



Yakima Basin Study

Proposed Integrated Water Resource Management Plan

Watershed Land Conservation Subcommittee Proposal

DRAFT – October 11, 2011

The proposed Integrated Water Resource Management Plan represents a comprehensive approach to water management and habitat enhancement in the Yakima River basin. It is intended to restore ecological functions in the Yakima River system and to provide more reliable and sustainable water resources for the health of the riverine environment, agriculture and municipal and domestic needs. The Integrated Plan offers a comprehensive package of projects to meet these needs while anticipating changing water demands and effects of climate change on water resources in the basin.

Section 3.1.5 of the Integrated Plan identifies **Targeted Watershed Protections and Enhancements** for the Yakima River Basin. Healthy watersheds protect water quality, contribute to instream flows and cooler water temperatures, reduce sedimentation, and maintain aquatic habitat complexity. These benefits are widely recognized by water users and land managers across the West. As climate change places new stresses on water resources and aquatic habitats in the future, the Yakima River Basin's upper watersheds will become even more vital to ecosystem health and water supply.

In addition to watershed protection, headwater lands targeted for protection under the Integrated Plan will protect unique riparian areas, travel corridors, transitional habitats, bull trout, steelhead and salmon spawning habitat, spotted owl habitat, and will expand a wide variety of motorized and non-motorized recreational opportunities for the Washington State residents and visitors. Further, it is desirable that some of these lands be maintained as working lands so they will continue to support the regional economy.

The Integrated Plan also calls for protection of shrub-steppe lands within the Yakima Basin. Shrub-steppe is an increasingly threatened and fragmented habitat type found in Central Washington that supports several declining species such as the greater sage grouse and ferruginous hawk that require large blocks of intact land. Protection of a large area of these lands will balance effects of inundation from proposed reservoir projects as well as land development resulting from more reliable water supplies for agriculture and municipal and domestic growth enabled by additional water supplies. The efforts supported by the Integrated Plan will complement ongoing actions by a range of public and private landowners to protect this vital landscape type.

A Watershed Lands Conservation Subcommittee was established to advise the YRBWEP Workgroup on options for carrying out a Targeted Watershed Protection and Enhancement program.

This report summarizes the options for Targeted Watershed Protections and Enhancements identified by the Watershed Land Conservation Subcommittee.

Land Conservation Actions:

Actions Under this Program Include:

- **Land acquisitions** from willing sellers to protect ecological, recreational and extractive resource uses and to provide structure for improved land management. Conservation groups working in parallel with the YRBWEP Workgroup identified and targeted three key areas in the Yakima and Naches River watersheds for land acquisition actions that would help improve watershed and ecosystem functions.
 - 45,000 acres as a Conservation Target for High Elevation Watershed Enhancement
 - 10,000 as a Conservation Target for Forest Habitat Enhancement.
 - 15,000 acres as a Conservation Target for Shrub-Steppe Habitat Enhancement
- **New designations on existing Forest Service lands** to improve watershed and habitat protection while retaining access for recreational uses. Designations could include national recreation, conservation, or wilderness areas or some combination of these. While these can be recommended, an Act of Congress would be required for this action.
- **New designations of select river corridors** within the Yakima Basin to promote conservation in cooperation with public and private landowners and County governments. Designations could include national recreational, scenic or wild river areas, or some combination of these. While these can be recommended, an Act of Congress would be required for this action.

Program Principles:

The Subcommittee established a set of principles for each of these actions to be used to guide the program. The principles express the expectations of the subcommittee that actions under this program will improve watershed and ecosystem functions while supporting local economic conditions and traditional uses by the local communities.

The agencies involved in carrying out the targeted watershed protections and enhancements must actively consult with local landowners in carrying out the program and developing land management strategies. Additional principles are listed as follows:

Principles for Forest Land Acquisitions:

- Maintain economic uses where lands have historically been used as working lands, where this is consistent with protection of key watershed functions and aquatic habitat. This will help to foster support from local communities as the watershed and ecosystem protection objectives are pursued. This will also assist in providing an ongoing funding source for managing the properties.
- Maintain and, where possible, improve access to lands and enhance opportunities for a variety of recreational uses, where this is consistent with protection of key watershed functions and aquatic habitat. This will also help to foster support from local communities as the watershed and ecosystem protection objectives are pursued.
- Restoration and management activities are essential and must be supported under the acquisition program, including long-term funding sources for these purposes.

Principles for Shrub-Steppe Land Acquisitions

- Land acquisitions will help to offset impacts of inundating shrub-steppe habitat from lowland reservoir projects such as Wymer Reservoir, and will complement ongoing efforts to protect shrub-steppe lands in Central Washington.
- Access and opportunities for recreation will be enhanced.
- A working lands outcome will be considered, where consistent with protection of habitat and sensitive wildlife species.

Principles for New Designations on Existing Public Lands

- New designations will enhance watershed and fish habitat protection and preserve or improve recreational opportunities.
- New designations will avoid negative effects on existing or reasonably foreseeable economic uses of the affected public lands that are consistent with protection of watershed functions and fish habitat.
- Public land designations will directly complement other actions in the Integrated Plan, including (but not limited to) fish passage and habitat restoration, land acquisitions, and public land designations.

