

Elevations were taken from the cap of the SET receiver using a Trimble 5700 Rover RTK system measuring vertical in NAVD88 NJ State Plane feet. Elevations were taken in November 2010 for specific sites then all sites were measured in April 2014.

The differences in elevation are due to different Geoid Models, collection methods and conditions. A Geoid is a sphere representation of the gravitational equipotential of the Earth. These models are updated as necessary. Collection methods used for this survey are Rapid Points and an Observed Control Points (OCP). The differences between the two are the number of epochs that are collected and corrected. A Rapid point uses one epoch where an OCP uses 180. Using more epochs guarantees an accurate point. Reasons for using Rapid Points are due to unstable conditions, not being able to have the equipment stable for a period time or other timely issues that may come up on site.

The 2010 collection used the Geoid 09 Model with points recorded by either a Rapid Point or an OCP. There were issues with keeping a signal to the base station for RTK therefore a Rapid Point was used when there wasn't enough time to collect an OCP.

The 2014 collection used the Geoid 12A Model and recorded in only Observed Control Points.

The result of updating the Geoid Model and differences in recording the data gave us variations among the two collections.

Location	Site	Latitude	Longitude	November 2010		April 2014	
				Date	Cap Elevation (ft)	Date	Cap Elevation (ft)
Eight Day Swamp	EDS1	40.829561	-74.076356	11/15/2010	3.387	4/23/2014	3.633
Eight Day Swamp	EDS2	40.829572	-74.076256	11/15/2010	3.570	4/23/2014	3.921
Eight Day Swamp	EDS3	40.829571	-74.076152	11/15/2010	3.429	4/23/2014	3.727
Lyndhurst / Riverside Marsh	LR1	40.782092	-74.090039			4/24/2014	3.487
Lyndhurst / Riverside Marsh	LR2	40.782113	-74.090085			4/24/2014	3.646
Lyndhurst / Riverside Marsh	LR3	40.782199	-74.090154			4/24/2014	3.267
River Bend Marsh	RB1	40.753147	-74.092993			4/22/2014	3.482
River Bend Marsh	RB2	40.753184	-74.092929			4/22/2014	3.722
River Bend Marsh	RB3	40.753216	-74.092748			4/22/2014	3.529
River Bend Marsh	RB4	40.752903	-74.093009			4/22/2014	3.617
River Bend Marsh	RB5	40.752919	-74.09288			4/22/2014	3.608
River Bend Marsh	RB6	40.752911	-74.092731			4/22/2014	3.549
Secaucus High School Marsh	SH1	40.805311	-74.044925			4/25/2014	3.022
Secaucus High School Marsh	SH2	40.805539	-74.044915			4/25/2014	2.948
Secaucus High School Marsh	SH3	40.805636	-74.045035			4/25/2014	2.720
Saw Mill Creek	SM1	40.767767	-74.09114	11/19/2010	2.319	4/24/2014	2.629
Saw Mill Creek	SM2	40.767887	-74.091207	11/19/2010	2.418	4/24/2014	2.522
Saw Mill Creek	SM3	40.767797	-74.09119	11/19/2010	2.146	4/24/2014	2.714
Walden Swamp	WS1	40.818932	-74.085941	11/15/2010	3.467	4/28/2014	3.845
Walden Swamp	WS2	40.818946	-74.085838	11/15/2010	2.194	4/28/2014	3.336
Walden Swamp	WS3	40.818951	-74.085736	11/15/2010	3.387	4/28/2014	3.699

