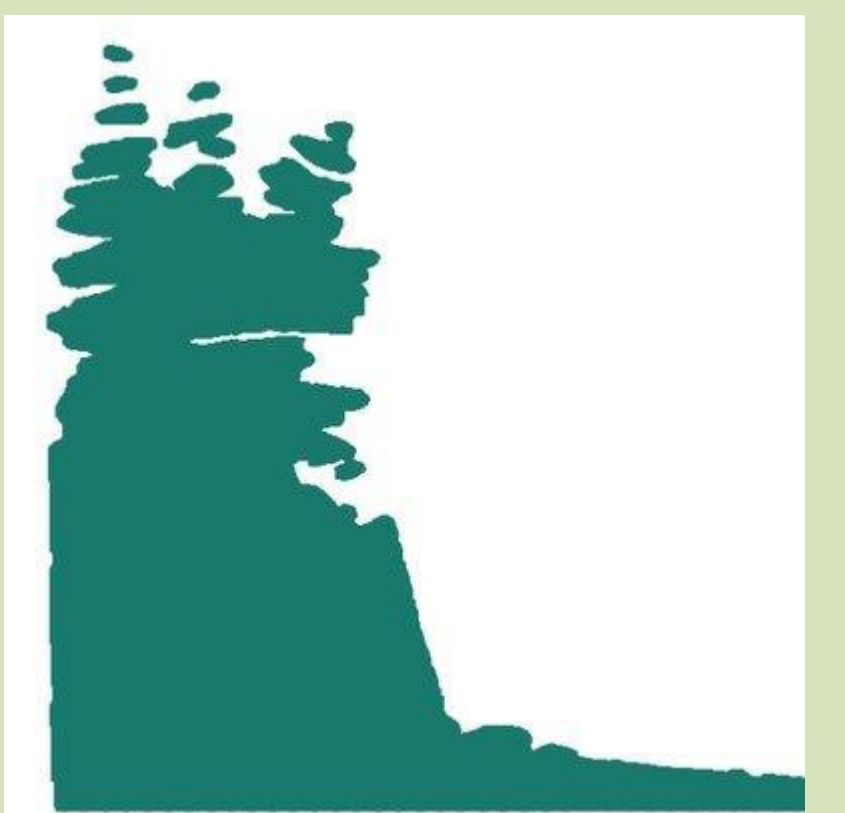


Using Remote Acoustic Monitoring to Assess Avian Community Response to Forest Management Practices on Great Peninsula Conservancy Preserves

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Background

- Recent studies indicate a decline in populations of land birds in North America
- Goal of Great Peninsula Conservancy (GPC): maintain and improve the ecological integrity of forestlands
- Evaluating the use of acoustic monitoring to determine whether the habitat restoration of forest is valuable for increasing bird population is important.