Principles for River Corridor Designations

- New river corridor designations and associated management plans will be developed cooperatively with public and private landowners and the county having jurisdiction over local land use regulations.
- New river corridor designations will complement other actions in the Integrated Plan, particularly fish passage, habitat restoration, land acquisitions, and public land designations.

Options for the Upper Yakima River Basin

Land Acquisitions

The Subcommittee has identified the following options for the Upper Yakima River Basin. These include options listed in the Integrated Plan, as well as alternatives in case those lands prove to be unavailable or too costly for acquisition.

- **Preferred Option:** Acquisition of a 46,000 acre tract in the middle and lower Teanaway River basin comprised of mid to high elevation mixed conifer forest and lower elevation grand fir and Ponderosa pine forest. The Teanaway River flows into the Yakima River and provides fish passage and connectivity to high elevation colder water. Protecting this area would provide significant ecosystem, water quality and quantity, and species benefits that complement the habitats and species protected by the Plum Creek Central Cascades Habitat Conservation Program (HCP), directly adjacent to the western portion of the proposed area. The Ponderosa pine forests are particularly significant due to their limited range and vulnerability to climate change. The Department of Ecology has recognized that:

“[t]he Teanaway River system represents some of the highest quality streams and cold-water fish spawning and rearing areas in the Yakima River Basin.”¹

In addition, conservation of the Teanaway landscape fits well into the overall strategy of acquiring and protecting non-federal lands to ensure successful landscape-scale linkages envisioned by the Integrated Plan.

- **Preferred Option:** Acquisition of lands at the headwaters of Taneum and Manastash Creeks in connection with acquisition of adjacent lands in the Little Naches Basin (see options for Naches Basin, below). Private lands in these watersheds are intermingled with National Forest land, generally in a checkerboard pattern. The land is primarily mid to upper elevation conifer forest. Most of the area has been logged and replanted, but some areas of old-growth forest remain. The upper reaches of Taneum, and Manastash Creeks are important for water quality and maintaining cool temperatures for bull trout protection and restoration. They also protect water supply and provide current or potential salmon and steelhead spawning grounds.

¹ <http://www.ecy.wa.gov/programs/wq/tmdl/TeanawayTMDL.html>

- **Alternatives:** If the lands in the Upper Yakima Basin identified above are not available or cannot be acquired at a reasonable cost, other options are available as well. These include:
 - Acquisition of Plum Creek holdings in Big Creek, Taneum Creek, Cabin Creek and Cle Elum River watersheds. Kittitas County. *Acreage? (overlap with Taneum Creek lands discussed above??).*
 - Acquisition of American Forest Lands Resource holdings, Swauk and First Creek areas. Kittitas Co. *Acreage?.*
 - Acquisition of additional private land holdings. Kittitas County. Forest lands. *Acreage?.*

Public Lands Designations

*"Wilderness or other appropriate designation should ... be sought for roadless areas in the Teanaway, in the area between Kachess and Cle Elum Reservoirs, and in the upper reaches of Manastash and Tanuem Creeks in order to protect headwaters streams, snow pack, and forests. "*²

The subcommittee proposes applying the National Recreation Area designation to lands in the upper Yakima Basin. This designation is flexible enough to provide protection for key habitat functions while preserving the overall theme of recreational use for these lands. National Recreation Area designation also raises the profile of these recreational lands and is, in essence, a powerful marketing feature that will attract more users who contribute to local economic vitality. It is important to note that private lands are not included in National Recreation Areas and will not be not bound by NRA rules.

- **Creation in the Teanaway Area of a National Recreation Area** on approximately 100,000 acres (*need to verify size*) of existing US Forest Service lands in these areas. Within the proposed NRA, approximately 21,000 would be designated as Wilderness, approximately 6,000 acres would be designated for backcountry motorized recreational use, and approximately 1,000 acres would be designated for backcountry non-motorized recreational use. All of these proposed uses are consistent with the uses identified in the current Okanogan-Wenatchee National Forest (OWNF) Plan Revision Proposed Action; however the forest plan does not propose NRA designation.
- **Creation in the Manastash-Taneum watershed of a National Recreation Area** on approximately 41,000 acres of existing US Forest Service lands in these areas. Within the proposed NRA, approximately 35,000 acres would be designated for backcountry motorized recreational use. These proposed uses are consistent with the uses identified in the current OWNF Proposed Action and with current uses of this area.

² Integrated Plan Statement on Public Lands Designations

River Corridor Designations

The Subcommittee proposes designations under the federal Wild and Scenic Rivers Act for rivers and reaches where designations will benefit directly the fisheries supported in the Yakima Integrated Plan. All of the reaches proposed are designated critical habitat for bull trout, most are also critical habitat for steelhead. With the exception of the Teanaway River, these rivers are primarily or exclusively in the Wenatchee National Forest and have been proposed for Wild and Scenic designation in the 1990 Wenatchee Forest Plan or in the 2011 Okanogan-Wenatchee Forest Plan Revision Proposed Action. Where there are significant private property interests affected, such as for the middle and lower reaches of the Teanaway River, designations will be proposed only with broad support by the affected landowners.

