OSWB Grant Application Form 2014 Cycle
Grant Cycle 27-4 – Application Due Date: December 12, 2013

Project title: (Using 6 words or less give your project a descriptive title)
Willamette River Aquatic Weed Management Project
County or Counties project is located in:
Benton County

Type of Organization:

- ☒ Cooperative Weed Management Area
- ☐ Political Subdivision (not a state agency)
- ☐ Institute for Higher Education
- ☐ Soil & Water Conservation District
- ☐ Not-For-Profit Organization
- ☐ Private
- ☐ Tribe
- ☐ Watershed Council

OSWB dollars requested: $ 34,674.00 **Total cost of project:** $ 48,023.50

Name of Applicant or Organization: Benton County Cooperative Weed Management Area (BC CWMA)

Contact: Heath Keirstead **email:** heathk@bentonswcd.org

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City: Corvallis **State:** OR **Zip:** 97333

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Project Manager for Applicant or Organization: Benton Soil & Water Conservation District (Benton SWCD)

Contact: Crystal Durbecq **email:** cdurbecq@bentonswcd.org

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Fiscal Agent for Applicant or Organization: Benton Soil & Water Conservation District

Contact: Jen Floro **email:** jfloro@bentonswcd.org

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Project Information

1.Weed Species: (List all state listed noxious weeds pertaining to this project. Use common name plus genus and species. If your project has more weeds than the allowable space please duplicate this table on a separate sheet and attach to this application)

*Habitat	**Method of treatment	*Weed species	Net/treatment acres	Gross/survey acres	Herbicide(s)	Define the timing of treatment
Wetland	*Bio-Control*	*Purple loosestrife, Lythrum salicaria*	*1*	*13*	*N/A*	*Late June*
Instream (Lake)	Herbicide	Yellow floating heart, Nymphoides peltata	0.5	16.5	Aquatic label Glyphosate	July (when plant is flowering and water temp is at least 60F)
Instream (River Inlet)	Herbicide	Uruguayan primrose-willow, Ludwigia hexapetala	4.25	10.5	Glyphosate (Aquatic Label)	July when aprox. half the plants are flowering, but have not yet gone to seed
Instream (River Inlet)	Manual	Uruguayan primrose-willow, Ludwigia hexapetala	1.5	10.5	N/A	July just prior to herbicide application
Instream	Manual	Uruguayan primrose-willow, Ludwigia hexapetala and other EDRR invasvie species	0.5 (estimate)	22 river miles	N/A	June or July when plants have some flowers and are visible

*Choose the primary habitat the weed exist – Upland, Riparian, Wetland, Instream, Estuary. It is recognized that some projects have mixed habitat types, chose only one habitat per weed per line. Habitats are described within the instructions. Use only state listed noxious weeds as described within the instructions Exhibit B.
**see section (5) below for designated treatment types

Total estimated project acreage: net: 6.25 gross: 27 acres & 22 river miles
(see appendix c with instructions for understanding calculation of your total project net/gross project acreage)

2. Project location: (directions to the site) Horseshoe Lake (Nymphoides peltata site): From Hwy 20, head north onto NW N. Albany Rd, right onto NW Quarry Rd, left onto NW Cacade Heights Dr, and right onto NW Horseshoe Lake Cir. Parking area is on the right.

Collins Bay (Ludwigia hexapetala site): Heading east on Hwy 20, take the first right after intersection of HWY 20 & Independence Hwy, onto private road. Park at bridge and walk along ag field edge towards Willamette River. For both sites, call BSWCD to get landowner permission before entering private land.

Latitude: (Np Site: W 123.114417) (Lh Site: W 123.173014) Longitude: (Np Site: N 44.661758) (Lh Site: N 44.63495) (at least one lat/long reading is mandatory)

3. Does this project exist within a designated weed control district? (Refer to ORS569.360)

☐Yes ☒No If Yes, provide district name:

4. Is this part of an established Cooperative Weed Management Area? ☒
Yes ☐No If yes provide name: Benton County Cooperative Weed Management Area

****5. Identify your integrated pest management methods:** (all activities must be directly related to the proposed project)**:**

☐Assessment/Management Plan Development
☐Biological control
☒Herbicide control
☐Mechanical control
☐Prevention
☐Other – Explain:
☒Survey –

Describe the method of survey planned: Boat survey by canoe of the Willamette river banks from Peoria to Albany to search for and map Ludwigia populations with use of GPS technology and aerial photograph maps.

☒Education and outreach
☒Manual control
☒Monitoring
☐Restoration

6. Have you consulted with ODA staff? ☒Yes ☐No

If yes who? Glenn Miller

7. Is this a landowner reimbursement (cost share) project? ☐Yes ☒No

Remember to attach a list of landowners with acreage by weed species. Updated landowner lists are required with your progress reporting.

8. Project summary: In 200 words – give a statement about your overall project. Provide a summary in 200 words (1000 characters) or less describing what the project accomplishes and what problems will be addressed. The information you provide will be used for project review and reporting purposes as a part of reporting and will be displayed to the general public.

