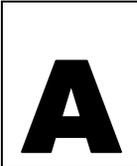


WMF Form A: Workplan Template
Watershed Management Fund Workplan: 2018/19



Definitions

Goal: What you are working towards, your ultimate destination, where you are going.

Objective: Tangible, measurable steps on the road towards your goal.

Activities: The specific actions you plan to do this year.

Submit completed form by **March 31, 2018** via email to kemacquarrie@gov.pe.ca or in person to Kate MacQuarrie, Ross Bernard or Mary Finch

Watershed Group: South Shore Watershed Association

Goal #1: River Assessment: Recheck previously rehabilitated river sections to confirm fish passage abilities and requirements for additional rehabilitation structures.

Objectives	Activities
<p>River assessments: Westmoreland Watershed: Reassess 4 km of stream above Stordy’s Pond on the East Branch of the Westmoreland River to the Balaclava Rd. Reassess 1.5km of stream above Craud on the West Branch of the Westmoreland River to the Old Town Road.</p> <p>Tryon Watershed: Reassess 2km of stream above Lord’s Pond on the Tryon River along the Trans-Canada Highway Branch</p>	<ol style="list-style-type: none"> 1. Reassess designated section for downed trees and winter damage. <ol style="list-style-type: none"> a. Re-establish fish passage b. GPS & photograph if chainsaw service is required c. Refer to stream cleaning crew 2. Locate, GPS & photograph areas of point-source siltation/run off [recheck after major rain event] - Refer to manager for reassessment 3. Locate, GPS & photograph areas of garbage dump <ol style="list-style-type: none"> a. New or environmental issues need to be reported to both SSWA manager and landowners 4. Locate, GPS & photograph areas which require planting in buffer zones 5. Locate, GPS & photograph areas that need attention or restoration 6. Locate areas of invasive species, according to list provided by PEIISC. <ol style="list-style-type: none"> a. Document and refer to invasive species protocol 7. Report beaver activity on main branches and assigned tributaries, following SSWA beaver management policy 8. Identify gravel spawning grounds. 9. Identify & GPS brook trout spawning springs

Beaver Dam Assessment:

Reassess identified beaver activity areas below to determine action required to re-establish fish passage

1. DeSable River
 - Linden Hill Pond area

1. Assess areas for beaver activity
2. If no activity or evidence of beaver life is found
 - a. GPS and photograph
 - b. remove old debris
3. If beavers / dam-building activities / or beaver evidence (chewed branches) are located
 - a. attempt to identify dam or lodge area
 - b. GPS & photograph area
 - c. report to manager

Culvert Assessments:

1. To confirm fish passage abilities to restored stream sections above
2. monitor ATV and motorized vehicle passage damage through the river bed – Identified issue on east branch of Westmoreland River at Curran & Briggs gravel pit

1. Confirm fish passage
2. If fish passage is obstructed:
 - a. GPS, photograph and identify as
 - i. Private crossing
 1. If a simple blockage - remove debris
 2. If a functional issue (hung / sloped / or crushed), refer to manager
 - ii. Department of Transportation crossing
 1. If a simple blockage - remove debris
 2. If a functional issue (hung / sloped / or crushed), refer to manager

Goal #2: Stream Restoration: Restore / assist fish passage for all life stages and species of anadromous fish populations to new areas or areas which have not been addressed in over 5 years.

Objectives

General stream cleaning to remove fish blockages caused by refuse debris, downed trees, overgrowth of pioneer species trees, invasive species, and overgrowth of water plants:

Locations:

Tryon Watershed:

1. 2 km section along Stuchberry's Lane will be cleaned to restore fish habitat – This was begun in the 2017 season but could not be completed – there is a .5km major blockage area
2. 1 km section along Church Road Branch of Tryon River
3. 1.5km section along main tributary above Lord's Pond, Tryon River to Mount Tryon Road

Westmoreland Watershed:

1. 2 km between Old Town Rd and Inkerman Rd (new area never cleaned before)
2. .5 km of stream in Victoria to be cleaned / assessed (new area never cleaned before)
3. 2km upstream from Balaklava Rd as far as able to reach the spring of east branch

DeSable Watershed:

