

Restoring Urban Habitat Using a Functional Requirements Approach

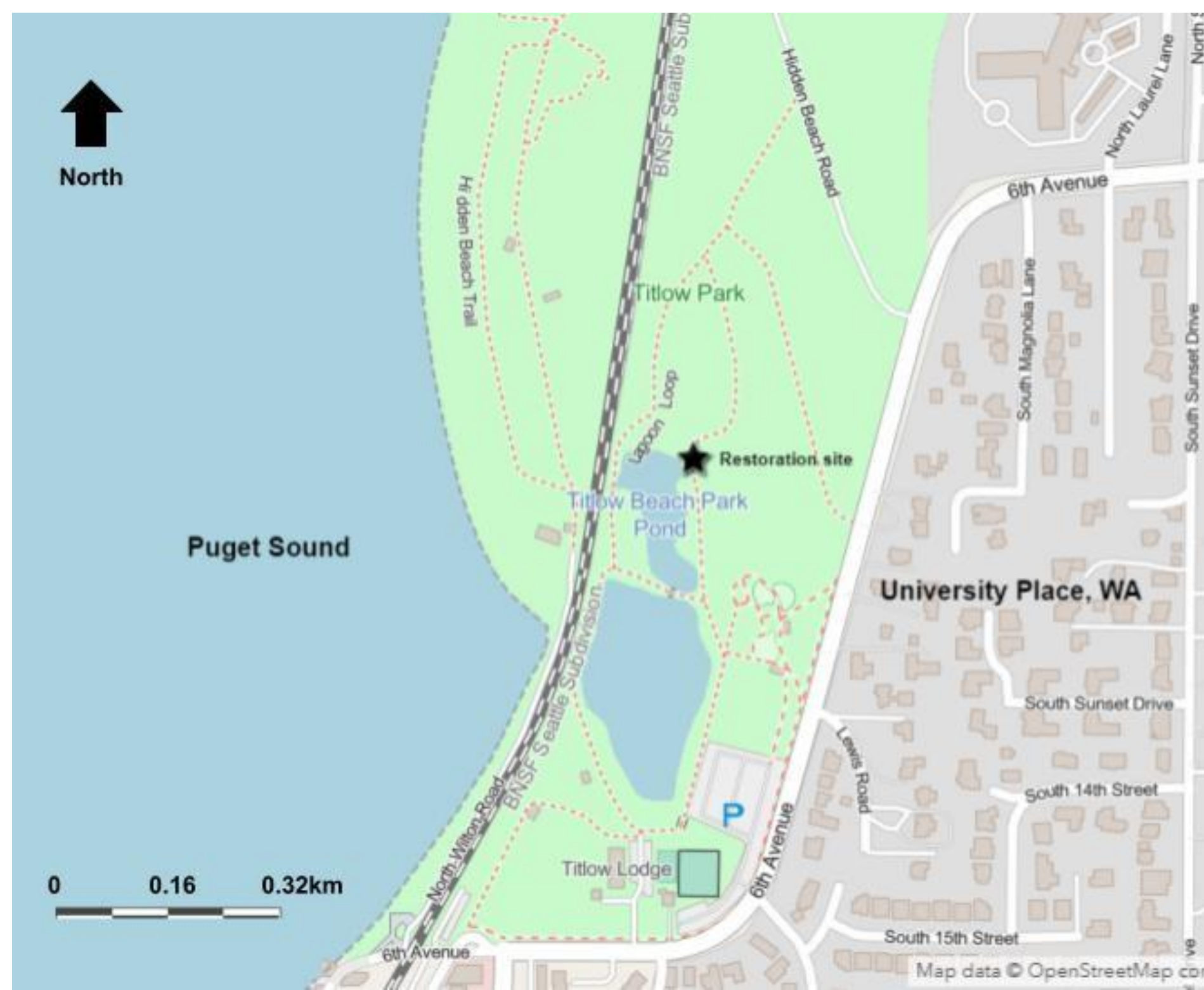


Chloe Nelson¹, Emellia Treece¹, Gabby Kretschmer², Amber Smith¹, Tia Tumaliuan², Victoria Chavez¹, Nathaniel Torres-Figueroa¹, Cynthia Updegrave^{1,2}