The Willamette River Aquatic Weed Management Project (WRAWMP) is proposed by Benton County CWMA as an integrated approach to management and control of invasive aquatic plants on the Willamette River. The main focus of this project is the control of Ludwigia hexapetala (Uruguayan primrose-willow) and Nymphoides peltata (yellow floating heart): two aggressive, invasive aquatic plants that pose a threat to fish and wildlife habitat in fresh water systems. The project area spans the reach of the Willamette from Peoria County Park in Shedd to Bowman Park in Albany. WRAWMP consists of three main components:

1. Management of aquatic weed species.

a. A-rated Nymphoides peltata at Horseshoe Lake, North Albany.

b. B-rated Ludwigia hexapetala in Collins Bay, an inlet of the Willamette River.

2. Survey for Ludwigia along the 22 mile reach of the Willamette mainstem between Shedd and Albany.

3. Targeted community outreach consisting of three workshops and two volunteer pull events.

9. What are you proposing to do? (1,300 words which is approximately 8,000 characters) give an overview of the project.

This should include: if this is an extension of a previously funded project if so, include details of past treatments such as successes and failures • estimated acreage for treatment • method of control • objectives • restoration component • how this project relates to other projects within the area. It is important be concise and keep this to the 1,300 word limit, but give the details outlined above, this portion is essential in the overall review process.

Was this project previously funded by OSWB? ☐Yes ☒No

If yes what year(s) and provide the grant number?

Proposal details:

The Willamette River Aquatic Weed Management Project (WRAWMP) is a new project for control, monitoring, survey and outreach related to key invasive aquatic plants on the Willamette River. For this project the Benton County CWMA propose the following activities:

1. Control of Aquatic Weed Infestations

Control of A-rated Nymphoides peltata at Horseshoe Lake, North Albany. (Appendix A: Map and pictures of Nymphoides at Horseshoe Lake). Horseshoe Lake is a 16.5 acre lake that is part of a historic side-channel system within the FEMA 100-year floodplain of the Willamette River (Appendix B: Willamette River Basin Atlas, L. Ashkenas et al., 2002, pp. 28-29). This Nymphoides population could contaminate the river by seeds and vegetative fragments moved by waterfowl and boats. One goal of WRAWMP is to significantly reduce, and eventually eradicate, N. peltata from Horseshoe Lake and to prevent its spread to other side channels and the mainstem river. This population is the only known Nymphoides site in Benton County, making it a prime candidate for rapid response. Glenn Miller (ODA) conducted a test treatment in summer 2013. This grant will fund the lakewide treatment of N. peltata using methods that effectively suppress the weed without long-term negative consequences for the regeneration of the native community.

Careful consideration of appropriate application equipment, methods and long term impacts will be taken to minimize damage to the native community. We plan to use the most appropriate method to achieve effective plant suppression with minimal impact to the native community. We will use 2-3% aquatic label Glyphosate with 2% surfactant and an indicator dye. Treatment will take place in July when plants are flowering and water is at least 60 degrees F. Follow up treatment will take place six to eight weeks after initial treatment. Concurrent with our proposed treatment regimen, the Homeowners Association will have their detention pond, which drains into the lake, treated for Nymphoides by a licensed professional.

Control of B-rated Ludwigia hexapetala in Collins Bay, a side channel inlet of the Willamette River. The main goal of WRAWMP is to increase the quantity and quality of open aquatic habitat in the Willamette River system through control of

invasive aquatic weeds. Specifically, we plan to diminish the ecological impacts of Ludwigia on the river system, decrease its propagule pressure and downstream spread and promote native plant recovery.

We will use chemical and manual methods to control a dense infestation of Ludwigia in the privately owned river inlet known as Collins Bay. Collins Bay is a 10.5 acre inlet, and about 5.75 acres are infested with Ludwigia hexapetala. This open marshland is connected directly to the mainstem of the Willamette River. (Appendix A: Map and pictures of Ludwigia at Collins Bay). The infestation was identified and mapped during a 2-year landscape scale invasive plant assessment of the floodplain along the Willamette River from Corvallis to Albany. The survey was conducted for the Willamette Mainstem Cooperative by Carex Working Group (CWG). In his final report, Dick Brainerd of CWG identified Ludwigia as a priority for removal from the Willamette River system, and specifically recommended treating the Collins Bay population due to the rarity of open marshland habitat on the mainstem of the river. (Appendix C: Carex Working Group, Sept. 2013).

Dr. Brenda Grewell, one of the preeminent Ludwigia experts in North America, recently visited the area we are proposing to treat. She verified that Collins Bay is a good candidate for control work and prescribed best management practices.

Manual removal will be conducted prior to herbicide applications to maximize efficiency and cost effectiveness. To avoid damage to non-target plants, manual control will occur in areas with low to moderate infestations and in areas with high densities of native vegetation. Manually treated Ludwigia plants will be piled on land above the summer water levels and spread out to dry. The piles will be monitored monthly throughout the growing season for resprouting and spot sprayed or pulled as necessary. The plants will be piled in such a way as to avoid impacting native plant communities.

Herbicide will be applied to Ludwigia on the shoreline and where dense mats of vegetation have formed in the water. To minimize impacts to aquatic organisms, an herbicide mixture of 2 to 3% aquatic label glyphosate and 2% surfactant (Agridex) will be used. Total application will not exceed the per acre label rate. All chemical treatments will be performed by contractors with Pesticide Applicator's licenses, as required by state law, and all DEQ water quality and permit requirements will be addressed. Herbicide applications will be timed accordingly with weather conditions. Applications will take place in early summer, when about half of the plants have flowered, but seed capsules have not yet matured. A follow-up application will take place about two months later.