1. .5 km above Linden Hill Pond – if permissions are confirmed

Seven Mile Bay Watershed:

1. .5 km above Noonan's wetlands in Borden – if permissions are confirmed

Activities

1. obtain general stream-cleaning permit and landowner permission
2. assess river section to determine which trees will be removed and which will stay as fish cover and mammal crossings
 - a. unstable trees in the water column, or trees overhanging the river too low to allow for spring freshets, will be removed.
 - b. Stable rooted trees with acceptable clearance will be left for shade and crossings.
3. remove designated or downed trees
 - a. ensure debris is placed high on the bank, out of the flood plain to prevent re-entry into the river.
4. identify any areas of invasive species which must be removed from the area to prevent reintroduction downstream
 - a. See invasive species protocol
5. identify & remove any overgrowth of water plants
6. identify any springs in need of future rehabilitation work
 - a. See springs rehabilitation protocol
7. document work locations and before-and-after photos
8. plant riparian and upland trees and shrubs where warranted for:
 - a. bank stabilization
 - b. reduced erosion and siltation
 - c. shade and shelter
 - d. biodiversity
 - e. wildlife protection

Goal #3: Spring rehabilitation Protocol: Clean sediment and plant overgrowth from springs to re-establish water flow and fish access to improve spawning rates of SSWA Brook Trout.

Objectives	Activities
<p>To recheck and re-assess springs cleaned in 2017 for signs of fish use:</p> <ol style="list-style-type: none"> 1. Spring in Lupin Trail park <p>Identify and address new springs where cleaning has been requested</p> <ol style="list-style-type: none"> 1. Spring near new Augustine Cove Bridge (#1129) 2. Tryon estuary – Acadian well below walking trail 3. Barbara Clement’s spring <p>These springs were carried over from the 2017 season. The springs were checked but the season was too dry to attempt restoration work; they will be reassessed this season</p>	<ol style="list-style-type: none"> 1. Identify springs in need of cleaning 2. inspect springs for any sign of fish 3. remove excess heavy debris and plant overgrowth 4. pressure-wash springs with outlet or small pump 5. remove dirty water with larger pump 6. ensure dirt water is not entering water channel 7. recheck springs after cleaning

Goal #4: control of invasive species protocol: To prevent the spread of existing invasive plant species, monitor for the arrival of new invasive species and develop an action plan for their eradication from the SSWA environment.

Objectives	Activities
<p>Increase public awareness of invasive species issues:</p> <ol style="list-style-type: none"> 1. SSWA will be increasing awareness of the dangers of invasive species, and including deadly nightshade and attempting to remove it from public places 	<p>Survey designated watershed for areas of:</p> <ol style="list-style-type: none"> 1. Japanese knotweed – remove and smother areas from SSWA parks 2. Purple loosestrife – cut and bag all flowers located 3. Wild cucumber – pull down and uproot all plants located 4. (Bella Donna) Deadly nightshade – remove from park / trail areas 5. Areas of canary grass which have been smothering shrub growth will be cut to enhance natural plant growth 6. Invasive species assigned "spotter" to report to Invasive Species Council any invasive species found

Goal #5: To plant native trees, shrubs and other vegetation to increase total forest cover of the SSWA watersheds, provide plant diversification and wildlife habitat.