The Subcommittee identified the following as high priority designations:

- **Wild and Scenic River Designations for Upper Cle Elum River, Waptus and Cooper Rivers.** In addition to bull trout habitat, these rivers and reaches above Cle Elum Reservoir will all receive increasing numbers of salmon and steelhead as fish are reintroduced and fish passage provided above Cle Elum Dam.
- **Wild and Scenic River Designations for Teanaway River:** North, Middle and West Forks. The Teanaway River and its tributaries currently provide some of the best quality spawning habitat for salmonids in the basin, with steelhead, bull trout, and spring Chinook present. The protection and management proposed through acquisition of the Teanaway forest lands and Wild and Scenic designation are central to the salmonid restoration efforts under the Yakima Integrated Plan. Designation would be linked to acquisition of the 46,000 acre Teanaway property. The lower limit of Wild and Scenic designation affects private property and will be determined in consultation with those property owners.

Options for the Naches and Middle Yakima River Basins

Land Acquisitions

- **Preferred Option.** Acquisition of land at the headwaters of the Little Naches River in combination with adjacent lands in the Manastash and Taneum basins, totaling up to 10,000 acres. Private lands in these watersheds are intermingled with National Forest land, generally in a checkerboard pattern. The land is primarily mid- to upper-elevation conifer forest. Most of the area has been logged and replanted, but some areas of old-growth forest remain. The upper reaches of the Little Naches River are important for water quality and maintaining cool temperatures for bull trout protection and restoration. They also protect water supply and provide current or potential salmon and steelhead spawning grounds.
- **Alternatives:** If the lands in the Little Naches Basin identified above are not available or cannot be acquired at a reasonable cost, other options are available as well. These include:

- Acquisition of Conrad Meadows. Yakima Co. *Acreage?*. Tieton River watershed.
- Acquisition of Yakima County Tree Farms LLC (former Miller Shingle, near Yakama Nation Reservation boundary. Yakima Co. See “Priority Timberlands” handout from DFW. *Acreage?*. Ahtanum Creek and Klickitat River watersheds.
- Acquisition of 7,500 acres of Pine Forest lands in Cowiche Creek watershed. Yakima Co.
- Acquisition of Ahtanum Irrigation District forested lands. Eight to ten sections, or approximately 5,000 to 6,000 acres.

Public Lands and River Corridor Designations

The subcommittee proposes the following:

- **Wilderness Designation** of approximately 1,500 acres adjacent to and near the William O. Douglas Wilderness in the vicinity of Bumping Lake. In addition to the Preliminary Administratively Recommended Wilderness lands in the current OWN Proposed Action, the Subcommittee proposes that the Wilderness boundary be extended to the new high water mark of the enlarged Bumping Lake Reservoir when this project is constructed.
- **Wild and Scenic River Designation** on S. Fork of the Tieton, Indian Creek and Rattlesnake Creek. Bull trout populations in the South Fork of the Tieton and Indian Creek are the strongest remaining in the Yakima basin.³ Rattlesnake Creek is also a bull trout stronghold.
- **Wild and Scenic River Designation** on Deep Creek. The Deep Creek bull trout population is one of the strongest remaining in the basin. While spawning grounds would be partially inundated by expansion of Bumping Reservoir, addition of fish passage at the new dam would allow both upstream and downstream passage, reconnecting the Deep Creek population with other populations and habitat. These twinned positive and negative effects yield a net positive outcome that protects Deep Creek to the greatest extent possible. All of Deep Creek is identified for designation in the 2011 Okanogan-Wenatchee Forest Plan Revision Proposed Action; however, the Subcommittee proposes designation above the elevation of an expanded Bumping Reservoir, protecting the remaining bull trout habitat in the reach.
- **Wild and Scenic River Designation** on American River and Rainer Fork. These tributaries to the Bumping River provide steelhead, spring Chinook and bull trout habitat. The American River spring Chinook are a demographically and genetically distinct stock.⁴

³ From http://sotr.cbfwa.org/DPS_generaldescriptionBull.cfm?CoreID=91&DPSID=3&PopID=490&RUID=18&mnu=ESU

⁴ From http://www.hatcheryreform.us/hrp_downloads/reports/columbia_river/system-wide/4_appendix_e_population_reports/plateau-american_river_spring_chinook_01-31-09.pdf

The forest lands discussed for potential acquisition are shown in Figure 1. Lands proposed for new designations are shown on Figure 2, and rivers proposed for Wild and Scenic designation are shown on Figure 3.

