

Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: LPL-1537-14

Name: SPIRIT LAKES IMPROVEMENT ASSOCIATION: Spirit Lakes Phosphorus Study

Type: Lakes Grant

Subtype: Large Scale Lake Planning

Status: COMPLETE

Start Date: 10/1/2013

End Date: 6/30/2017

Purpose: The Spirit Lakes are on the impaired water list for phosphorus. The Spirit Lakes Improvement Association will conduct work to determine the water and phosphorus budgets for the Spirit Lakes to ultimately determine if an alum treatment is feasible.

This project (Phase I) includes the following goals: 1) Properly quantify the water and phosphorus budgets of North and South Spirit lakes and evaluate the influence of groundwater as a contributor of phosphorus to the lakes.

Work activities include: 1) Stream gauging; 2) Collect water samples for phosphorus analysis; 3) sampling groundwater at springs for phosphorus; 4) Groundwater modeling; 5) Data evaluation; 6) Land use inventory review; 7) Lake management planning.

Phase II (future grant) will evaluate the feasibility of managing lake phosphorus levels (including alum treatment) and revise the lake management plan.

Project deliverables include: 1) A final report summarizing the work above; 2) A final lake management plan.

Specific project conditions: 1) The WDNR will be provided electronic and hard copies of all data and or reports/plans generated as a result of this project; 2) Contact Jim Kreitlow (715-365-8947) to set up a field visit to help select stream gauging sites.

Objective:

Comments: Grantee is SPIRIT LAKES IMPROVEMENT ASSOCIATION

Outcome:

Study Design:

QA Measures:

| People | | | | | | |
|--------------------------------|-----------------|----------|------------|-----------|---|----------|
| Name | Role | Status | Start Date | End Date | Organization | Comments |
| Burger, Joseph W | TEAM_MEMBER | ACTIVE | 4/23/2014 | | President, Spirit Lakes Improvement Association | |
| Kreitlow, James D | COORDINATOR | COMPLETE | 2/27/2014 | 6/16/2017 | Wisconsin DNR | |
| Parish, Geof | TEAM_MEMBER | ACTIVE | 4/23/2014 | | | |
| Spirit Lake Improvement Associ | GRANT_RECIPIENT | ACTIVE | 2/27/2014 | | Spirit Lake Improvement Association | |

Project Statuses

| Date | Reported By | Status | Comments |
|------|-------------|--------|----------|
|------|-------------|--------|----------|

Actions

Wisconsin Department of Natural Resources SWIMS Project Summary

| Action | Detailed Description | Start Date | End Date | Status |
|-----------------------------------|---|------------|------------|----------|
| Grant Awarded | <p>The Spirit Lakes are on the impaired water list for phosphorus. The Spirit Lakes Improvement Association will conduct work to determine the water and phosphorus budgets for the Spirit Lakes to ultimately determine if an alum treatment is feasible.</p> <p>This project (Phase I) includes the following goals: 1) Properly quantify the water and phosphorus budgets of North and South Spirit lakes and evaluate the influence of groundwater as a contributor of phosphorus to the lakes.</p> <p>Work activities include: 1) Stream gauging; 2) Collect water samples for phosphorus analysis; 3) sampling groundwater at springs for phosphorus; 4) Groundwater modeling; 5) Data evaluation; 6) Land use inventory review; 7) Lake management planning.</p> <p>Phase II (future grant) will evaluate the feasibility of managing lake phosphorus levels (including alum treatment) and revise the lake management plan.</p> | 10/1/2013 | 12/31/2014 | COMPLETE |
| Hydrologic Budget Development | | 10/1/2013 | 12/31/2014 | PROPOSED |
| Project Deliverable | Final Report | 10/1/2013 | 12/31/2014 | PROPOSED |
| Lake Management Plan Development | | 10/1/2013 | 12/31/2014 | PROPOSED |
| Monitor Water Quality or Sediment | | 10/1/2013 | 12/31/2014 | PROPOSED |
| Data analysis, report production | | 10/1/2013 | 12/31/2014 | PROPOSED |
| Lakes Planning Grant | | 10/1/2013 | 12/31/2014 | PROPOSED |
| Nutrient Budget Development | | 10/1/2013 | 12/31/2014 | PROPOSED |
| Water Quality Modeling | | 10/1/2013 | 12/31/2014 | PROPOSED |

Monitoring Stations

| Station ID | Name | Comments |
|------------|--|----------|
| 10031776 | North Spirit Lake - Artesian well (GW-4) | |
| 10031378 | South spring draining to North Spirit Lake (GW-3) | |
| 10041960 | Spirit Lakes - Outlet (SW-3) | |
| 10041961 | Spirit Lakes - Spring (GW-1) | |
| 10041962 | Spirit Lakes - Spring (GW-2) | |
| 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) | |
| 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) | |

