

Developing and Implementing a Direct Seed Program in the San Juan Islands San Juan Islands Conservation District

[WOC-2018-SaJICD-00183](#)

March 15, 2018-March 14, 2021

Final Total Project Cost: \$115,160

Final Ecology Grant Contribution: \$86,370.00

Project Description

The San Juan Islands Conservation District (SJICD) purchased a single pass, low disturbance direct seed drill, and developed and implemented a No-till Project and rental program in the San Juan Islands. A maintenance fee deposit was collected for project participants to cover the cost of maintenance. If participants needed planting and transportation assistance, fees were charged for that as well. The desired outcomes of the project were to use no-till technology to increase pasture or forage plant health, diversity, reduce petroleum emissions, increase soil health and reduce erosion and runoff in seasonal streams in WRIA 2. This project supported Puget Sound Partnership Near Term Action 2016-0137, sub-strategy 10.1.

The agricultural community in the islands has been stuck in a historic rut that involved the replanting of pastures and forage land using outdated and disruptive tillage and planting technology that compromised soil health, destroyed the forage plant community, and led to a decrease in water quality in seasonal streams emptying into the nearshore environment.

This project was designed to introduce and educate the agricultural producers in San Juan County (SJC) on the main four ferry-served islands that there is new and innovative farming technology in the form of the no-till drill that could offer substantial benefits for the ecology of local agricultural operations through increasing soil health, plant health, and water quality.



Post grain harvest field, diked in the fall, up and down the slope. Then a 6" snow fall and rapid melt. False Bay Ck. on the right with surface flow evident in the center. Old technology, evident transport of soil and nutrient load into nearby seasonal stream.



No-till planting, Nolan Farm, SJI, Fall of 2018. 4 acres completed with Kakariki clover, Kingston PRG, Forage Chicory, Tonic Plantain.

Project Accomplishments

Our project did allow many participants to enjoy the attempt at re-seeding several times into minimally disturbed pastures which led to the opinion by project participants that the No-till Project was moderately successful. The timing of planting became very important as we discovered quickly that spring plantings had the additional challenge of inadequate rain fall. This forced participants to transition to fall plantings. This allowed fall rains to help.

Fertilization turned out to be a very important and necessary practice. Soil tests done in the beginning indicated the need for a program of nutrient management that would increase planting success on all sites. Many of the cooperators did not institute a program of fertilization and had lower success rates than those that did.

For many participants, the inclusion of an organic pellet fertilizer and biochar made a minor difference. While this application made it easy to spread fertility inputs via the no-till drill, the amount needed would have to be applied in subsequent years to make a difference. We now know we can approach fertilization using a no-till drill.

Grazing too early after planting hurt the young forage plants on many sites. The sites with higher success in year two were sites with minimal or no grazing. The anticipated benefits of no-till use have all been validated and the participants have recognized a new way to revitalize and renovate their land. In the end it was evident that the participants came out of this project wanting more of the same and the recognition of the potential of no-till has just barely been tapped. They want more!

Water Quality Improvements

The no-till technology we applied to permanent pastures and forage production fields holds a lot of promise. This project has proven the potential for changing plant communities, increasing biodiversity, minimizing soil disturbance, maximizing permanent cover of the soil and keeping soil biological communities intact with living roots. The benefits to soil, water quality, air quality, plant diversity, animal health in the future and social benefits to the human community have all been validated and the participants have recognized a new way to revitalize and renovate their land.

The Next Step for Continued Success

Having experienced some degree of the benefits to soil, water quality, air quality (due to reduced machinery fuel and pollution), increased plant community, animal health in the future and social benefits to the participants in this project, agricultural community members have all expressed positive comments about the project. As participants have recognized a new way to revitalize and renovate their land, it was evident that the participants came out of this project wanting more of the same. The recognition of the potential of no-till has just barely been tapped and outside producers have noticed, they want to try out the technology. The project participants have been strong advocates to their peers, they all want more of the same.

The future of this program is now transitioning on two different pathways. The SJICD, along with WSU Extension San Juan County, have partnered with a small WSU BIOAg grant to offer the first No-till Workshop in the spring of 2021. This workshop will be for past participants of this No-till Project and eager farmers who have watched from outside of the project to learn how to use the drill, pass a proficiency test and then be able to lease the drill to use on their farms.

Our dedicated sub-contractor will continue to offer his services to farmers that have been in the project and those other farmers who are new to the technology but don't have the equipment or time to initiate no-till plantings on their own. This allows the private sector to be an important participant in expanding this technology on the many farms in the San Juan Islands.

In addition, future grant opportunities will hopefully be found to offer a renewed No-till Project and move forward with new strategies and planting options based upon what we have learned and will learn as we move through time.

The no-till drill has a secure storage location and a back-up site if needed. During the time of storage and preceding use, maintenance will be an ongoing practice to make sure the drill is ready for the next intense period of usage. SJICD staff will be associated with this maintenance and the check-out and check-in of the drill for end users. We will also be ready to help transport the drill via pick-up truck on to the inter-island ferry if the end user needs the help.

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March 2020 No-till and Forage
Workshop Beaverton Valley
planting site SJI. (Pre-pandemic!)



Old disc open tillage technology



New No-till drill technology