Yakima Basin Forest Conservation Lands

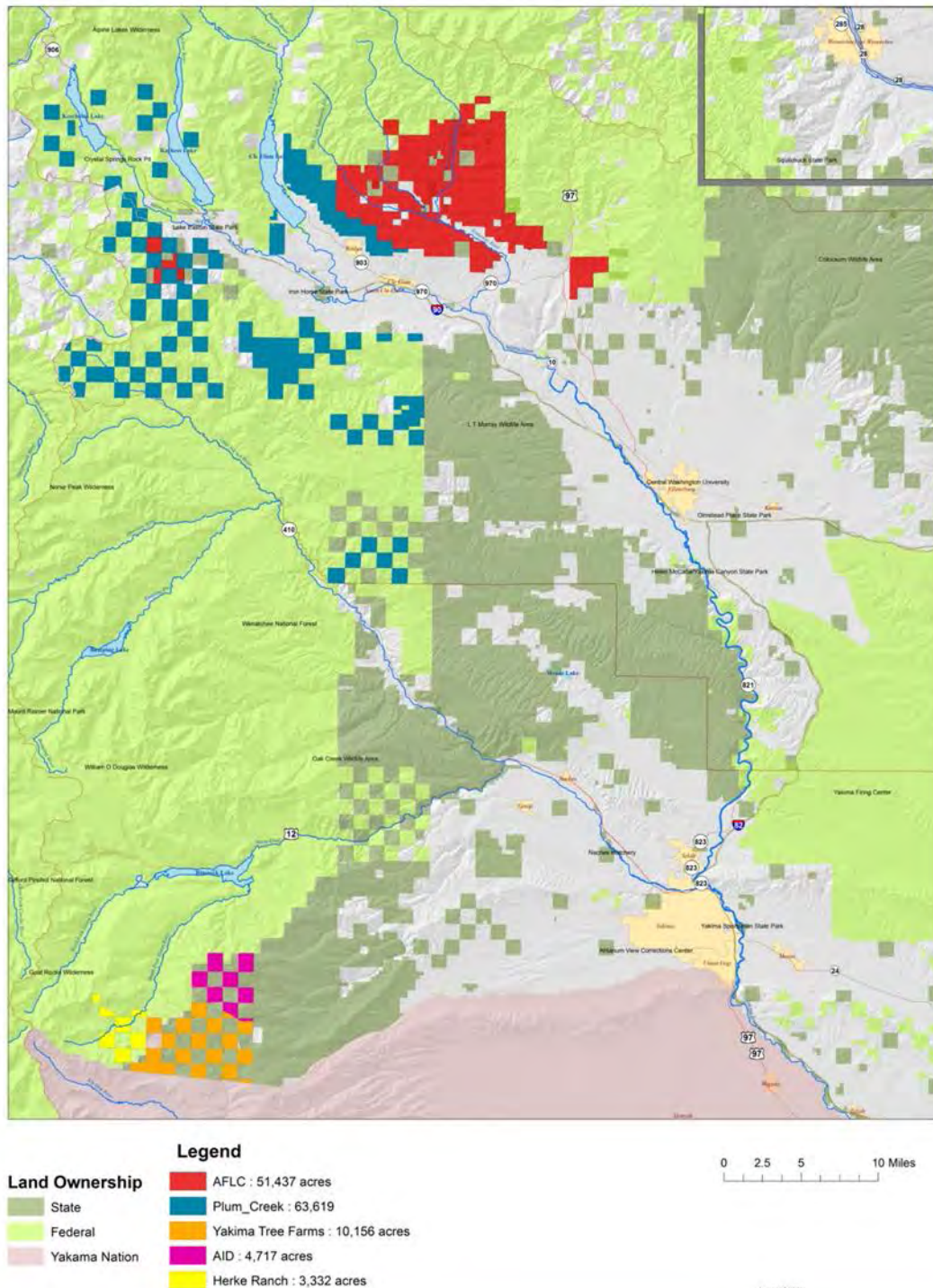


Figure 1. Options for Forest Land Acquisition.