Monitoring will consist of strategic photo-points throughout the area of infestation and GIS mapping of the pre- and post-treatment extent of Ludwigia. Monitoring will also include pre- and post-treatment survey of native species and documentation of perceptible changes in species density. See the response to question 19 for further details on monitoring.

Both Horseshoe Lake and Collins Bay have significant native plant communities, which are expected to increase once competition from the target invasive species is alleviated. Therefore we do not anticipate the need to replant native vegetation in these aquatic systems. If secondary invaders emerge, a rapid management approach will be implemented.

2. Survey for Ludwigia along the Willamette mainstem. Another aspect of this proposal is to conduct an in-water survey by boat of the mainstem Willamette for Ludwigia and other EDRR species. Project partners will survey from Peoria County Park in Shedd to Bowman Park in Albany (22 river miles). This survey will occur when Ludwigia is flowering (in June or July) over a two day period. A minimum of five experts will conduct the survey. Boats will be provided by Willamette Riverkeeper and Oregon Parks & Recreation Department. Findings will be available to guide future management decisions of various stakeholders working in the Willamette system. The results will also inform the volunteer weed pull events described below.

3.Targeted community outreach consisting of three workshops and two volunteer pull events. In the late spring of 2014, Benton County CWMA will work with Benton SWCD, Oregon Parks & Recreation and Willamette Riverkeepers to hold three aquatic weed workshops: one for river recreationists, one for landowners and a third for volunteers. Other interested land managers will be invited to attend any of the training sessions. These workshops will contain information on aquatic weed identification and appropriate response techniques for Ludwigia, Nymphoides and several other EDRR aquatic weeds. The volunteer workshop will also include training on boating safety. For these workshops we will develop and distribute relevant outreach materials and post them on the Benton SWCD website.

During the summer of 2014, we will host two boat-based volunteer weed pulls to reduce Ludwigia biomass in locations determined by the survey results between Corvallis and Albany. With the help of trained volunteers, Ludwigia will be manually harvested and secured in heavy duty plastic bags. We will use floating booms and monitors to prevent downstream movement of fragments. Scott Youngblood (OPRD) will pick up and dispose of the bagged Ludwigia. One objective of these volunteer events is to remove Ludwigia from the river in areas where it is just getting established by practicing an early detection management response before these smaller populations become more significant.

10. Using a bulleted list: Explain the project goals and objectives.
(See Instructions section for specific guidance on goals and objectives writing)
The main goal of WRAWMP is to increase the quantity and quality of open aquatic habitat in the Willamette River system through control of invasive aquatic weeds. Specifically, we plan to diminish the ecological impacts of Ludwigia on the river system, decrease its propagule pressure and downstream spread and promote native plant recovery. For Horseshoe Lake the goal is to significantly reduce, and eventually eradicate, Nymphoides from the lake system, to prevent its spread to other side channels and the mainstem river.

• An objective of this project is to use mapping and photo-point monitoring techniques to show measurable changes in post-treatment and pre-treatment distribution and abundance of Ludwigia and Nymphoides and to show increase in native plant distribution and abundance at Collins Bay and Horseshoe Lake.

• It is an objective of this project to reach at least 60 members of the local community through outreach activities including workshops/volunteer trainings and volunteer weed pulls, and to provide information on aquatic weed identification and proper response techniques. Through volunteer pull activities Ludwigia will be removed from areas where it is just becoming established, before if forms a significant population.

• Another objective of this project is to share treatment methodology and results using a public database. All data collected throughout the course of this project will be entered into iMapInvasives and Oregon WeedMapper, with the intent that other agency representatives may refer to and use this data to inform management activities on the river.

11. Is the project part of an existing weed management plan?
☒Yes ☐No (if yes, provide the plan name, author & date published)
This project fits within the goals and management principles outlined in the Benton County CWMA Five-year Management Plan. Specifically, "projects [should be] designed using an ecosystem management approach based on an understanding of weed biology, weed ecology, and landscape level processes." (Appendix D: Benton County CWMA, 2012; pages 2, 3 and 4)

The treatment of Ludwigia on the Willamette is recommended in the "Willamette Mainstem Vegetative Habitat Survey and Assessment Final Report (Carex Working Group, Sept. 2013)." This report was prepared by Dick Brainerd of Carex Working Group based on invasive plant and habitat assessment and survey work completed in 2012 & 2013 on approximately 2,500 acres of riparian habitat on the Willamette River from Corvallis to Albany. This document was reviewed by the WMC steering committee members, and Oregon Watershed Enhancement Board and Meyer Memorial Trust staff. A portion of this report (without appendices or landowner names), has been included with this application. (Appendix C: Willamette Mainstem Vegetative and Habitat Survey and Assessment Final Report, Dick Brainerd, CWC, 2013).

12. Are there additional partners? ☒Yes ☐No
Who are the additional partners and what are their roles and responsibilities?
Additional partners include Scott Youngblood, Willamette River Ranger with the Oregon Parks and Recreation Department (OPRD), Marci Krass, Restoration Coordinator with Willamette Riverkeepers and Glenn Miller, Integrated Weed Management Specialist with the Oregon Department of Agriculture (ODA).