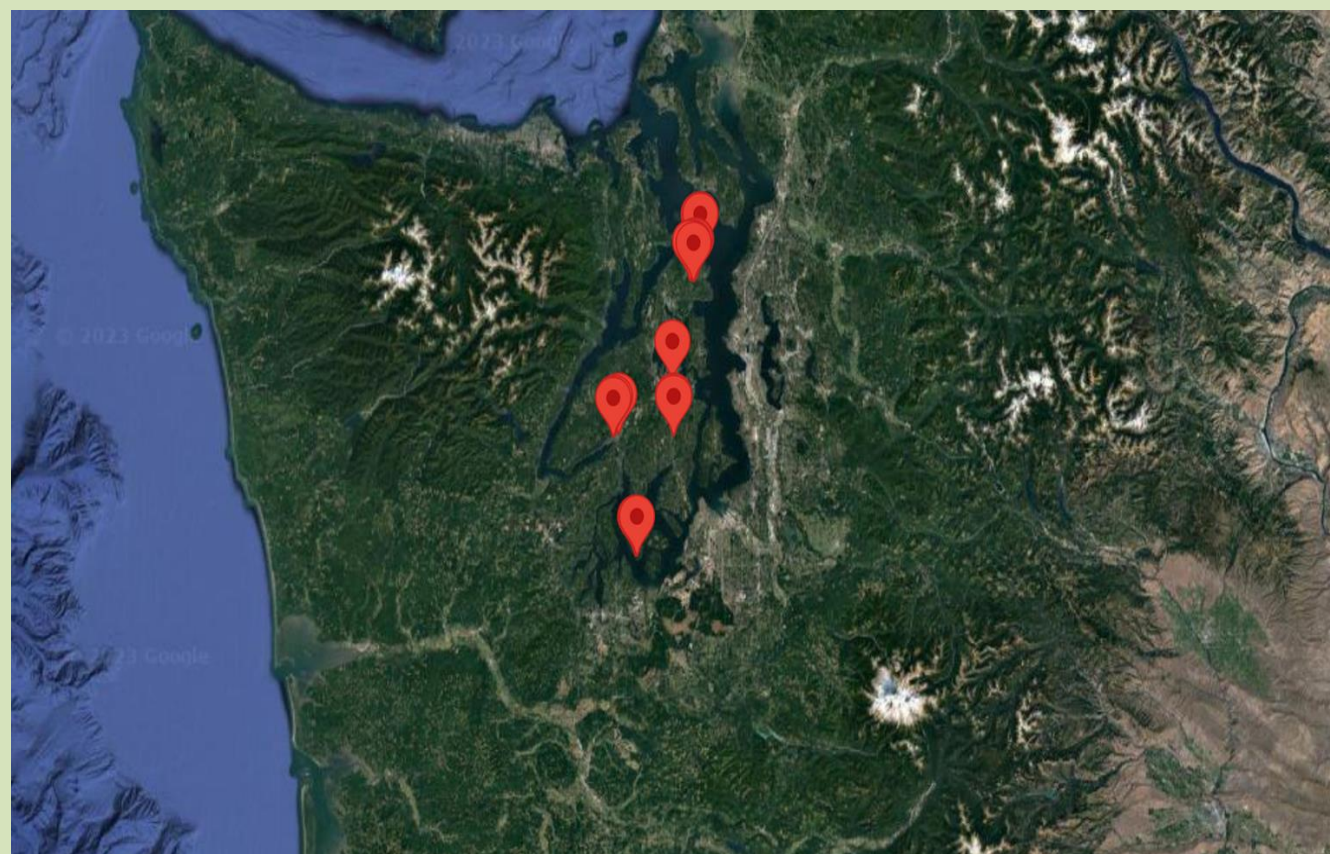


Figure 1. The Study area: five conservation lands owned by GPC (Great Peninsula Conservancy)

Researchable Question

Do habitat conservation practices implemented on forest lands impact the bird community?

Internship & Methods

- AudioMoth: acoustic device programmed to capture avian vocalizations
- Arbimon: Analytical tool to analyze large volumes of audio data



Figure 2. AudioMoth, programmed to capture avian vocalizations

Internship & Methods (cont.)