Proposed Yakima Basin Public Lands Designations⁵

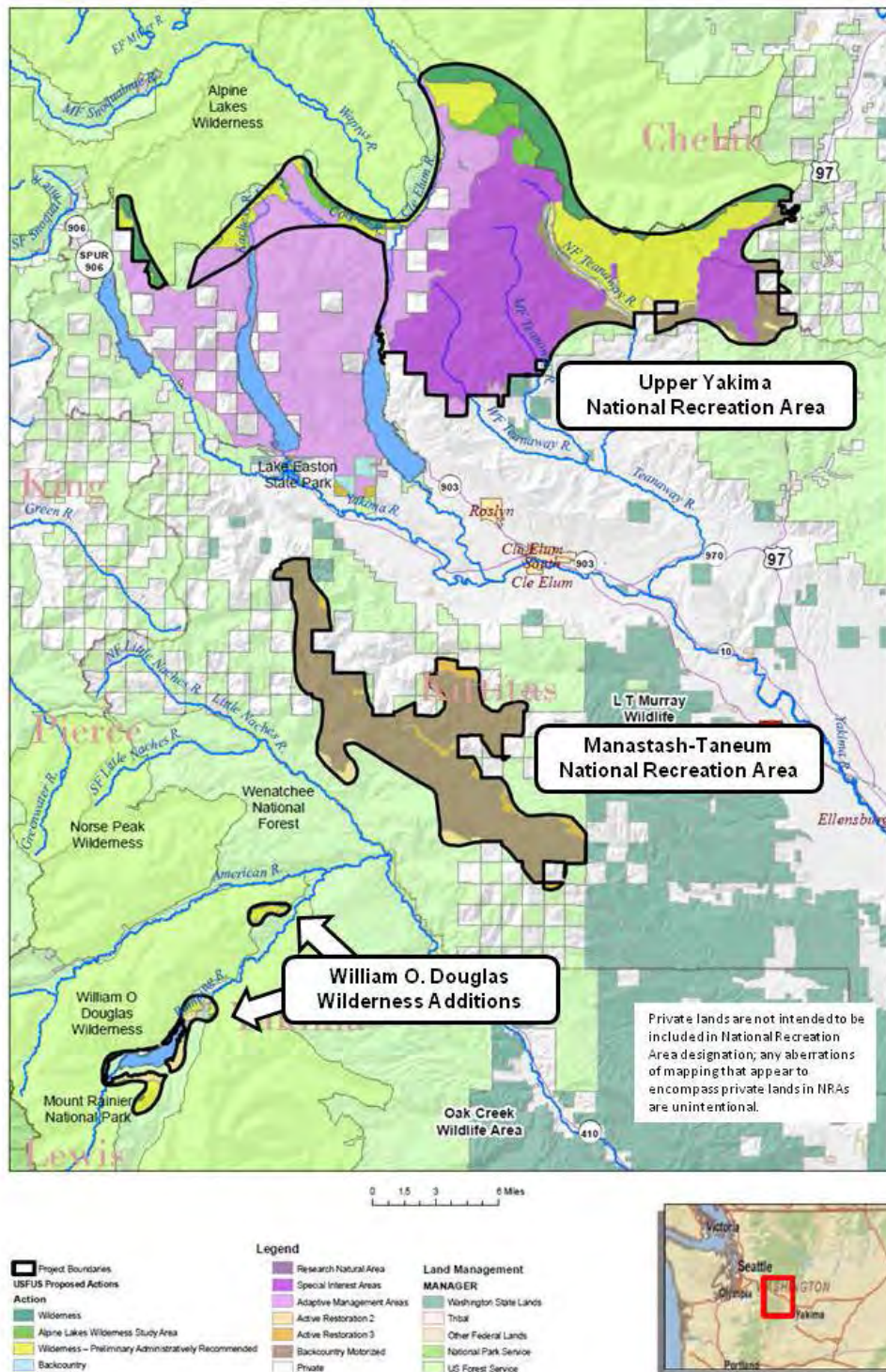


Figure 2 Options for National Recreation Area & Wilderness Designations

⁵ Please note that private lands are not intended to be included in National Recreation Area designation; any aberrations of mapping that appear to encompass private lands in NRAs are unintentional.

