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Acoustic telemetry was employed to determine striped bass (Morone saxatilis ) residence time and identify most utilized striped bass holding locations within the Tracy Fish Collection Facility (TFCF). On average (± 95% confidence interval [CI]), striped bass residence time was 75.4 ± 30.6 d (range = 0.01–289.7 d). Regression analysis of the number of days present inside the TFCF versus acoustic tagged striped bass body size (fork length) yielded a slightly positive slope, although an r2 value of 0.029 and p-value of 0.343 indicate little statistical significance in the relationship between the two variables. On average (± 95 percent CI), acoustic tagged striped bass were located in the upper primary channel, middle primary channel, lower primary channel, bypass tubes, and secondary channel during 44.8 ± 13.9, 10.0 ± 4.3, 2.7 ± 1.5, 8.7 ± 7.2, and 33.8 ± 16.3 percent of tracking attempts, respectively. Prolonged striped bass residence time suggests that velocities in the primary channel, bypass tubes, and secondary channel are not fast enough to guide striped bass into holding tanks; therefore, in order to remove these fish and reduce residence time within the facility, predator removal techniques should be further investigated, refined, and implemented at the TFCF. Results of this study suggest that future predator removal efforts should be concentrated in the upper primary channel and secondary channel, which were the areas of the facility where the majority of acoustic detections occurred.