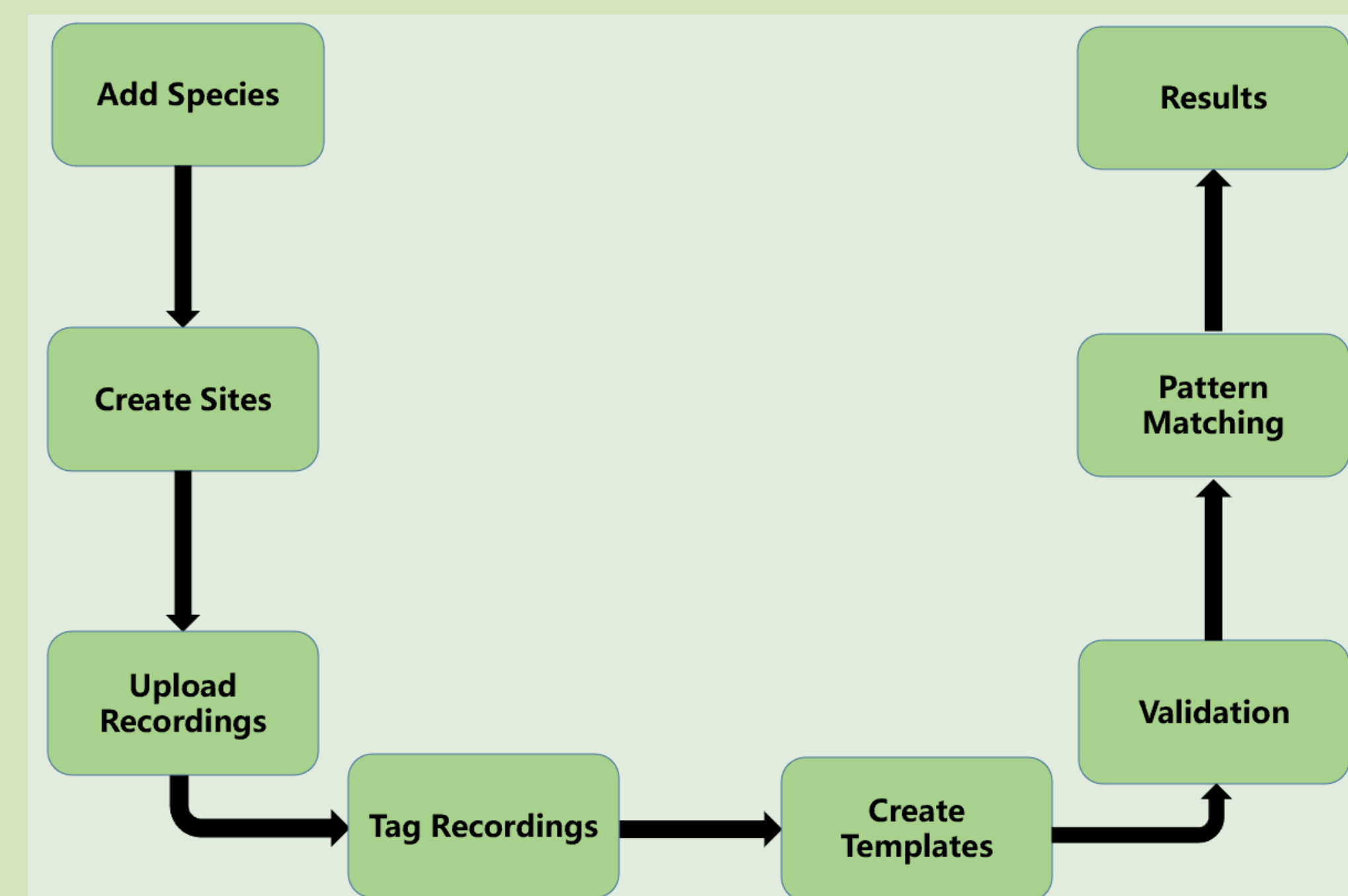


Figure 3. Flow chart on steps of using Arbimon

- Interned with GPC assisting with building templates and mining audio files with Arbimon
- Examined sonograms for vocalizations of 10 targeted birds on GPC's sites.
- Monitored pattern matching process for birds' vocal presence.
- Selected 3 targeted species on EglonBeebe site to run pattern matching for vocal presence prior to and after the conservation implementation.

Results

- The percentages of species' calls/songs were always higher after conservation practices were implemented.
- These results indicate that the habitat conservation practices implemented by GPC on forestlands are effective and increased the bird species' population and the forestlands' biodiversity.

Results (cont.)

