



Treasure Island – Lake Fairlee

Lake Wise Evaluation

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Address: 1218 Rt.244, West Fairlee, VT

Overall Results:

Treasure Island met the Lake Wise standards for Parking and Structures, but fell short on Recreation and Shorefront, mostly from compacted areas. Trapping sediment, developing defined pathways and increasing the vegetative buffer will make Treasure Island eligible to earn the Lake Wise Award. Overall, this Town-owned recreational area has exemplary natural areas and features. There is an exciting potential for Treasure Island to serve as a demonstration area to the lake community about what lake-friendly management can look like. I hope to continue working with the Town and Treasure Island Advisory Committee to identify priorities and seek creative ways to implement these projects as part of the Lake Fairlee Watershed Action Planning process.

Driveway Area: The parking area is in surprisingly good shape given the size and slope. The water bars that divert water into the wooded buffer are functioning and not leading to additional erosion. The overall size of the parking area is a little excessive. Perhaps adding some large logs similar to the ones that are there could help to reduce the overall width of the area without reducing the number of parking spaces.



The area of parking by the gray car is very wide. Consider adding some logs to reduce the overall width without sacrificing parking spaces.

One area of concern is at the bottom of the parking near the ticket booth and off to the side over the retaining wall toward the picnic pavilion. Evidence of water flowing off the parking and around these areas has formed channels and deposited sediments. Planting native shrubs or a rain garden along the

retaining wall and split rail fence could be used to slow the flow of water, trap sediment before it enters the lake and add an attractive entrance to the beach area.



The lower end of the parking area shows signs of erosion from the volume of water that flows across the parking. Adding a rain garden or shrubs in these areas could help slow the flow of water and trap sediment before it enters the lake.



It is important to maintain the access road and parking area. Keeping the access road crowned to divert water into the wooded areas, maintaining the water bars to divert water into the vegetative buffer and keeping the bare dirt covered with gravel (it looks like this has been recently done at the lower area of the parking) will go a long way to maintain a stable parking area with the least impact to the lake.

The access road along the basketball court to the Island shows signs of instability. Water flows off the court to that access road and almost directly into the lake. Use of large boulders or an erosion control mat could be used to help establish vegetation long this steep slope. The other road coming down from the house toward the causeway is also showing signs of erosion. This area needs to be regraded with the addition of water diversions to send sheet flow into the wooded area and help reduce the movement of sediment into the lake.



The access road next to the basketball court is unstable from runoff and the sediment is very close to the lake. Refer to the new Vermont Bioengineering Manual for guidance on stabilizing this slope.
https://dec.vermont.gov/sites/dec/files/documents/BioEngineeringManual_Final.pdf



This portion of the access road down from the house toward the causeway is showing signs of channelized erosion. The road needs to be reshaped to divert water into the wooded areas and slow the flow of water before it enters the lake.

Structures and Septic Systems:

Structures: There are many structures throughout the property of varying sizes. The park has done a great job reducing mowed areas and maintaining the natural vegetation and duff layer around these buildings to slow the flow of water from the impervious roof surfaces. However, along the front of the main house, and along the drip edge of the bath house and first aid station a dripline trench could be added to allow water to infiltrate the ground (see attached Guidelines about dripline trench construction). These areas (especially those closer to the beach) are heavily used, exposed dirt is visible and evidence of erosion was observed. Catching water from the roof and allowing it to be absorbed would help reduce the movement of sediment in this area close to the beach and the lake.



Areas like the side of the First Aid station, the bathhouse and the front of the main house would benefit from a drip line trench of gravel to trap water from the roof and allow it to infiltrate.

Septic: In a heavy-use public area maintenance of the septic is integral to the health of the swimmers and the lake. According to the Town Manager the septic system is about 10 years old and is cleaned yearly and the entire system is mowed twice a year. This is great news! In addition, since there is a well-functioning septic system, I would recommend removing the latrine located on the Island, there is a high likelihood that effluent could be leaching into the lake.

Recreation Area:

This is a wonderful recreation area for the community. Many of the improvements that have been made already are great. Generally, the mowing in the beach area is minimized to balance sufficient recreation areas with natural vegetation. Improvements such as the mulched playground and garden are fantastic. Adding similar mulch around the tetherball would improve that area where the soils are heavily compacted and bare earth is exposed.

The gravel perimeter around the beach is doing a good job diverting water and reducing the movement of sand into the lake. At the outflow of this area there are piles of unused docks and boat racks. Installation of a rain garden or a gravel dry well in this area could help filter the excess water before it enters the lake while also enhancing the look of the beach.



The outflow of the gravel drain around the beach is effectively reducing the movement of beach sand into the lake. The outflow of the drain would benefit from a rain garden or drywell to trap the water and slow its flow before it enters the lake.

The sand volleyball court is very close to the lake and has somewhat overwhelmed the retaining wall on the lake side. Improving the retaining wall and enhancing the buffer plantings in this area would be very beneficial. The entire area between the beach pavilion, the large stump and the volley ball court could be improved with defined pathways and native plantings. This area receives a lot of use and defining the pathways to direct traffic and allowing the native vegetation to establish would be very beneficial to protecting the lake from sediment.



