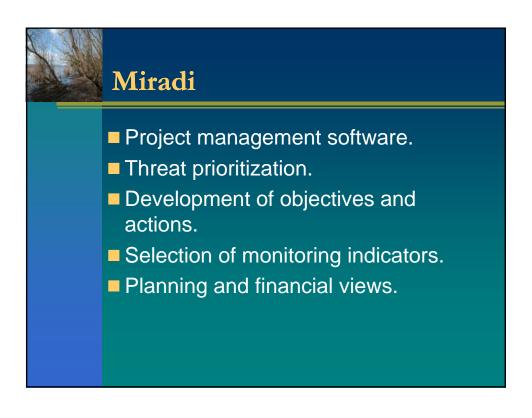
- Western painted turtle
  - -OCS key species at S&B
  - Uses variety of habitats for life history requirements.
  - Current target of management activities.

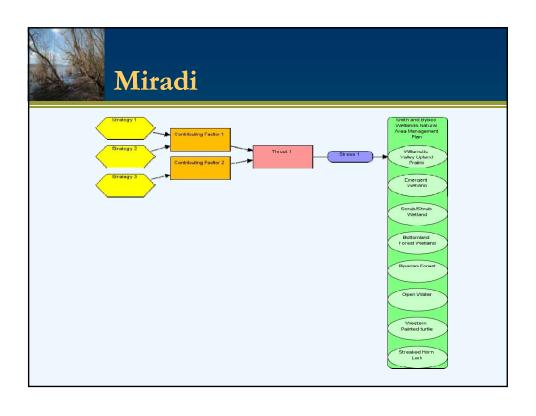


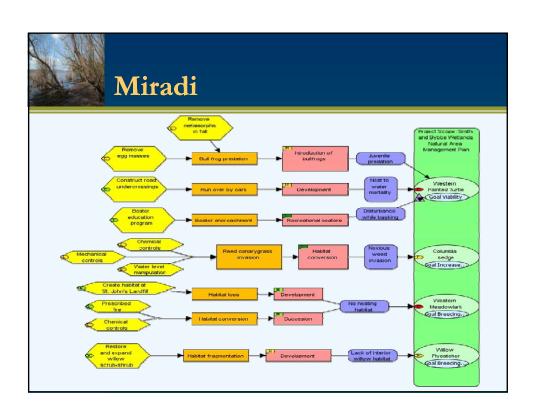
# **Conservation Targets**

- Streaked Horn Lark
  - OCS, Subbasin Plan, PIF, TNC focal species.
  - -Unique KEAs
  - Current target of management activities.

# Questions?







#### Introduction

Conservation Targets are composed of a suite of species, communities, and ecological systems that represent and encompass the full array of native biodiversity of the site; reflect local and regional conservation goals; and be viable or at least feasibly restorable (TNC 2007).

Conservation Targets establish the basis for setting goals, carrying out conservation actions, and measuring conservation effectiveness. They are the foundation of conservation planning. Key ecological attributes (KEAs) for each conservation target will be evaluated. KEAs are aspects of a conservation target's biology or ecology that, if missing or altered, would lead to the loss of that target over time (TNC 2007). Viability of the Conservation Target is inferred by the condition of the KEAs. Analysis of threats affecting Conservation Targets inform the development of action plans to abate serious threats and monitoring plans to gauge success of the action plans. Conservation targets then should consist of species or communities that will provide the focus of management actions and monitoring. Species or communities that for whatever reason are too expensive to manage or monitor are not good candidates for conservation targets.

#### Methods

Regional conservation plans were referenced to align the conservation goals of the Smith and Bybee Wetlands Natural Area Management Plan with other Willamette Valley ecoregional conservation plans. These plans included the Oregon Department of Fish and Wildlife's Oregon Conservation Strategy (ODFW 2005), the Northwest Power and Conservation Council's Willamette Subbasin Plan (NWPCC 2004), The Nature Conservancy's Ecoregional Assessment of the Willamette Valley – Puget Trough – Georgia Basin (TNC 2004), and Partner's in Flight's Conservation Strategy for Landbirds in Lowlands and Valleys of Western Oregon and Washington (PIF 2000). These plans identify both focal habitats and focal species as conservation targets.

Onsite habitats as mapped by Stewart (2006) were used as the foundation for selecting Conservation Targets, under the assumption that KEAs for the selected habitats would align well with KEAs of the sensitive wildlife species associated with that habitat. However, in some cases habitat-based KEAs would not provide critical KEAs for a sensitive species. For example, habitat-based KEAs for upland prairie wouldn't include streaked horned lark's KEA of sparse, low growing vegetation and bare ground for nesting or western meadowlark's KEA of perches. When these differences became apparent, a sensitive species was either designated a Conservation Target or a Nested Target.

