Van Norden Meadow Restoration Project

Rachel Hutchinson
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Project Timeline

- 2012
  - TNF acquires property
  - Archeology
  - 30% designs
  - Invasive Species Inventory
  - Climate Smart Restoration Workshop (PB)
  - Initial Carbon study
  - Monitoring Continues
  - NFWF Funding

- 2013
  - Project Re-evaluated
  - $1.9 awarded to SYRCL from CDFW (Dec)
  - Groundwater model completed by UCD
  - Monitoring Continues
  - UNR begins carbon study
  - UCD begins paired GW/Surface Water modeling
  - Stakeholder and public meetings to resume
  - Project re-design begins
  - Archeology completed
  - Monitoring Continues
  - Dam Spillway Lowering

- 2014
  - 65% designs completed
  - NEPA/CEQA
  - Permitting
  - Monitoring Continues

- 2015
  - GPR Surveys begin
  - Stream Surveys
  - Conceptual Restoration Designs
  - Martis Fund Awards Planning $1.9
  - Monitoring Continues

- 2016
  - Public Meeting and Field Tours
  - TNF acquires property
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- 2018
  - 65% designs completed
  - NEPA/CEQA
  - Permitting
  - Monitoring Continues

- 2019
  - GPR Surveys begin
  - Stream Surveys
  - Conceptual Restoration Designs
  - Martis Fund Awards Planning $1.9
  - Monitoring Continues

- 2020
  - Public Meeting and Field Tours
  - TNF acquires property
  - Archeology
  - 30% designs
  - Invasive Species Inventory
  - Climate Smart Restoration Workshop (PB)
  - Initial Carbon study
  - Monitoring Continues
  - NFWF Funding

- 2021
  - Project Re-evaluated
  - $1.9 awarded to SYRCL from CDFW (Dec)
  - Groundwater model completed by UCD
  - Monitoring Continues

Partners: TDLT, TNF, SYRCL, Balance Hydrologics, UCD, Point Blue, Gateway Mountain School, UNR, Earthwatch
Restoration Goals

The overarching goal of the Van Norden Meadow Restoration Project is to restore the hydrologic function of the valley.

- Restore the connection of the stream to the floodplain
- Reduce the density of reed canary grass
- Reduce the density of encroaching conifers
Monitoring/Scientific Goals

The secondary goal of this project is to understand and learn from the changes to the hydrology, carbon sequestration rates, and biologic indicators (vegetation, BMI, phytoplankton?, aquatic species)
Questions?
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River Science Director
SYRCL
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Van Norden Meadow Restoration Project
- Vegetation Transects
- Vegetation Plots
<table>
<thead>
<tr>
<th>Species Name</th>
<th>Obs. During Survey No.</th>
<th>Location (L=lake, S=stream)</th>
<th>Stage</th>
<th>Estim. Number Obs.</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western toad ([Anaxyrus boreas])</td>
<td>1-3</td>
<td>L: lacustrine margin</td>
<td>YOY</td>
<td>&gt;100</td>
<td>Native</td>
</tr>
<tr>
<td>Western toad ([Anaxyrus boreas])</td>
<td>2-3</td>
<td>L: lacustrine margin</td>
<td>Adult</td>
<td>5</td>
<td>Native</td>
</tr>
<tr>
<td>American bullfrog ([Lithobates catesbeiana])</td>
<td>1</td>
<td>L: in edgewater</td>
<td>Tadpole</td>
<td>2</td>
<td>Invasive</td>
</tr>
<tr>
<td>Signal crayfish ([Pacifastacus leniusculus])</td>
<td>1-2</td>
<td>L: in edgewater</td>
<td>Adult</td>
<td>7</td>
<td>Invasive</td>
</tr>
<tr>
<td>Brown bullhead ([Ameiurus nebulosus])</td>
<td>1</td>
<td>L: in edgewater</td>
<td>Adult</td>
<td>1</td>
<td>Invasive</td>
</tr>
<tr>
<td>Yellow perch ([Perca flavescens])</td>
<td>1</td>
<td>L: in edgewater</td>
<td>Adult</td>
<td>&gt;100</td>
<td>Invasive</td>
</tr>
<tr>
<td>Brook trout ([Salvelinus fontinalis])</td>
<td>3</td>
<td>S: in pools</td>
<td>Juvenile</td>
<td>&gt;50</td>
<td>Invasive</td>
</tr>
<tr>
<td>Speckled dace ([Rhinichthys osculus])</td>
<td>2-3</td>
<td>S: in pools</td>
<td>Juvenile</td>
<td>&gt;100</td>
<td>Native</td>
</tr>
</tbody>
</table>
Bird Surveys – Point Blue

Van Norden Vs. Meadow Bird Targets

- Focal Species Richness
- Yellow Warbler Density
- Willow Flycatcher Density

Van Norden 2014 - 2016 Average vs. Target