Left: Sand from the volleyball court is migrating over the small retaining wall and towards the lake.
Right: This area close to the volleyball court needs defined pathways and plantings to allow native vegetation to re-establish and filter sediment before it enters the lake.



Shorefront and Lake Access:

Separating the recreation area from the shorefront and lake access is difficult on this public site. Overall, the Town has done a great job leaving natural vegetation to buffer the lake and maintain the rustic appeal of the entire area.

North end past the art shack:

There is an old trail that runs along the shoreline and is negatively impacting to the shoreland vegetation. This trail could be re-routed away from the shore with designated access points to the lake. Permits are required for this activity and it may not make sense at this time. If the trail is going to be abandoned, effective blocking and re-establishment of the natural vegetation would be beneficial to the shoreline. There is a wet meadow near the north end that is slowly reverting to natural vegetation. Designating this as a no-mow zone and allowing this area to return to its natural state will provide diverse habitat to the property.

Main beach area:

Many of the beach area recommendations were addressed in the recreation section. The slope leading up to the first aid and bath house is compacted and bare earth is visible. This area is mowed very short and receives a lot of foot traffic. Unfortunately, compacted short grass is not effective for slowing water or improving permeability. Defining pathways and increasing permeability with deep mulch or crushed stone would help to slow the flow of water in this area. The addition of infiltration steps up from the beach to the bath house area could also be used to direct traffic and allow stormwater to infiltrate.



Bare earth in front of the First Aid station could be reduced with simple infiltration steps like the ones to the right that allow water to soak into the ground and guide traffic.



The Island:

Just before the causeway there is a mowed area that goes down to a mucky access point. Historically, I was told this was a boat launch but it is not clear if this area is used any longer. Perhaps this could become a no-mow zone and the natural vegetation could be allowed to re-establish. If the area is still used, then perhaps it doesn't need to be as wide. At the moment runoff from the access road enters the lake at this point.



Mowed area next to the causeway. Is this used anymore? Or could it be designated a no-mow area to help filter run-off from the access road.

The native vegetation that is on the island is generally healthy and the parts of the shoreline are naturally armored with bedrock-- all of which is great. This is a popular area but it would benefit from some careful alterations. As I mentioned, removing the latrines would be an excellent start to protecting water quality. There is also a large mowed area that heads south out to a point. Defining the area past the latrines as a narrow path would not reduce the recreation area significantly and would help enhance the lake buffer zone. By creating a no-mow zone and defining the pathway with some logs and perhaps mulch would be an effective and low cost way to achieve big results.



This large mowed area heads south past the latrines out to a point. Defining a trail with logs or stones and designating no-mow areas would help restore this area without significantly reducing the recreation space.

In the main open area of the island the goal should be to enhance the native vegetative buffers that are there. By designating no-mow zones, adding native plants and defining pathways to direct traffic toward the natural rocky ledge areas to access the lake would help increase the buffer. Allowing the natural duff layer to accumulate in the buffer areas will help provide nutrients to the vegetation that is there, help hold moisture and define traffic areas from vegetated buffer areas. Products such as Erosion Control Blankets (ECB) which are biodegradable woven blankets to provide temporary cover and support for establishing vegetation on bare soil areas could be used to help establish vegetated zones. More information is on ECB is available in the Vermont Bioengineering Manual referenced earlier and available on-line.

South end:

This area of the property has not been used much in recent years. There is an existing path, picnic platform and open field. Most activity in this area is away from the lakeshore which makes it well situated for additional recreational activities if that is desired.

Recommendations:

Overall, Treasure Island lives up to its name as a treasure for the community. Many of the natural areas are healthy functioning forested buffers that contribute to lake-friendly management. The Town has done a great job reducing the mowed areas, working to reduce run-off from the parking area, beach and playground. The actions that are identified in this report all focus on slowing the flow of water from hard or impervious surfaces so that only the cleanest water enters the lake. Installing rain gardens, shrubbery or drywells to slow the flow of water from the parking and the gravel trench, defining pathways and stairs around the busy beach area and establishing larger buffers along the shoreline will add additional layers of protection for Lake Fairlee. The access road to the causeway deserves attention to divert water into the vegetated buffer before larger erosion problems occur. The Vermont Bioengineering Manual (https://dec.vermont.gov/sites/dec/files/documents/BioEngineeringManual_Final.pdf) will be an invaluable resource for deciding how to proceed with these restoration projects. I will continue to be available to help prioritize projects and integrate priorities into the Lake Fairlee Watershed Action Plan.

Thank you for being a part of the Lake Wise Program! If you have any questions about this report, please contact Lisa Niccolai Lisa.WRNRCD@gmail.com or the Lake Wise criteria, please contact Alison Marchione, the VTDEC Lake Shoreland Coordinator at Alison.Marchione@vermont.gov.