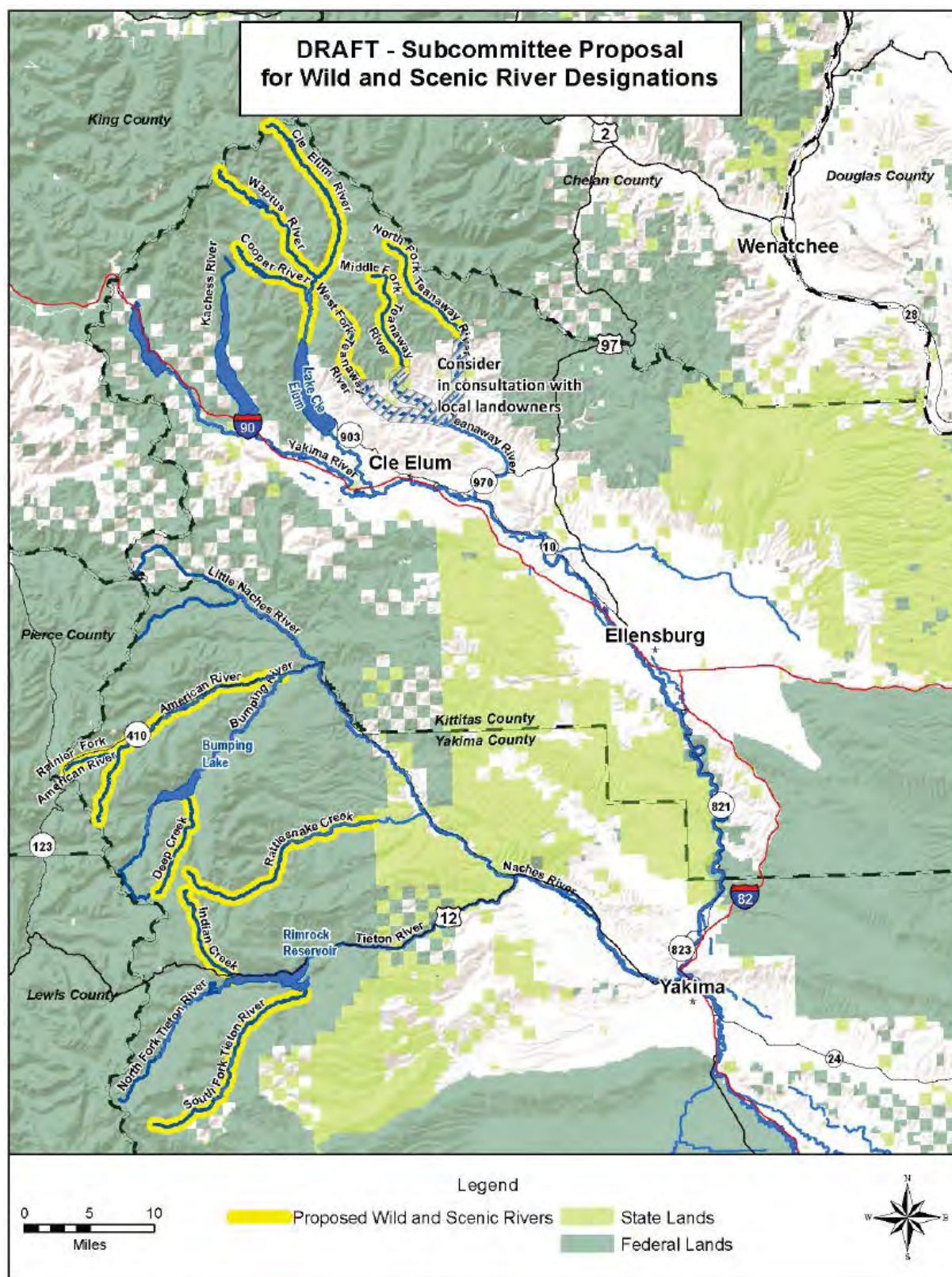


Figure 3 Options for Wild and Scenic River Designations

Options for Shrub-Steppe Protection

The shrub steppe ecosystem is extremely threatened in Washington and is a WDFW priority habitat for conservation⁶. Approximately 60% of this unique, fragile ecosystem has been lost.⁷ Habitat loss is more drastic when comparing potential range of sagebrush to its current range. Miller et al.⁸ estimated only 24% of the potential range of sagebrush currently has sagebrush present in Washington state. Agricultural development was historically the most important cause of habitat loss. Residential development, military training, hazardous waste cleanup activities at Hanford, large scale wildfire, inappropriate grazing by domestic, feral and wild grazers, renewable energy development, new agricultural water delivery projects and proposals for new water storage threaten remaining shrub steppe.

The South Central Washington Shrub Steppe and Rangeland Conservation Partnership (Partnership) formed under a Memorandum of Understanding in 2006. The Partnership is a non-regulatory, volunteer organization developed to facilitate collaboration among public and private entities interested in conserving working rangelands, open space, and wildlife habitat. The Partnership focal area includes shrub steppe in Benton, Yakima, Kittitas, and Grant Counties.

Greater sage grouse are a candidate for federal listing and rely on shrub-steppe habitat. Ferruginous hawks have been listed as a state threatened species since 1983.⁹ Their core nesting range has contracted to southeastern Washington with only 35 active territories documented in 2010.¹⁰ Numerous other shrub steppe obligate species have experienced population declines in response to habitat loss. Black-tailed and white-tailed jackrabbits, burrowing owls, golden eagles, sage sparrow and thrasher, and sagebrush lizard are all candidates for state listing as threatened or endangered¹¹.



⁶ From WDFW website at <http://wdfw.wa.gov/conservation/phs/>

⁷ Dobler 1996 [get citation]

⁸ (2011) [get citation]

⁹ (WDFW 1996) [get citation]

¹⁰ WDFW unpublished data

¹¹ From WDFW website at <http://wdfw.wa.gov/conservation/phs/>

- **Preferred option:** The Eaton Ranch, a 15,000 acre tract in the Yakima River canyon has been identified, including the valley bottom and eastern slopes, from the Yakima River to Interstate 82 (I-82). This is the number one priority for protection because of its immediate proximity to the proposed Wymer Reservoir, sage grouse breeding areas and golden eagle nest sites. The tract is composed primarily of basalt cliffs and shrub-steppe vegetation, a critical habitat type. In addition, the Yakima Canyon riparian area provides salmon, steelhead, and resident rainbow trout habitat.
- **Alternatives:** If the Eaton Ranch is not available or cannot be acquired at a reasonable cost, or if the Wymer Reservoir project is not developed, other options for shrub-steppe protection are available as well. This remains important because water supply under the Integrated Plan will be used, in part, for additional municipal development and rural residential uses in lowland areas that may affect shrub-steppe habitat. These alternate sites include:
 - Rattlesnake Mountain (McWhorter Ranch). Benton Co. 14,000 acres. High priority for South Central Washington Shrub Steppe and Rangeland partnership. The McWhorter Ranch acquisition is the top ranked shrub-steppe project partially funded by the 2011 Washington Wildlife and Recreation Program and has long been sought by WDFW and Benton County.
 - Cowiche Watershed lands. Yakima Co. 12,000 to 14,000 acres. Priority habitats present and in good to excellent condition include: stream, riparian, shrub-steppe, oak woodland, cliffs and talus.