Objectives	Activities
<p>1. Increase total forest coverage area by 4000m²- designated areas will be reclaimed as forest areas and diversely planted with native trees and shrubs</p>	<ol style="list-style-type: none"> 1. ~450 native trees and shrubs will be planted and protected by tree wraps in the reclaimed area left by realignment of the TransCanada Highway through Tryon 2. ~25 native trees and shrubs will be planted and protected by tree wraps in the Tryon River natural area 3. ~50 native trees and shrubs will be planted and protected by tree wraps in the area above Frenchy's pond in Westmoreland River watershed 4. ~50 native trees and shrubs will be planted and protected by tree wraps on private land converting to forest in Tryon River watershed
<p>2. Enhance estuary shoreline with salt-tolerant native shrubs to increase diversity, wildlife food sources, and nesting sites, and mitigate river contamination from upland runoff</p> <p>~150 m along west side of Westmoreland River estuary ~50 m along east side of upper Tryon River estuary</p>	<ol style="list-style-type: none"> 1. Westmoreland <ol style="list-style-type: none"> a. plant ~300 salt-tolerant shrubs in Victoria estuary 2. Tryon <ol style="list-style-type: none"> a. plant ~50 shrubs along route 116 where Tryon River is meandering against the road bed
<p>3. Improve forest – areas damaged by bark beetle will be restored with native trees and shrubs</p> <p>~ 4 acres of designated damaged forested areas at Camp Abegweit in Augustine Cove ~1000m² designated damaged forested area on the upper Tryon Estuary</p>	<p>Designated damaged forested areas will be restored by cutting down dead and dying white spruce trees, using the stumps as nursery logs, and replanting with native trees and shrubs to add diversity; trees will be protected by tree wraps.</p> <ol style="list-style-type: none"> 1. Richard Point - Plant 200 salt-tolerant shrubs and mixed hardwoods in upper forest area. - This is carried over from last year as trees could not be planted early in the spring and it was too dry for trees to survive without access to water so tree planting was deferred 2. Tryon Watershed - ~200 shrubs and mixed hardwoods were planted in the 2017 season in upper estuary forest site; these will be rechecked.
<p>4. Maintain pollinator garden at Westmoreland River Nature Park and establish new pollinator areas, to provide milkweed for the Monarch butterfly caterpillars and flowering shrubs for adult pollinators.</p>	<ol style="list-style-type: none"> 1. organize pollinator garden development day 2. weed, prune or replace shrubs as needed 3. recheck / plant milkweed 4. suitable locations for milkweed will be located and planted to assist pollinator populations. <ol style="list-style-type: none"> a. Seven Mile Bay at Noonan's wetlands b. Wetlands in Victoria watershed

Goal #6: Pond Restoration Projects – To establish and maintain one pond / park area on the rivers in each of the SSWA watersheds, to enhance fish and wildlife habitat and provide leisure and educational areas for residents.

Objectives	Activities
<p>Replace spillway at Lord’s Pond to prevent nutrient-laden sediment from contaminating the Tryon River and estuary. Anoxic events have plagued the Island over the past few years and are becoming steadily more common. Excess nitrates, mainly from runoff from agricultural fields, cause overgrowth of sea lettuce in the estuaries. After an initial bloom, the sea lettuce dies off, using up the dissolved oxygen during its decay process, resulting in anoxic events which kill or stress all inhabitants of the estuary. The spillway has already breached; the addition of this structure will prevent the Tryon River from flash contamination, destroying downstream and estuary habitat. This new structure will enhance fish habitat in the pond and provide fish access to upstream spawning sites, which are now blocked due to an 18-inch overhang from the culvert going under the Trans-Canada Highway. This will also allow for maintenance work to the pond.</p> <p>This project is carried over from 2017 as Department of Highways was unavailable for partnering with the project. New funding has been applied for and we will attempt to complete it this season.</p>	<ol style="list-style-type: none"> 1. obtain land for project 2. survey land for subdivision 3. survey land for placement of spillway and natural-bottomed fish-way 4. obtain blueprints for spillway replacement 5. install coffer dams to isolate work area and reroute water through old spillway 6. install environmental control structures and grub work area 7. remove sediment in pond and from work area inside coffer dam 8. maintain water control in work site 9. install gravel for base of spillway 10. install forms and concrete for spillway and wing walls; backfill to create new berm 11. install guides for stop logs 12. install stop logs 13. install armour rock 14. install safety top for spillway 15. remove coffer dam from pond 16. seed and mulch exposed soils 17. partner with ALUS program and local farmers in an attempt to use spoils removed from the pond basin to construct berms / erosion control structures to mitigate future field runoff
<p>Install a natural-bottomed fish passage at Lord's Pond. This will most likely occur in the 2019 season as it is doubtful that we will have both time and funds to complete it this season</p> <p>The old wooden-celled fish ladder has fallen under disrepair and is unsuitable for passing smaller species of fish like American rainbow smelt. During the first phase of this project, the spillway will be replaced. During the second phase, the water height in the pond will be lowered using the new spillway to allow for a natural-bottomed fish passage to be installed in the dry.</p>	<ol style="list-style-type: none"> 1. obtain land for natural-bottomed fish ladder 2. survey land 3. survey for placement of fish ladder 4. obtain blueprints for fish passage 5. install environmental control structures 6. grubbing of land 7. excavate 300 loads of fill for 3% slope of fish ladder, according to surveyor 8. excavate sediment from the dried pond area to prevent downstream contamination once water level is increased 9. install berm between pond and natural-bottomed fish ladder to control water 10. install culvert for driveway crossing