Assessment Units

5/31/2024

Wisconsin Department of Natural Resources SWIMS Project Summary

| WBIC | Segment | Local Name | Official Name |
|---------|---------|--------------------------------------|-------------------|
| 1513000 | 1 | Spirit Lake | Spirit Lake |
| 1513400 | 1 | Unnamed Creek (T34n,R3e,S32,Nwsw,51) | Unnamed |
| 1515200 | 1 | North Spirit Lake | North Spirit Lake |

Lab Account Codes

| Account Code | Description | Start Date | End Date |
|--------------|---------------------------------|------------|-----------|
| LM020 | LAKE MANAGEMENT PLANNING GRANTS | 4/18/2013 | 6/30/2014 |

Forms

| Form Code | Form Name |
|-----------|-----------|
|-----------|-----------|

Methods

| Method Code | Method Description |
|-------------|--------------------|
|-------------|--------------------|

Fieldwork Events

| Start Date | Status | Field ID | Station ID | Station Name |
|-----------------|----------|-------------|------------|--|
| 5/31/2014 9:56 | COMPLETE | MAY-SW-3 | 10041960 | Spirit Lakes - Outlet (SW-3) |
| 5/31/2014 10:30 | COMPLETE | MAY-SW-1 | 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) |
| 5/31/2014 12:54 | COMPLETE | MAY-GW-1 | 10041961 | Spirit Lakes - Spring (GW-1) |
| 5/31/2014 13:06 | COMPLETE | MAY-GW-2 | 10041962 | Spirit Lakes - Spring (GW-2) |
| 5/31/2014 13:25 | COMPLETE | MAY-GW-3 | 10031378 | South spring draining to North Spirit Lake (GW-3) |
| 5/31/2014 13:30 | COMPLETE | MAY-SW-2 | 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) |
| 5/31/2014 13:40 | COMPLETE | MAY-GW-4 | 10031776 | North Spirit Lake - Artesian well (GW-4) |
| 6/21/2014 13:53 | COMPLETE | JUNE-SW-3 | 10041960 | Spirit Lakes - Outlet (SW-3) |
| 6/21/2014 14:25 | COMPLETE | JUNE-SW-1 | 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) |
| 6/21/2014 16:54 | COMPLETE | JUNE-SW-2 | 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) |
| 7/23/2014 10:33 | COMPLETE | JULY-SW-3 | 10041960 | Spirit Lakes - Outlet (SW-3) |
| 7/23/2014 11:12 | COMPLETE | JULY-SW-1 | 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) |
| 7/23/2014 13:26 | COMPLETE | JULY-SW-2 | 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) |
| 8/23/2014 10:15 | COMPLETE | AUGUST-GW-4 | 10031776 | North Spirit Lake - Artesian well (GW-4) |
| 8/23/2014 10:25 | COMPLETE | AUGUST-SW-3 | 10041960 | Spirit Lakes - Outlet (SW-3) |
| 8/23/2014 10:40 | COMPLETE | AUGUST-GW-1 | 10041961 | Spirit Lakes - Spring (GW-1) |
| 8/23/2014 10:48 | COMPLETE | AUGUST-GW-2 | 10041962 | Spirit Lakes - Spring (GW-2) |
| 8/23/2014 10:55 | COMPLETE | AUGUST-SW-1 | 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) |
| 8/23/2014 11:05 | COMPLETE | AUGUST-GW-3 | 10031378 | South spring draining to North Spirit Lake (GW-3) |
| 8/23/2014 12:45 | COMPLETE | AUGUST-SW-2 | 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) |
| 9/13/2014 8:42 | COMPLETE | SEPT-SW-1 | 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) |

Wisconsin Department of Natural Resources
SWIMS Project Summary

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|------------------|----------|-----------|----------|--|
| 9/13/2014 10:08 | COMPLETE | SEPT-SW-2 | 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) |
| 9/16/2014 12:09 | COMPLETE | SEPT-SW-3 | 10041960 | Spirit Lakes - Outlet (SW-3) |
| 10/11/2014 11:00 | COMPLETE | OCT-SW-2 | 10031162 | Unnamed trib to Spirit Lakes at snowmobile bridge (SW-2) |
| 10/11/2014 12:35 | COMPLETE | OCT-SW-1 | 10041959 | Spirit Lakes - Upstream of Inlet (SW-1) |
| 10/11/2014 13:35 | COMPLETE | OCT-SW-3 | 10041960 | Spirit Lakes - Outlet (SW-3) |

Documents

| Title | Description | Author | Published | Comments |
|-------|-------------|--------|-----------|----------|
|-------|-------------|--------|-----------|----------|

Budget

Combined Budgets:

Combined WSLH:

Combined Total: \$0.00

Funding

| Organization | Source | Type | Amount | Start Date | End Date |
|--------------|--------|------|--------|------------|----------|
|--------------|--------|------|--------|------------|----------|