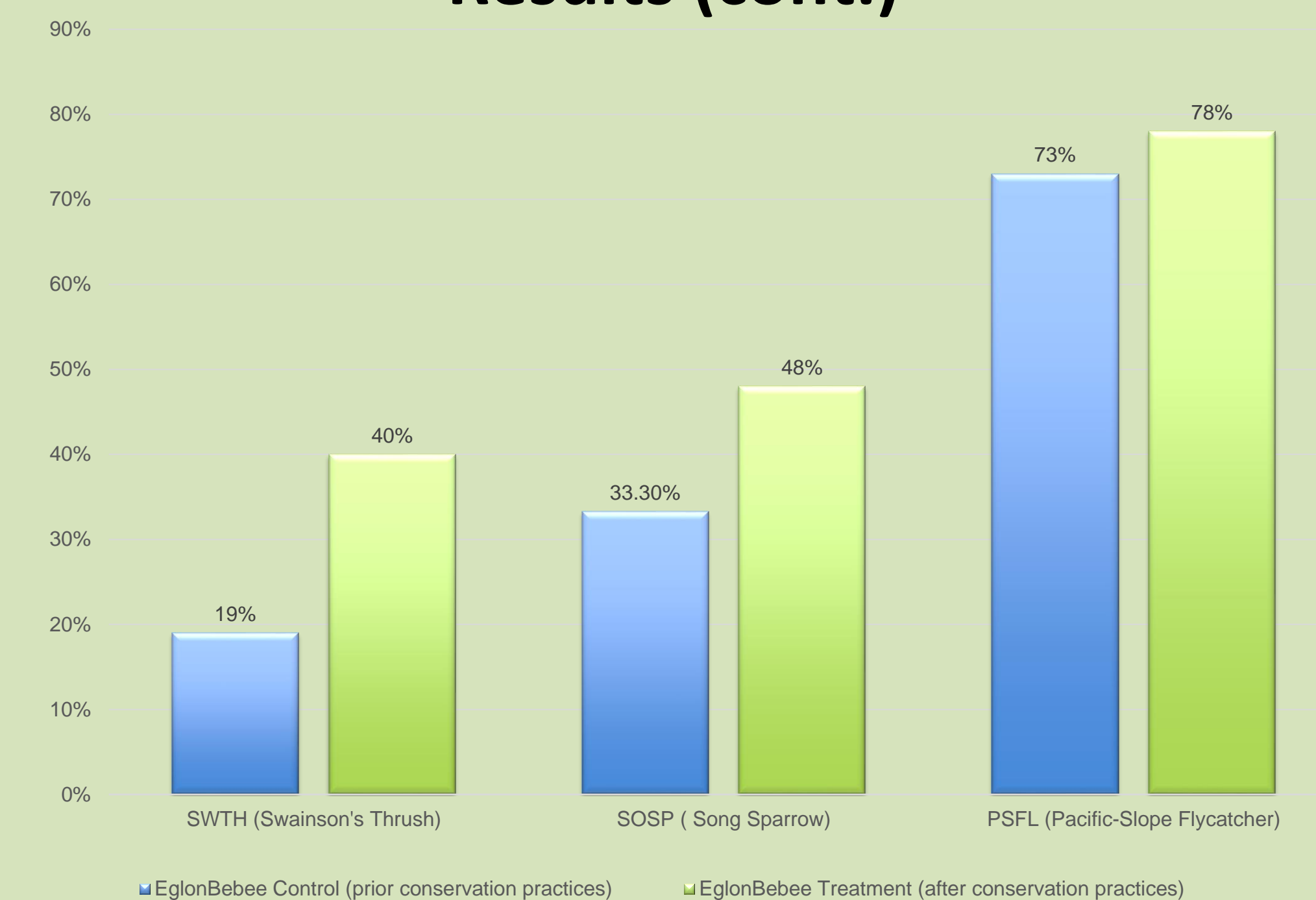


Figure 4.
Swainson's
Thrush (SWTH)



Figure 5. Song
Sparrow (SOSP)



Figure 6.
Pacific-Slope
Flycatcher
(PSFL)

Significance

- Remote acoustic monitoring is efficient in collecting targets in complex geographical locations.
- Characterizes the change in the bird community following habitat conservation practices.
- Directs future conservation practice work based on bird response.

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