	<ol style="list-style-type: none"> 11. install pool and baffles to access culvert 12. install culvert for water control into fish passage 13. install pool and baffles to access culvert 14. survey for slope of fish ladder 15. install erosion control fabric under fish ladder 16. install rip rap for fish passage 17. install large rock for fish cover 18. plant shrubs for fish shade while traversing fish passage 19. install collar to control water access into fish passage 20. mulch and seed
<p>Develop Stordy's Pond area into Westmoreland River Nature Park:</p> <p>An area for leisure for our community members. Bring back to life a great spot for anglers and wildlife spotters, as well as provide an ideal habitat for a variety of wildlife species that can be of service for educational purposes [Englewood & Amherst Cove schools], as well as a perfect place for future events in the community.</p>	<ol style="list-style-type: none"> 1. Landscape around the pond and the parking lot to make pond area more accessible <ol style="list-style-type: none"> a. Establish walking paths b. Border parking lot to prevent 4-wheeler damage 2. Monarch way station area –install a brood chamber for Monarch chrysalises, followed by release during public event 3. build interpretive shelter 4. install safe look-outs at rest pools in the fish ladder and at spillway location 5. place benches and tables and improve walkways to make the park as barrier-free as possible 6. collaborate with the Dept. of Transportation to improve road safety and construction of a ditch and culvert with catch basin to prevent rain and melt water damage
<p>Linden Hill Bypass Pond/Catchment and Webster's Pond</p>	<ol style="list-style-type: none"> 1. Assess dam 2. Do grass maintenance 3. Improve bird boxes
<p>Noonan's wetlands</p>	<ol style="list-style-type: none"> 1. Remove garbage 2. Design and begin installation of walking trails 3. Assess Ducks Unlimited hunting blind for repair or removal 4. Design viewing platforms 5. Locate areas / install bird boxes

Goal #7: Wildlife habitat: To assist wildlife by installing nesting structures where appropriate natural infrastructure is lacking.

Objectives

Monitor, repair and install birdhouses

1. Maintain 120 bird boxes currently installed
2. Construct 50 swallow boxes for public distribution
3. Construct and install 20 swallow boxes
4. Construct and install 25 kestrel / saw whet owl boxes

Activities

1. Existing nest boxes will be assessed
 - a. Inspect integrity of box – remove or repair if damaged
 - b. Remove old bedding and debris
 - c. Install bedding
 - i. swallow – no bedding
 - ii. kestrel & owl – 1/3 full with wood chips
 - iii. flicker – fill with wood chips
2. Kestrel box-building workshop in collaboration with the local 4 H Club
3. Install new boxes appropriately

Goal #8: Stabilize shoreline: The designated areas will be restored with bioengineered shoreline protection and/or planted with appropriate native trees, shrubs or marram grass to mitigate shoreline erosion and study protection methods.

Objectives

Tryon Point Rd- a 100-foot pilot project was started in 2011, testing various methods of bioengineered protection. This was expanded in 2016 to a 200-foot section and new materials and shrubs were added. The objective this season is to secure structure with previously added materials on site, promote decomposition of materials, add additional plants, and monitor area to collect data on results.

Activities

1. Assess site for winter damage
2. Secure any loose materials
3. Prune or replace shrubs
4. Monitor site for results

Camp Abegweit shoreline project – a 450-foot bioengineered shoreline protecting structure was constructed in 2015. Second-phase: maintenance work, with new materials and salt-tolerant plants added in 2016. The objective this season is to secure structure with previously added materials on site, promote decomposition of materials, add additional plants, and monitor area to collect data on results.