Glenn Miller has already and will continue to provide in-kind support in the form of professional advice and invasive control activites.

Scott Youngblood and OPRD are committing in-kind services in the form of implementation work on Ludwigia hexapetala at Bowers Slough, located downstream from Collins Bay (Appendix D: Project Overview Map). This site has a moderate to high density infestation of Ludwigia growing in the backchannel areas of the slough. This population has potential to spread throughout the slough system and is currently a source of seeds and stem fragments for downstream dispersal. Scott will use OPRD equipment to access the population by boat and treat it with a high-pressure spray nozzle and backpack sprayer with a 2% aquatic glyphosate mixture with surfactant. Hand pulling will be practiced by OPRD staff, BSWCD staff and volunteers as needed. Treatments are planned for June or July of 2014 with a follow-up treatment in August or September. Scott will also participate in two aquatic weed training workshops and two days of river survey for Ludwigia between Peoria and Albany on the Willamette. The total value for in-kind services dedicated by OPRD for this project is $3,500.

Marci Krass with Willamette Riverkeepers will be working with us to organize an aquatic invasives volunteer training, a river survey from Corvallis to Albany for Ludwigia and two volunteer pull days for manual control of Ludwigia. Willamette Riverkeeper will provide in-kind equipment of $1,140 in the form of boat and equipment use for the survey and pull events. This application requests $5,000 to support Riverkeeper staff time for these events.

Private landowners at Horseshoe Lake and Collins Bay will be partners in this project through site monitoring, regular contact with Benton SWCD and outreach to neighbors in the area. The Horseshoe Lake Neighborhood Associaion is contributing $635/year for the treatment of Nymphoides in a detention pond that drains into the lake. Benton SWCD will provide informational handouts about the project and weeds of concern to interested landowners.

Peter Kenagy, a private landowner and farmer on the Willamette River downstream from the project site, has been treating a population of Ludwigia on his proprety for the last few years. He is contributing $160 in-kind service per year for continued treatment.

13. Which elements of the project will OSWB funds be used for? Be specific to activity and specific timing of the activity.

The Benton County CWMA is requesting OSWB funds for the following elements of this proposed project:

1. Salary and Wages
   • Over the duration of the project, funding will be used for Benton SWCD staff time for project coordination and management.
   • Benton SWCD staff will perform monitoring (pre- and post-treatment), survey (June or July) and outreach activities (summer 2014).

2. Contracted Services:

   • Monitoring and treatment of Nymphoides on 0.5 acres of Horseshoe Lake. Treatment will occur in July, when the plants are flowering and the water is at least 60 degrees F. Monitoring will take place approximately two weeks before and after treatment. A follow-up treatment will occur in August or September.

   • Monitoring and treatment of Ludwigia hexapetala on 5.75 acres of Collins Bay. Treatment will occur in July or August, depending on conditions, when approximately half of the plants are flowering, but have not yet developed seed pods. Chemical control will immediately follow manual control. Secondary control treatments will occur about two months after initial treatment to spray remaining plants in heavily infested areas and shoreline, and manually remove plants from areas of low to moderate infestation and areas of high native plant density. Monitoring will take place approximately two weeks before and after treatments.

   • Funding is requested for community outreach in the form of three aquatic weed workshops for landowners, river recreationists and volunteers. This effort will be led by Benton SWCD staff in partnership with Oregon Parks and Recreation Department (OPRD), Willamette Riverkeeper, and other interested parties. Trainings will occur between April and July 2014. OSWB funds will pay for Riverkeeper and Benton SWCD staff time to coordinate these workshops. All supplies and materials, OPRD staff time, and much of the BSWCD staff time will be in-kind matching services.

   • OSWB funds are requested for one day of survey work to scope for Ludwigia sites appropriate for manual control and coordination of two days of volunteer weed pull activities on the Willamette River from Corvallis to Albany. This effort will be led by Willamette Riverkeeper and Benton SWCD, and funds would cover staff time for the coordination of these activities. The scoping survey will occur in June or July and the volunteer weed pulls will occur in July or August, when plants are visible with flowers but seed pods have not matured. The survey from Peoria to Corvallis will be paid for by in-kind funds from each organization involved.

3.Travel
   • We are requesting $996 for project-specific mileage expenses accrued over the course of the project.

14. How does this project relate to other projects (BLM, USFS or local projects) completed or planned? If the project is related to work funded in part with another grant from OWEB (i.e. restoration, land acquisition, or technical assistance)? List the OWEB grant number and briefly describe the relationship to this proposal.

The Willamette River Aquatic Weed Management Project fits within the mission and guiding principles of the Willamette Mainstem Cooperative (WMC), a group of landowners, organizations and volunteers who work together to improve stewardship of natural resources across all landownerships on the mainstem, with a focus area of Corvallis to Albany. A copy of the WMC Programmatic Bylaws has been included with this application (Appendix E: WMC Programmatic Bylaws, 2012). WMC is funded by Meyer Memorial Trust, through the Willamette River Initiative program with Benton SWCD providing leadership and fiscal management.