Shrub Steppe Options and Alternatives are shown on Figure 4.

The greater sage-grouse, once common and abundant in eastern Washington, has declined to approximately 1100 birds statewide. Roughly 200 of these birds remain in the focal area and are entirely dependent on the Yakima Training Center for population persistence (WDFW, unpublished data). The imperiled condition of this federal candidate and state threatened species is a primary driving force for numerous shrub steppe conservation actions at the national and state levels.





Figure 4. Locations of the proposed Wymer Reservoir and high priority shrub steppe project sites in the South Central Washington Shrub Steppe and Rangeland Conservation Partnership focal area.

Who Will Own and Manage the Lands Acquired?

There are a range of alternatives regarding who should own and manage the lands acquired. The following list describes several alternatives for potential land management scenarios.

Private. Private ownerships could allow for long-term protection through the use of conservation easements or from the transfer of development rights.

Local. A consortium made up of several stakeholder groups, including Kittitas County, environmental groups, and community members could serve as land managers for several of the properties being explored for acquisition within Kittitas County. In addition the 2011 State Legislature provided for Community Forest Trusts.

State

- The Washington State Department of Natural Resources has special expertise in managing forest lands and has a long history of managing working forests.
- The Washington State Department of Fish and Wildlife also has a long history of managing lands and has special expertise in managing lands for wildlife and recreation.

Recently, WDFW and WDNR have expressed a preference for WDNR to own/manage forest lands and for WDFW manage shrub-steppe lands.

Federal

- The Bureau of Land Management (BLM) has proven to be a competent manager of shrub-steppe lands in the Yakima Canyon. The BLM balances recreational use with working lands, while continuing to protect shrub-steppe habitats. A federal BLM option is viable for shrub-steppe lands acquired through this program.
- A Forest Service option is viable for high elevation Plum Creek forest lands.

The Subcommittee recommends that ownership options in specific areas be prioritized as follows:

- **Forested lands in the Teanaway Basin:** The preferred ownership option is consortium/ community ownership such as a Community Forest Trust. If this is not feasible, then the next best option is State ownership with strong participation by a stakeholder advisory committee.
- **Forested areas in the headwaters of Taneum and Manastash Creeks.** These are “checkerboard” lands where private lands are intermingled with U.S. Forest Service Lands. The best option if these lands are acquired is Forest Service ownership.
- **Eaton Ranch shrub-steppe lands.** State or federal ownership is recommended.

- **Additional forested and shrub-steppe land options.** The subcommittee has not reviewed ownership options in detail for the alternative land options.

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Appendix

Table 1. Priority habitat and special status wildlife species that exist within the timberlands, central Washington.

Community, or Habitat Type		Occurrence	Status ¹²	Source
PHS: Habitat				
Old Growth/Mature Forest		Primary, spotted owl habitat	PHS	WDFW
Instream		Approximately 4 miles of mainstem Teanaway River, several miles of type 3 streams that support ESA listed steelhead and bull trout.	PHS	WDFW
Aspen stands > 2 acres		Several stands	PHS	WDFW
Freshwater Wetlands		Multiple wetlands	PHS	WDFW
Riparian		Approximately 4 miles of mainstem Teanaway River	PHS	WDFW
Snags and Logs		Abundant in spotted owl habitat	PHS	WDFW
ESA & PHS: Wildlife				
Grizzly Bear		Individual occurrence ⁱ	FT; SE; P1	WDFW
Gray Wolf		Suspected ⁱⁱ Individual occurrence	FT; SE; P1	WDFW

¹² Federal Candidate (FC), Federal Threatened (FT), Federal Species of Concern (FCo), State Candidate (SC), State Endangered (SE), Protected (P) (1, 2, and 3 – priority levels).

Species, Community, or Habitat Type		Occurrence	Status ¹²	Source
Canada Lynx		Suspected Individual occurrence	FC; ST/ P2	WDFW
Bald Eagle	Breeding ⁱⁱⁱ		FCo; ST	WDFW, Yakama Nation
Northern Goshawk ^{iv}	Breeding		FCo; SC; P3	WDFW, USFS
Golden Eagle	Breeding		FCo; SC; P3	WDFW
Peregrine Falcon	Breeding		FCo; SC; P2	USFS
Wolverine	Suspected Individual occurrence		FCo; SC	Historic
Townsend's Big-Eared Bat	Breeding		FCo; SC; P3	USFS
Western Toad	Breeding		FCo; SC; P3	USFS/ CWU
Columbia Spotted Frog	Breeding		SC	CWU
Larch Mountain Salamander	Suspected – nearby populations		FCo; SC; p3	WDFW
Rocky Mountain Tailed Frog	Breeding, rearing, and migrating		SC; P2	WDFW
Sharp Tailed Snake	Breeding		FCo; SC; P3	WDFW
Pacific Fisher	Suspected habitat extirpated		FC; SE	Historic range estimates
Black-backed woodpecker	Breeding		SC	USFS