When the differences between habitat-based KEAs and a sensitive species' KEAs were slight the species was nested under the habitat-based Conservation Target, as was the case for western meadowlark under the upland prairie Conservation Target. When differences were large as was the case for streaked horned lark and management options appeared feasible, the species was designated as a Conservation Target. The difference

being, conservation targets form the basis of this management plan, while nested targets are addressed as a part of action plans developed for their umbrella conservation target.

#### Results

Using onsite habitat types and regional conservation planning efforts as guides, conservation targets were selected that encompass the site's biodiversity values and regional conservation targets. These are:

#### **Habitat Conservation Targets**

- o Upland prairie (including western meadowlark as a nested target)
- Emergent wetland (including Columbia sedge meadows and autumnal mudflats as nested targets)
- o Scrub/shrub wetland
- o Bottomland forest wetland
- o Riparian forest (including bald eagle as a nested target)
- o Open water (including Chinook salmon as a nested target)

### **Species Conservation Targets**

- Western painted turtle
- Streaked horned lark

The habitat Conservation Targets represent all of the major habitat types present at the site. Western painted turtle and streaked horned lark were selected as target species because several of their KEAs would not be captured in a list of habitat-based KEAs.

#### **Upland Prairie**

Willamette Valley upland prairie habitat is located exclusively at the 250-acre St. Johns Landfill. It represents the target habitat for restoration actions at the landfill. Almost 99% of historic expanse of Willamette Valley upland prairie has been converted to other uses (citation). Metro, ODFW, TNC, and many other organizations are actively engaged in upland prairie restoration activities at sites throughout the valley. Streaked horned lark and western meadowlark are both OCS strategy species that are associated with upland prairie habitat. Neither species is currently thought to breed within the metropolitan area (Metro 2008) but both have been observed at the St. Johns Landfill. It is hoped that management efforts targeted specifically at these species will result in breeding pairs at the landfill.

#### **Emergent Wetlands**

Emergent wetlands occupy approximately 450 acres of the site (Stewart 2006). Nested conservation targets included with emergent wetlands are Columbia sedge meadows and mudflats. The Columbia sedge Association is listed as "critically imperiled" both globally and in Oregon by the Oregon Natural Heritage Information Center Program, with a ranking of G1S1 (Christy, 2004). Mudflats become exposed as the water is drawn down over the summer providing valuable habitat for wading and fish eating birds.

#### Scrub/shrub wetlands

Scrub/shrub wetlands occupy approximately 550 acres of the site (Stewart 2006) making it the largest habitat type present. Little willow flycatcher is closely linked with this habitat. It is an OCS strategy species for the Willamette Valley ecoregion and a focal species of other regional conservation planning efforts (NPCC 2004; TNC 2004; and PIF 2000).

#### **Bottomland forests**

Bottomland forests include mature Oregon ash and willow forests covering approximately 90 acres of the site. The Oregon ash forests are mature, with 100-year old trees present. These forests are frequently inundated and provide valuable habitat for neotropical migrants such as Swainson's thrush and sensitive bat species such as the hoary bat and Yuma myotis.

#### Riparian forests

Riparian forests are gallery-type forests dominated by black cottonwood that line the sloughs throughout the site. These narrow bands of forest provide nesting sites for bald eagle and rookery sites for great blue heron. Bald eagle are a nested conservation target of this habitat type. This habitat occupies approximately 300 acres.

#### Open water

Open water habitats cover approximately 300 acres and remain open water year-round. The extent of this habitat is measured by the areas of open water that remain at the peak of the draw-down. Chinook salmon are a nested target with the Open Water conservation target. Chinook salmon smolts are documented users of open water habitats (citation), which provide critical refugia during periods of high flows on the Willamette and Columbia rivers.

#### Western painted turtle

Western painted turtle are residents of the open water habitats at Smith and Bybee Wetlands Natural Area, but they also rely on other habitats for nesting and basking. Because of their unique set of KEAs (e.g., basking and nesting involving several habitat types), they were included as a conservation target. Western painted turtle are an OCS strategy species.

#### Streaked horned lark

Streaked horned lark is a species that is declining throughout the Metro area (Metro 2008). Experiments at creating breeding habitat are on-going at the St. Johns Landfill. While pairs have yet to breed at the site, pairs have been observed scouting the newly established habitat. They were selected as a conservation target because of their unique set of KEAs. Streaked horned lark are a candidate for listing under the federal ESA, and OCS strategy species, and a focal species of conservation plans for the Valley.

#### Discussion

These Conservation Targets reflect local and regional conservation goals. Each of the are represented in one or more of the regional conservation plans listed above. Table 1

relates the Conservation Targets to focal species and habitats as identified in regional conservation plans.