The Ludwigia site at Collins Bay was identified and mapped during a 2-year landscape scale invasive plant assessment of the floodplain along the Willamette River from Corvallis to Albany. The survey was conducted for the Willamette Mainstem Cooperative by Carex Working Group (CWG). In his final report, Dick Brainerd of CWG identified Ludwigia as a priority for removal from the Willamette River system, and specifically recommended treating the Collins Bay population due to the rarity of open marshland habitat on the mainstem of the Willamette.

Ludwigia is currently being controlled on several locations on the Willamette. One of the larger projects is being implemented by City of Eugene, which has been working on Ludwigia hexapetala control since 2011 at the Delta Ponds Natural Area. City of Eugene developed the Invasive Ludwigia hexapetala Management Plan for The Delta Ponds Natural Area. Delta Ponds Natural Area is a series of gravel extraction ponds recently reconnected to the Willamette River. This 5-year plan outlines the systematic treatment of Ludwigia hexapetala in the Delta Ponds integrating manual and herbicide control methods. WRAWMP proposes to apply successfully implemented techniques for Ludwigia control, as outlined in the Management Plan by City of Eugene.

The Delta Ponds Natural Area is located upstream from the WRAWMP project area. The WRAWMP project manager has consulted with several experts working on the Delta Ponds Invasive Ludwigia Control Project. Individuals consulted include: Lauri Holts, Resources Coordinator with the City of Eugene; Brenda Grewell, Delta Ponds project consultant and ecologist with USDA-Agricultural Research Service Exotic & Invasive Weeds Research Unit; Glenn Miller, Integrated Weed Management Specialist with the Oregon Department of Agriculture; and Matt Mellenthin, Delta Ponds Ludwigia control contractor with Integrated Resource Management. Consultation with Dr. Grewell and the Delta Ponds project managers will be maintained throughout the project.

Oregon Parks and Recreation Department is planning to implement control of Ludwigia hexapetala in a side-channel system known as Bowers Slough about one mile downstream from Collins Bay (Appendix A: Project overview map). OPRD efforts will begin in summer 2014 to correspond with the treatments proposed in this application.

Ludwigia control work at Collins Bay will inform Ludwigia work at Bowers Slough, and treatments will be coordinated to ensure effectiveness of treatment efforts.

Willamette Riverkeeper plans to conduct an invasive and aquatic weed survey of the Willamette River banks from Albany to Newberg in summer 2014. Focus will be directed on mapping Ludwigia, especially in side-channels. They plan to use GPS technology to map key invasive plants based on county and state weed lists.

15. How does this project fit into the statewide and/or local weed management objectives? Identify the county weed listing priority if known.
Oregon State's Noxious Weed Control Strategic Plan outlines ten objectives and associated strategies for implementation. WRAWMP meets the first eight of these as follows:

• Objective One: Leadership and Organization - Strategy One: Provide consistent statewide and local leadership and organization.

The Benton County CWMA provides leadership and organization to groups, agencies and landowners related to invasive plant issues around the county. The Benton County CWMA Management Plan outlines management principles for CWMA activities that align with this project such as; "projects are designed using an ecosystem management approach based on an understanding of weed biology, weed ecology, and landscape level processes." (Appendix D: Benton County CWMA 5-Year Management Plan, 2012).

• Objective Two: Cooperative Partnerships - Strategy Two: Develop and expand partnerships.

The Benton County CWMA is made up of a broad partnership of agency, organization and landowner representatives. Benton SWCD provides fiscal oversight and coordination of the Benton County CWMA. Benton SWCD has a strong history of developing partnerships and collaborating with other agencies, organizations and landowners to complete projects and develop programs for the stewardship of natural resources. Another partnership that will be involved in the planning and implementation of this project is the Willamette Mainstem Cooperative, which is supported by a group of stakeholders, representative of local agencies and landowners.

For this project Benton County CWMA and Benton SWCD will work with Willamette Riverkeeper and Oregon State Parks and Recreation Department to implement the workshops, volunteer training, and survey and control work. Benton SWCD also plans to work closely with Oregon State University Biology Department, Oregon Department of Fish and Wildlife, and other interested groups to ensure that it is meeting Ludwigia control objectives while minimizing impacts to local fish and wildlife species.

• Objective Three: Planning and Prioritizing - Strategy Three: Develop and maintain noxious weed lists and plans.

The Benton County CWMA has developed and maintains an invasive plant list for Benton County. This list is regularly reviewed and updated by members of the CWMA EDRR Action Team. Ludwigia hexapetala is a B-rated weed on the Oregon state noxious weed list and a B-rated weed on the Benton County invasive plant list, and is targeted for outreach and data collection, both of which would be fulfilled through this project. Nymphoides peltata is an A-rated noxious weed by the state of Oregon and A-rated in Benton County as well. It is targeted for immediate removal and ODA response.

The species and sites proposed for treatment in this application have been carefully considered and chosen based on recommendations from several specialists and land managers who operate on the mainstem Willamette River.

• Objective Four: Education and Awareness - Strategy Four: Provide education and awareness.