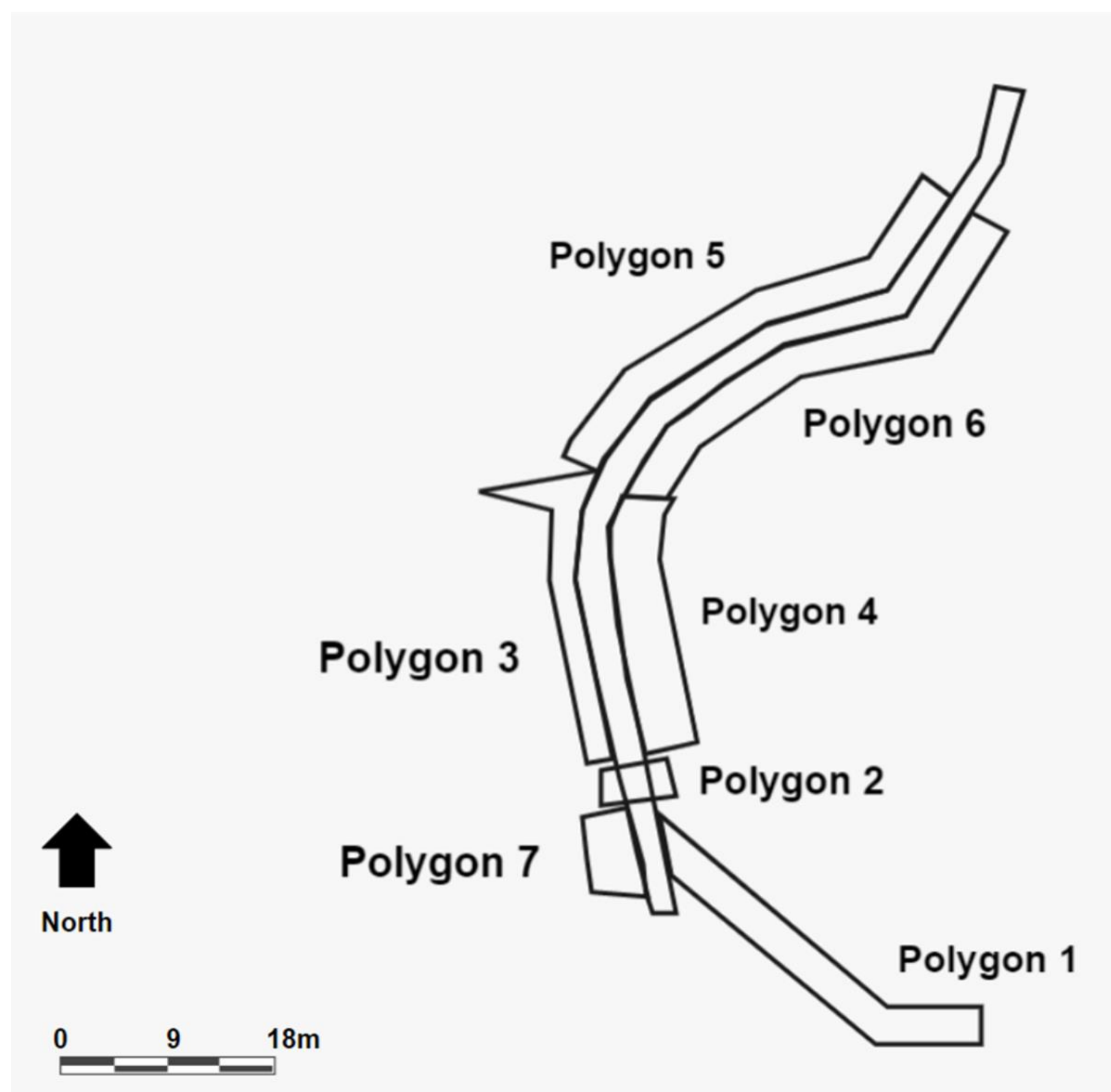
¹ UW Tacoma

² UW Seattle

Site Description



Our restoration site, located within Titlow Park in Tacoma, WA is approximately 715 m² and encompasses a walking trail, the Titlow Lagoon and a freshwater stream. The site was delineated into 7 polygons based on the native vegetation and unique ecological functions.



Functional Requirements

The approach we used in this project was based on the concept of functional requirements (FR). In this method, meaningful and predictable parameters were identified and followed in order to accomplish our goals of enhanced ecosystem functions and services through maintained biodiversity.

FR 1: Enhancement and Management of Plant Species



Overgrown invasive Himalayan blackberry



Invasive removal, straw wattle, mulch and native planting

FR 2: Enhance Aesthetic of the Trail



Addition of shrub borders along trail

FR 3: Enhancement and Care of Lagoon and Stream



Removal of bittersweet nightshade in sensitive salmon habitat

FR 4: Enhance Community Involvement



Invasive species removal work party with volunteers

Notable Achievements

- 280 native species planted
- 45 yd³ mulch applied
- 50 m straw wattle applied
- Conducted 2 work parties with 50+ volunteers
- 1300+ work hours

Prospects

Short-term Outcomes:

- Reduced presence of Himalayan blackberry and bittersweet nightshade (FR 1)
- Native plant communities reintroduced (FR 1 & FR 2)
- Wetlands and stream flow strongly into the lagoon (FR 3)
- Increased community engagement (FR 4)

Long Term Prospects:

- Succession of a forest ecosystem aided by the plants installed in 2022, with the achievement of a climax community dominated by red alder, Douglas fir, and western redcedar in 100-200 years
- Reestablishment of wildlife
- Lowered risk of invasive species reestablishment



Team Titlow (from left to right): Emellia, Nathaniel, Amber, Victoria, Chloe, and Tia (not pictured: Gabby)

Acknowledgements

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