Restoring the Wetland – Community-Led Ecological Restoration of Titlow Beach Park

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Introduction

- Metro Parks Tacoma submitted a request for a proposal to develop and implement a restoration plan for the estuary at Titlow Park. The plan for the restoration was the removal of invasive plant species in the park, most notably Himalayan blackberry, English ivy, and bittersweet nightshade; and install native species ordered from regional nurseries; restore the original ecology of the area; enhance the aesthetics of the park for visitors; and achieve community engagement with this effort by enlisting the help of volunteers.
- Community-led conservation projects have been successful in the past through the support of local stakeholders, outside support, and spreading awareness of the local issues (Church and Prokopy 2017).
- The capstone project showed how a team of restoration ecologists can benefit these urban environments as shown by Titlow Park's lagoon area.
- This project demonstrated that through the cooperation of regional communities that the removal of invasive species and the reintroduction of native species can increase the function, safety, and aesthetics of urban environments.

Titlow Beach Park lagoon from the perspective of Polygon 5

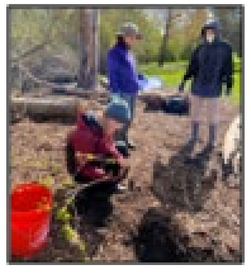
Timeline

- September → December
❑ Surveying and planning

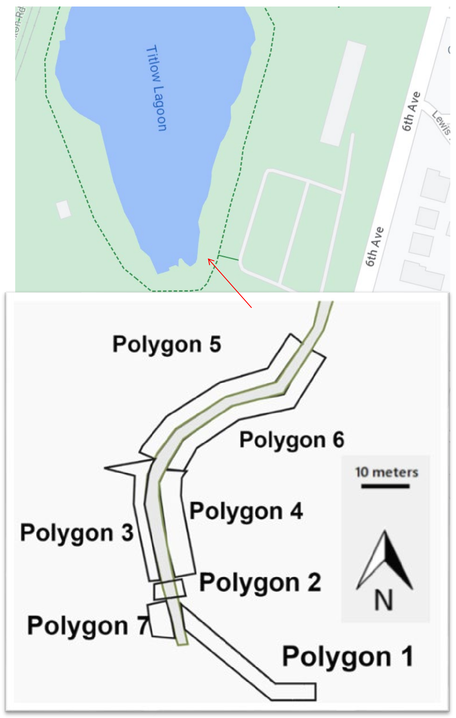
- January → April
❑ Removal of Invasive Species

- February
❑ Installing straw wattle

- February → May
❑ Mulching and planting



Restoration team members preparing to plant native species



Map of Titlow Beach Park restoration site (Google c2023) with image of polygons expanded.

Methods

- A site assessment for Titlow Park, cataloging the geography of the site, listing what plants are part of the local ecology and taking note of where invasive plant species are growing, and categorizing the site into smaller areas called Polygons.
- After the population of invasive species was recorded, they were removed from the site manually by the researchers from the project, Tacoma Park workers, and volunteers. This was largely done in Polygon 1 near the trail and in Polygon 4.
- Mulch was then placed in the areas where invasive plants were removed. Straw wattle were also placed next to the rivers to prevent erosion.
- New species of native plants were distributed along the mulched areas excluding Polygon 2 which comprised mostly of a river.

a) Polygon 1 before restoration work
B) Polygon 2 after restoration work
c) Members of the restoration team

Discussion

- The overall success of the project on restoring the riparian zone can only be determined through observation of the area in time.
- Its success will be determined if the long-term goals of the restoration effort is achieved, which are succession of the forest ecosystem aided by the installed new plants, the re-establishment of wildlife with lower risks of invasive species returning, and the achievement of a climax community dominated by red alder, douglas fir, and western redcedar.
- More than fifty individuals volunteered to work in the restoration project.

a)

b)

c)

Conclusion

- At the end of the project deadline, the goals of the capstone were completed with every invasive plant species from an area measuring 30yd^3 and a total of 280 native species planted.
- Invasive species where removed and a stewardship plan was produced and presented to Metro Parks Tacoma with information on the upkeep for the area with detailed objectives on maintaining the installed native plants, the prevention and removal of new invasive plants, and strategically replacing invasive plant species with native species as a form of cultural control.
- An aspect of the project that I felt was significant was being able to gain help from the local community in removing invasive plant species from the site, which showed how individuals and groups can be invested in conservation efforts.

Restoration team with community volunteers

Acknowledgements

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References

Church SP, Prokopy LS. 2017. The influence of social criteria in mobilizing watershed conservation efforts: A case study of a successful watershed in the Midwestern U.S. Land Use Policy. [accessed 2023 May 29]; 61: 353-367. https://doi.org/10.1016/j.landusepol.2016.11.030

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