For this project Benton SWCD in partnership with Willamette Riverkeeper and Oregon Parks and Recreation Department will provide community outreach to land managers, land owners and the general public through a series of aquatic weed workshops, a volunteer training and two volunteer weed pulls on the Willamette River. For these events, we will discuss the benefits of identifying and removing, and reporting invasive plant populations before they spread. The objectives for these workshops are to educate targeted audiences on the identification of aquatic invasive plants, the impact on wildlife, humans and native plant communities and the methods for timely response relative to the species of concern. Benton SWCD will develop outreach materials and distribute them to workshop participants and interested landowners.

Two other objectives of these events are to increase public awareness of aquatic invasives and provide tools to members of the community to make informed decisions for management of aquatic weeds.

• Objective Five: Integrated Weed Management (IWM) - Strategy Five: Continue to support and advocate the principles of IWM.

The Benton County CWMA is dedicated to using well developed, integrated approaches in weed management. This project is supportive of integrated weed management principles in the use of manual and chemical control of Ludwigia on the mainstem and at each project site. For each site, all appropriate methods for treatment will be thoroughly analyzed and considered based on resources available and existing conditions.

• Objective Six: Early Detection and Control of New Invaders - Strategy Six: Implement early detection and control.

This project includes early detection and control of new invaders as a key element: we plan to control the only known Nymphoides peltata population in Benton County.

According to Dr. Grewell of USDA-ARS, the invasive Ludwigia populations on the Willamette River are currently at a level where early detection of new populations and control of established populations can still be effective in significantly reducing, and eventually removing, the plants from the river system.

• Objective Seven: Noxious Weed Information System and Data Collection - Strategy Seven: Upgrade Noxious Weed Information System.

With the implementation of weed surveys and the mapping of project sites using GPS technologies, we can contribute to existing state weed information systems such as the Oregon Invasives Hotline and IMap Invasives. Data collected during the course of this project can be made available for reference by other land management agencies, to inform the development of other projects or management plans.

• Objective Eight: Monitoring and Evaluation - Strategy Eight: Monitor noxious weed projects to evaluate effectiveness.

Regular monitoring will be integrated into this project to determine the short and long-term effectiveness of control activities. Photo-points will be strategically placed at each site to collect information before and after each treatment occurs. Populations will be mapped and updated throughout the duration of the project and in subsequent years as funding allows.

16. How will restoration be a part of your project? If restoration is not a component of this project please explain.
Since each site described in this proposal has a significant native plant community it is expected that the suppression and removal of targeted invasive species will reduce competition to native plants. These native plants may then occupy area where the invasive aquatics are removed. In Collins Bay, where open water once existed, spraying and removal of dense mats of Ludwigia should restore these areas to open water habitat. The Nymphoides at Horseshoe Lake occupies a small area and is predominately in open water, so no planting of native species is anticipated.

Though restoration is not a component of the first year of this project, a plan for Collins Bay will be developed based on the response of the site to initial treatments. This plan may be written specifically for Collins Bay or it may be part of a larger plan for invasive plant management on the mainstem. If native plant reestablishment is not adequate to compete with the remaining Uruguayan primrose-willow after the first year of treatment, or if secondary invaders emerge in competitive numbers, a more active restoration approach will be pursued.

17. If this project protects a high priority species or habitat, please give a brief description of the species or habitat/land use designation.
1. Anchor Habitat for Anadramous Fish: Collins Bay is within the areas identified in OWEB's Willamette River Habitat Protection and Restoration Program 2010-2015

Habitat Technical Team Proposal (May 28, 2010), as part of the priority anchor habitats for anadromous fish along the Willamette River mainstem.

2. Open Water Marsh Habitat: Collins Bay was also listed as a special habitat by Carex Working Group during the 2012-1013 invasive plant and habitat assessment, by stating that the open water marsh habitat was rarely encountered during survey work and that the site is worth noting for preservation/restoration work. They also recommended the removal of Ludwigia from the area to maintain the water regime.

3. Western Pond Turtles: Western pond turtles are considered a sensitive species by the State of Oregon and are one of the strategy species listed in the Oregon Conservation Strategy (OR Dept. of Fish and Wildlife 2006). While there are no official surveys on record, Stanley and Louise Snyder who own and live on the property spoke of the pond turtles and large fish once found in Collins Bay. They claim that since the bank eroded into the inlet over 15 years ago, the water depth went from 20 feet to about three feet. After this occurred, Uruguayan primrose-willow (which had previously been there in small amounts) spread rapidly and filled in the marsh. Since the Uruguayan primrose-willow filled in the open water, they have not witnessed the presence of any pond turtles or large fish in the bay. Other landowners from properties nearby have verified the Snyder's account of the progression of Ludwigia and subsequent changes in Collins Bay.

Western pond turtles require open water habitat with native emergent vegetation to feed, bask, reproduce and hide from predators. Infestations of aquatic weeds, such as Ludwigia, result in thick vegetation mats that limit movement of aquatic and semi-aquatic species, severely limiting their ability to navigate, feed and reproduce. In addition, these dense mats of vegetation die off at the end of the growing season and the process of decay can drastically reduce dissolved oxygen in the water. These areas of low dissolved oxygen may create a barrier for the movement of aquatic organisms through a waterway, or cause the fatality of aquatic organisms that are unable to move into areas with sufficient dissolved oxygen. Furthermore, the thick mats of vegetation formed by Ludwigia filter out sediment, potentially altering the floodplain capacity and side-channel characteristics of waterways such as Collins Bay.