**Table 1. Comparison of Conservation Targets** 

Smith and Bybee Wetlands Natural Area Conservation Targets	Oregon Conservation Strategy (ODFW 2005)	Willamette Basin Subbasin Plan (NPCC 2004)	Landbird Conservation Strategy (PIF 2000)	Ecoregional Assessment (TNC 2004)	
Upland prairie	Grasslands	Upland prairie and savanna	Grassland - savanna	Upland prairie and savanna	
Emergent wetland	Wetlands: marshes	Wetland prairie and seasonal marsh	N/A	Freshwater aquatic beds; Autumnal freshwater mudflats	
Scrub/shrub wetland	Wetlands: deciduous swamps and shrublands	Perennial ponds, sloughs, and their riparian areas	Riparian	Depressional wetland broadleaf forests	
Bottomland forest	Riparian habitats	Perennial ponds, sloughs, and their riparian areas	Riparian	Depressional wetland broadleaf forests	
Riparian forest	Riparian habitats	Perennial ponds, sloughs, and their riparian areas	Riparian	Riparian forests and shrublands	
Open water	Wetlands - marsh	Perennial ponds, sloughs, and their riparian areas	N/A	Freshwater aquatic beds	
Western painted turtle	Western painted turtle	N/A	N/A	N/A	
Streaked horned lark	Streaked horned lark	Horned lark	Horned lark	Streaked horned lark	

Each of the plant communities and species listed in Table 1 fit the criteria for a good Conservation Target. Western painted turtle are OCS Strategy species (ODFW, 2005). The six communities and their representative species characterize the major systems at the site and the potential system to be restored at the St. Johns Landfill.

Sensitive species that have not been included as either Conservation Targets or Nested Targets but have the potential to occur at the site are identified in Table 2. These species will benefit from prescriptions developed for the habitats in which they occur.

Table 2. Non-target Sensitive species with potential to occur at Smith and Bybee Wetlands Natural Area

6	Federal OCS Smith and Bybee Wetlands Natural Area Ta							
Species	and State Status	Strategy Species?	Upland prairie	Emergent wetland	Scrub/shrub wetland	Bottomland forest	Riparian forest	Open water
Birds								
Common nighthawk	NL/SC	Yes	✓	✓	✓	✓	✓	
Dusky Canada goose	NL/NL	Yes	✓	✓				✓
Grasshopper sparrow	NL/SV	Yes	✓					
Little willow flycatcher	NL/SV	Yes			✓			✓
Oregon vesper sparrow	SOC/SC	Yes	✓					
Pileated woodpecker	NL/SV	No				✓	✓	
Purple martin	SOC/SC	Yes	✓	✓	✓		✓	✓
Tri-colored blackbird	SOC/NL	No		✓	✓			✓
Western bluebird	NL/SV	Yes	✓					
Western meadowlark	NL/SC	Yes	✓	✓				
White-breasted nuthatch	NL/SV	Yes				✓	✓	✓
Yellow-breasted chat	NL/SC	Yes			✓	✓	✓	
Amphibians/Reptiles								
Northern red-legged frog	SOC/SC	Yes		✓	✓	✓	✓	
Northwestern pond turtle	SOC/SC	Yes	✓	✓		✓	✓	✓
Mammals								
California myotis	NL/SV	Yes				✓	✓	
Hoary bat	NL/SV	No	✓	✓		✓	✓	
Long-legged myotis	SOC/SV	No						
Silver-haired bat	SOC/SV	No	✓	✓		✓	✓	
Townsends big-eared bat	SOC/SC	Yes						
Yuma myotis	SOC/NL	No	✓	✓		✓	✓	✓

NL=Not Listed; SOC=Species of Concern; SC= Sensitive Critical, SV = Sensitive Vulnerable

#### References

- Christy, John A. 2004. Native Freshwater Wetland Plant Associations of Northwestern Oregon. Oregon Natural Heritage information Center. Oregon State University, Corvallis, Oregon.
- Oregon Department of Fish and Wildlife (ODFW). 2005. The Oregon Conservation Strategy. Oregon Department of Fish and Wildlife, Salem, Oregon.
- Oregon Department of Fish and Wildlife (ODFW). 2008. Oregon Department of Fish and Wildlife Sensitive Species: Frequently Asked Questions and Sensitive Species List.
- The Nature Conservancy (TNC). 2007. Conservation Action Planning Handbook: Developing Strategies, Taking Action and Measuring Success at Any Scale. The Nature Conservancy, Arlington, VA.
- The Northwest Power and Conservation Council (NPCC). 2004. Draft Willamette Subbasin Plan. Prepared by the Willamette Restoration Initiative. 748pp.
- US Fish and Wildlife Service. 2010. Federally Listed, Proposed, Candidate Species and Species of Concern under the jurisdiction of the Fish and Wildlife Service which may occur within Multnomah County Oregon. Updated May 1, 2010.