Species, Community, or Habitat Type		Occurrence	Status ¹²	Source
Pileated woodpecker	Breeding		SC; P3	WDFW, USFS
White-headed woodpecker	Suspected breeding		SC; P3	USFS
Flammulated Owl	Breeding		SC; P3	USFS
Vaux's Swift	Breeding		SC	USFS
Mid-Columbia Chinook	Spawning ^v		n/a	WDFW, Yakama Nation
Mid-Columbia Coho	Spawning, rearing, migration		n/a	WDFW, Yakama Nation
Cle Elum Sockeye	Spawning, rearing, migration		n/a	WDFW, Yakama Nation
Mid-Columbia Steelhead ^{vi}	Spawning, rearing, migration		FT; SC	WDFW, Yakama Nation
Bull Trout	Spawning, rearing, migration ^{vii}		FT; SE; P1	WDFW, Yakama Nation, Y. Reiss, USFWS

Table 2. Priority project sites and their relevance to implementing or supporting existing conservation studies or plans in the South Central Washington Shrub Steppe and Rangeland Partnership focal area.

Study or Plan	Rattlesnake Mountain (McWhorter Ranch)	Wymer Project Area	Cowiche Watershed
Ferruginous Hawk Recovery Plan (WDFW 1996)	Included w/in central recovery zone. Important foraging area and potential nesting. Several active territories overlap project.	Included w/in central recovery zone. Several historical territories present in project area.	Not in a recovery zone for the hawk
Identifying and Preserving Biodiversity on a Regional Scale (Soll 1999)	Not mentioned in recommendations	Identified as important habitat linkage between YTC & WDFW lands	Identified as important habitat linkage between YTC, WDFW lands & Yakama Reservation
Columbia Plateau Ecoregional Assessment (TNC 1999)	Important buffer to major portfolio site, i.e., Hanford	Included in the portfolio site along with YTC and WDFW lands to the west	
Yakima Subbasin Plan (NWPCC 2004)	Contributes to Strategy # 1 to protect landscape connectivity in the Rattlesnake Hills sage-grouse management unit	Contributes to Strategy # 1 to protect landscape connectivity in the Umtanum Ridge sage-grouse management unit	Contributes to Strategy # 1 to protect landscape connectivity in the Ahtanum Ridge sage-grouse management unit Identified as potential spawning habitat for federally threatened steelhead

Study or Plan	Rattlesnake Mountain (McWhorter Ranch)	Wymer Project Area	Cowiche Watershed
Greater Sage- Grouse Recovery Plan (Stinson et al 2004)	Included in the Rattlesnake Hills Management Unit	Included within the Umtanum Ridge Management Unit	Included within the Ahtanum Ridge Management Unit
Washington Connected Landscape Project: Statewide Analysis (WWHCWG 2010)	Identified as important to 4 of 5 species analyzed for landscape connectivity	Identified as important to 3 of 5 focal species analyzed for connectivity and landscape integrity	Identified as important to 2 of 5 focal species analyzed for connectivity and landscape integrity
Shrub Steppe Evaluation Tool (Livingston et al. 2009)	Meets all requirements related to landscape size, condition and context.	Meets all requirements related to landscape size and context.	Meets all requirements related to landscape condition and context.

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- i All grizzly bear sightings in the area have been directly observed or verified by WDFW grizzly bear biologists. Natural Heritage Database, updated 2006.
 - ii Gray wolves have been sighted in the vicinity of all sides of the Teanaway project area. All sightings referred to in this proposal have been verified by WDFW biologists.
 - iii Bald eagles have been documented using the lower Teanaway River for winter roosting and foraging. Ken Bevis, WDFW Biologist, personal communication.
 - iv Reproductive surveys for goshawks were conducted in the project area in 1994 and 1995 by S. Finn, WDFW Biologist. Biologists conducting spotted owl surveys have made incidental sightings of goshawk nests, and biologists working for American Forest Resources have conducted goshawk surveys to located active nests for timber harvest planning.

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- ^v Washington Department of Fish and Wildlife and the Washington Treaty Tribes, 2002. Salmon and Steelhead Stock Inventory Database, Olympia, WA. WDFW and the Yakama Nation conduct surveys for Chinook in the Teanaway River system on a yearly basis.
- ^{vi} Karp, C., W. Larrick, M. Johnston, and T. Dick. 2005. Steelhead movements in the upper Yakima basin, winter 2003/2004. U. S. Bureau of Reclamation Technical Memorandum 8290-05-01.
- ^{vii} Reiss, Karen Yuki. 2003. Genetic Variability within Bull Trout (*Salvelinus confluentus*) Populations in the Yakima River Basin. A Thesis. Central Washington University, Ellensburg, WA.