18. Salmon/Steelhead Populations Targeted and Expected Benefits to Salmon/Steelhead

The information provided will be used by OWEB to better meet federal and state reporting requirements. Completion of this section is required but will not be used to evaluate this application for funding.

☒ This project is NOT specifically designed to benefit salmon or steelhead.

- If you check this box do not answer supplemental question 18(A)

Targeted Salmon/Steelhead Populations: Select one or more of the salmon ESUs (Evolutionary Significant Unit) or steelhead DPSs (Distinct Population Segment) that the project will address/benefit. For species where the ESU/DPS name is not known or determined, use the species name with unidentified ESU (e.g., Chinook salmon – unidentified ESU). Additional information on the designation and location of the salmon/steelhead populations can be found at http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Maps/Index.cfm

	Chinook Salmon (Oncorhynchus tshawytscha)
☐	Deschutes River summer/fall-run ESU
☐	Lower Columbia River ESU
☐	Mid-Columbia River spring-run ESU
☐	Oregon Coast ESU
☐	Snake River Fall-run ESU
☐	Snake River Spring/Summer-run ESU
☐	Southern Oregon and Northern California Coastal ESU
☐	Upper Klamath-Trinity Rivers ESU
☐	Upper Willamette River ESU
☐	unidentified ESU
Chum Salmon (O. keta)	
☐	Columbia River ESU
☐	Pacific Coast ESU
☐	unidentified ESU

	Coho Salmon (O. kisutch)
☐	Lower Columbia River ESU
☐	Oregon Coast ESU
☐	Southern Oregon/Northern California ESU
☐	unidentified ESU
Steelhead (O. mykiss)	
☐	Klamath Mountains Province DPS
☐	Lower Columbia River DPS
☐	Middle Columbia River DPS
☐	Oregon Coast DPS
☐	Snake River Basin DPS
☐	Washington Coast DPS (SW Washington)
☐	Upper Willamette River DPS
☐	Steelhead/Trout unidentified DPS

18(A). Expected Benefits: Write a brief description of the goals and purpose of the project and how it is expected to benefit salmon/steelhead habitat.

19. How will success be determined, what elements will be monitored/evaluated and by whom, how often and for how long? Who will maintain the project and for how long?

To determine success for this project photo-points will be established for monitoring purposes. Data on the extent of native and invasive plants present at each site will be recorded and mapped. Each plot will be monitored to evaluate the response of the plant communities to each treatment method. Monitoring will take place before and after each treatment, and annaully after that to assess the extent of Ludwigia and Nymphoides at each waterbody. Success willl be determined by comparing the post-treatment distribution and abundance of Ludwiga and Nymphoides and native plants to pre-treatment abundance and distribution.

This project addresses the first year of treatment for Ludwigia at Collins Bay and Nymphoides at Horseshoe Lake. Both sites are expected to require more than one year of treatment to adequately reduce plant densities to levels that the native habitats can sustain without significant impact from these invasive species. This will be a multi-year project with the first year being the most intensive for control work. The Benton County CWMA plans to seek funding for the second phase of this control effort in future years.

Project Budget

Itemize projected costs in each of the following categories. All costs must be directly associated with project
Add rows where needed

Include only the amount requested from OSWB:

Category	Amount
Salary/Wages: (include position titles, #of hours/ hourly rates)	
Project Coordinator - 288 hrs @ $32/hr	$ 9,216
District Manager - 56 hrs @ $35/hr	$ 1,960
	$
Sub-Total	**$ 11,176**
Contracted Services: (labor, supplies, and materials to be provided by non-staff for project implementation)	
Manual and chemical control of Ludwigia	$ 13,000
Chemcal control of Nymphoides	$ 1,350
Weed pulls, workshops, event coordination	$ 5,000
Sub-Total	**$ 19,350**
Travel: (Mileage, per diem, lodging, etc. Must use current State of Oregon rates)	
Mileage	$ 996
	$
	$
Sub-Total	**$ 996**
Supplies/Materials/Equipment: (use Appendix A within the instructions as a guide)	
	$
	$
	$
Sub-Total	$
Other: (Costs must be necessary and reasonable for successful completion of this project)	
	$
	$
	$
Sub-Total	$
Grant admin not to exceed 10% - must be billed direct to costs associated above and/or an invoice must be provided.	$ 3152
Grand Total:	**$ 34,674**

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Project Partners

List agencies/organizations from which funding is anticipated for the proposed project.

The Oregon State Weed Board requires 25% match for projects, however if you concerns with this requirement please contact the ODA Grant Program Staff at 503-986-4621.

Show all anticipated funding sources, and indicate the dollar value for cash and in-kind contributions. Be sure to provide a dollar value for each funding source. For all funding please provide within the "use of contribution" column exactly what the cash/in-kind will be used for, this helps the OSWB gain a better understanding of the roles and responsibilities the partners will have with the project. Check the appropriate box to denote if the funding status is secured or pending. In the Amount/Value Column, provide a total dollar amount or value for each funding source. Match should be directly related to the noxious weed project. OWEB funding is no longer eligible for match toward OSWB grants, SWCD and Watershed Councils must provide proof their match is from a source other than OWEB.