1. fell dead and de-branch downed trees to be used as construction materials for nurse logs or mulch for paths
2. reinforce and secure the bioengineered bank with materials collected from previously loosened materials
3. plant uplands where needed
4. continue development of walking trail area
5. obtain and install compostable materials around plantings
6. monitor shoreline project off-season to determine winter effects
7. document changes in coastline in collaboration with the UPEI Climatology Lab.

Victoria Provincial Park – an 800-foot section of shoreline was planted with salt-tolerant shrubs and fenced to deter mowing in 2016. In 2017, damaged plant were replaced. The objective this season is to prune or replace damaged shrubs and monitor to collect data on results.

1. Inspect and weed around shrubs
2. Remove and replace dead shrubs
3. Inspect rope barrier fence and repair as required
4. Photograph and collect data

<p>Hampton shore – a 650-foot section of shoreline was planted with salt-tolerant shrubs (wild roses and bayberry) and marram grasses, and an upland drainage pool was constructed by the local cottage association. The objective this season is to prune or replace damaged shrubs and monitor to collect data on results.</p>	<ol style="list-style-type: none"> 1. Inspect and weed around shrubs 2. Remove and replace dead shrubs 3. Photograph and collect data
<p>Seven Mile Bay watershed- ~30 m along banks at Seven Mile Bay was evaluated for mitigation possibilities. In 2016, the landowner hired a construction company to install armour stone. 100 salt-tolerant shrubs were planted above the stone to assist in stabilization of the area. In 2018, an additional 50 wild rose and bayberry shrubs are expected to be added.</p>	<ol style="list-style-type: none"> 1. ~50 mixed salt-tolerant shrubs will be planted along shoreline of Seven Mile Bay watershed 2. Shrubs planted in the 2017 season will be checked and addressed as required 3. Landowners will be re-educated on the importance of leaving an uncut grass strip along the shore.

Goal #9: SSWA Watershed Monitoring: To collect watershed data to evaluate rehabilitation strategies, progress and concerns. This will enable SSWA to determine which rehabilitation efforts have initiated environmental improvements and guide future projects.

Objectives	Activities
<p>Crapaud Lagoon Monitoring: Objective is to obtain the monitoring results of the Crapaud Lagoon water testing done by the municipality to determine if the effluent has had a detrimental effect on the adjacent environment.</p>	<ol style="list-style-type: none"> 1. Continue contact with Crapaud and Victoria municipal councils 2. Data is now available on the community website 3. Support the municipality if they need input from our organization.
<p>Water Monitoring: SSWA will continue its partnership with BBEMA to collect water quality parameters at designated sites.</p>	<ol style="list-style-type: none"> 1. continue water monitoring project 2. convert data from CURA to Atlantic Data Stream 3. track changes in our water conditions 4. partner with PEI Government to share data for use in Watershed Report Cards 5. determine which of our stream restoration techniques will have a lasting effect on the watershed habitat.

Goal #10: Community Events and Outreach: Have watershed residents actively engage in watershed restoration and management.

Objectives	Activities
<p>Provide opportunities for SSWA residents to participate in SSWA educational and workshop events. Increase community knowledge and appreciation of the watershed. Provide transparency in the working methods of the watershed group to attract new members and increase the involvement of residents</p>	<ol style="list-style-type: none"> 1. organize Pollinator Garden Development Day 2. organize Noonan’s Wetland Clean-up Day 3. organize Linden Hill Park Restoration Day 4. organize public nest box-building workshops at the Crapaud Exhibition children’s centre 5. SSWA volunteers to build nesting boxes and benches

- 6. organize workshop for the construction of the Westmoreland River Nature Park interpretive shelter.
- 7. Partner with local 4H Club on student exchange work day. Students will be building kestrel boxes, have hands-on experience with raptors, and spend the day building walking trail and finding location for their boxes in the Seven Mile Bay and Augustine Cove-Cape Traverse watersheds.
- 8. Westmoreland River Nature Park – Adventure Day – Organize nature experience day where visitors can learn to fish, take a park walk or pond canoe trip, learn how to install their swallow boxes, and identify local wildlife and flora.
- 9. Improve contact between SSWA summer students and watershed board members by texting the work location to a board member to give them the opportunity to join the work force.

Provide community places for SSWA residents to participate in SSWA educational personal leisure activities.

- Lord’s Pond:
- 1. Reposition and secure floating bridge
 - 2. Inspect wooden walkways and fishing platform for maintenance
 - 3. Remove plants from Women’s Institute flower garden that will be damaged by restoration project
 - 4. Check pond area for garbage, and assist with grass cutting and whipper-snipping.
 - 5. Maintain tables and signage
 - 6. Install benches
- Tryon River Trail:
- 1. Maintain picnic tables
 - 2. Remove trees damaged / downed during winter
 - 3. Extend trail through woods section
 - 4. Seek project quotes and funding to add walking bridge below new TransCanada Highway culvert to provide access to west side of Tryon River
- Tryon River – River access off Route 116
- 1. This has become an attractive area for bass fish, but damage has occurred at a vulnerable section of the river bank. Steps will be placed in the bank to prevent bank erosion. Department of Transportation will be contacted to extend the guard rail section to prevent other routes of river access and provide safe parking along steep bank. Shrubs will be planted along vulnerable area.
- Westmoreland River Nature Park
- 1. Organize public event day
 - 2. Organize hatchling release

	<ul style="list-style-type: none"> 3. place nest and bat boxes 4. Provide seed boxes [partnership with garden centres] for distribution at events <p>Webster's Pond:</p> <ul style="list-style-type: none"> 1. Check pond area for garbage; assist with grass cutting 2. Maintain tables and signage <p>Camp Abegweit Trail:</p> <ul style="list-style-type: none"> 1. This will be rechecked and extended. <p>Noonan wetlands:</p> <ul style="list-style-type: none"> 1. This project is in the investigation stages. Walking trails will be mapped out and begun 2. Address garbage in the area 3. Design signage 4. Add bird boxes 5. Address wetland visibility <ul style="list-style-type: none"> a. Trim a section of rushes to improve safe viewing b. Locate areas where viewing structures can be designed and placed <p>Partner with Victoria Council re. development of walking trail.</p>
Community Outreach and Educational Activities	<ul style="list-style-type: none"> 1. Crapaud Exhibition – SSWA main booth, and nest box-building booth at children's centre 2. Canada Day celebrations 3. Walking tours 4. Canoe trips 5. Birding/walking tours 6. "Kiss a Fish" school outing 7. Organize school visits to the Westmoreland River Nature Park
Maintain regular communication with watershed residents	<ul style="list-style-type: none"> 1. Quarterly SSWA newsletter (<i>SSWA Tidings</i>) 2. www.sswa.ca website <ul style="list-style-type: none"> a. Ask partners to link to our website. [Englewood, Crapaud Community, Chamber of Commerce, etc.] 3. SSWA summer student blog 4. SSWA 6th annual photo contest 5. 5th Water for Health pamphlet (distributed with newsletter) <ul style="list-style-type: none"> a. how to maintain healthy water resources

b. Topic for 2018 will focus on Water Conservation and good practices

Goal #11: Corporate Memberships and Partnerships with Local Businesses and Government: Establish a working relationship with local businesses and government to promote watershed awareness and increase productivity.

Objectives	Activities
Communication with Government(s)	<ol style="list-style-type: none">1. Survey dirt roads to determine the requirement of check dams and report to DTIR if action is required2. Request areas of limited ditch mowing where requested3. Offer landowners, working in conjunction with ALUS program, enhancement techniques for water diversion structures and riparian zone areas. SSWA will be working with Shawn Hill (ALUS Coordinator) to expand habitat restoration into new areas
Increased support for SSWA to bring in extra funding/materials for the realization of watershed projects.	<ol style="list-style-type: none">1. Invite corporate members to establish or renew their memberships.2. Contact potential sponsors for Westmoreland River Nature Park area as to help establish the resting area around the fish ladder and pond.3. Develop a membership marketing strategy to get community engagement and sponsoring.

Goal #12 Annual Watershed Planning: Achieve efficient and effective watershed programming throughout the fiscal years.

Objectives	Activities
Continue working on the “living document” of SSWA Watershed Management Plan	<ol style="list-style-type: none">1. Develop annual work plan each year, starting in the fall2. Hold planning sessions to provide the work plan schedule in January-February so that permits and funding can be applied for on a timely basis3. Give insight into the long-term planning/goals of SSWA