NOTE: If your project is selected for funding your organization will be asked to provide signatures for 25% match as a component of agreement procedures.

Funding Source (Name the Partner)	Use of Contribution	Cash	In-kind	Secured (x)	Pending (x)	Amount/Value
Sample Agency	*GIS mapping, and ATV use*		***$2,500***	*X*		***$2,500***
OSWB	**Contracted manual and herbicide control of Ludwigia and Nymphoides, monitoring, weed pulls, event coordination; contract management, project coordination, fiscal management, report writing, outreach**	$34,674.00	**N/A**	☐	☒	$34,674.00
Oregon Dept. of Agriculture	**Consultation and Ludwigia control work with Glenn Miller, and Nymphoides control test treatment**	**N/A**	$1,425.50	☒	☐	$1,425.50
Benton Soil and Water Conservation District Personnel - Heath Keirstead, Invasives Program & Benton County CWMA Coordinator & Crystal Durbecq, Willamette Mainstem Coordinator	**Project coordination, outreach, survey, monitoring, per diem, supplies and materials**	**$**	$5,948.00	☒	☐	$5,948.00
Benton SWCD	**Survey work on Collins Bay and Bowers Slough, funded through Meyer Memorial Trust Grant**	**$**	$541.00	☒	☐	$541.00

Oregon State Parks and Recreation Department Personnel - Scott Youngblood, Willamette River Ranger	**Salary (workshops, Ludwigia control at Bowers Slough, river survey, weed pull); equipment and supplies (motor boat, herbicide, spray equipment)**	**$**	$3,500.00	☒	☐	$3,500.00
Horseshoe Lake Neighborhood Association	**Contracted control of Nymphoides**	**$**	$635.00	☒	☐	$635.00
Peter Kenagy, landowner and farmer on the Willamette River	**Control of Ludwigia on property**	**$**	$160.00	☒	☐	$160.00
Willamette Riverkeeper	**Staff time for invasive survey, use of equipment (canoes, paddles, etc.)**	**$**	$1,140.00	☒	☐	$1,140.00
		$	**$**	☐	☐	**$**
		$	**$**	☐	☐	**$**
		$	**$**	☐	☐	**$**
		$	**$**	☐	☐	**$**
		$	**$**	☐	☐	**$**
Total Estimated Funds (add all amounts in the far-right Column):	(The total should equal the total cost of the project on page 1 of the application)					*$48,023.50
Have any conditions been placed on matching funds that may affect completion? ☐ Yes ☒ No If Yes , Explain:						

NOTICE of Grant Award Conditions

HC ☐ If this proposal is funded, you will be required to:

- Sign a Grant Agreement containing the terms and conditions for the project implementation, release of funds, and documentation of completion.
- Payments will be made only for work started after the effective date of the grant agreement, unless special conditions have been placed by ODA/OWEB.

HC ☐ Before ODA/OWEB releases the Grant Agreement, you will be required to:

- Resolve any and all outstanding issues from your previous grants with ODA/OWEB.

HC ☐ Upon signing the Grant Agreement, you will be required to:

- Certify in the Grant Agreement that prior to starting work on private land, you have or will obtain cooperative agreements with the private landowner(s). Exhibit D of the ODA/OWEB Grant Agreement may also require you to submit copies of those agreements to ODA/OWEB prior to the release of funds.
- Agree that monitoring information resulting from projects are public domain.
- Determine whether and what permits and licenses are required.

HC ☐ Before ODA/OWEB releases any payments, you will be required to:

- Document that 25% match funding has been secured.
- Submit a Public Certification Form
- Submit copies of all applicable permits and licenses from local, state, or federal agencies or governing bodies, or certify that permits and licenses not needed.

HC ☐ Upon completing the project, you will be required to:

- Submit a Project Completion Report as required in the Grant Agreement, including a Match Form that documents at least 25% actual match. OGMS Online Project Completion Reporting is now available to assist you with your agreement's completion reporting requirements.
- Submit your Oregon Watershed Restoration Inventory report(s) electronically.
- Submit data to Oregon Weedmapper – for data standards visit http://www.oregon.gov/ODA/PLANT/WEEDS/WEEDMAPPER/Pages/submitdata

Initial each category and be sure this page is submitted along with your completed proposal.

CERTIFICATION:

I certify that this application is a true and accurate representation of the proposed work for watershed restoration and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements (***see Application Instructions***) of an OSWB/OWEB grant and are prepared to implement the project if awarded. **I have read and initialed the NOTICE of Grant Award Conditions**

Applicant Signature: Heath Keirstead Date: 12/11/13

Print Name: Heath Keirstead Title: BC CWMA Coordinator

Co-Applicant Signature: Holly Grosson Date: 12/2/13

Print Name: Holly Grosson Agency: Benton Soil + Water Conservation District - fiscal agent

District Manager

All appendices are housed within the application instructions section and can be downloaded at: http://www.oregon.gov/ODA/PLANT/WEEDS/Pages/grantindex.aspx

Mandatory attachments:

- Maps highlighting specific area of project activities
- Photos (please use the same photo points as you will use on interim progress reporting and project completion reports should this project be awarded)
- For landowner reimbursement projects – landowner list with acreages listed by weed species
- Project partners form
- Initialed notice of grant condition statement and signed certification form