



THE DRINKING WATER PROVIDERS PARTNERSHIP

RESTORING WATERSHED HEALTH FOR COMMUNITIES AND FISH

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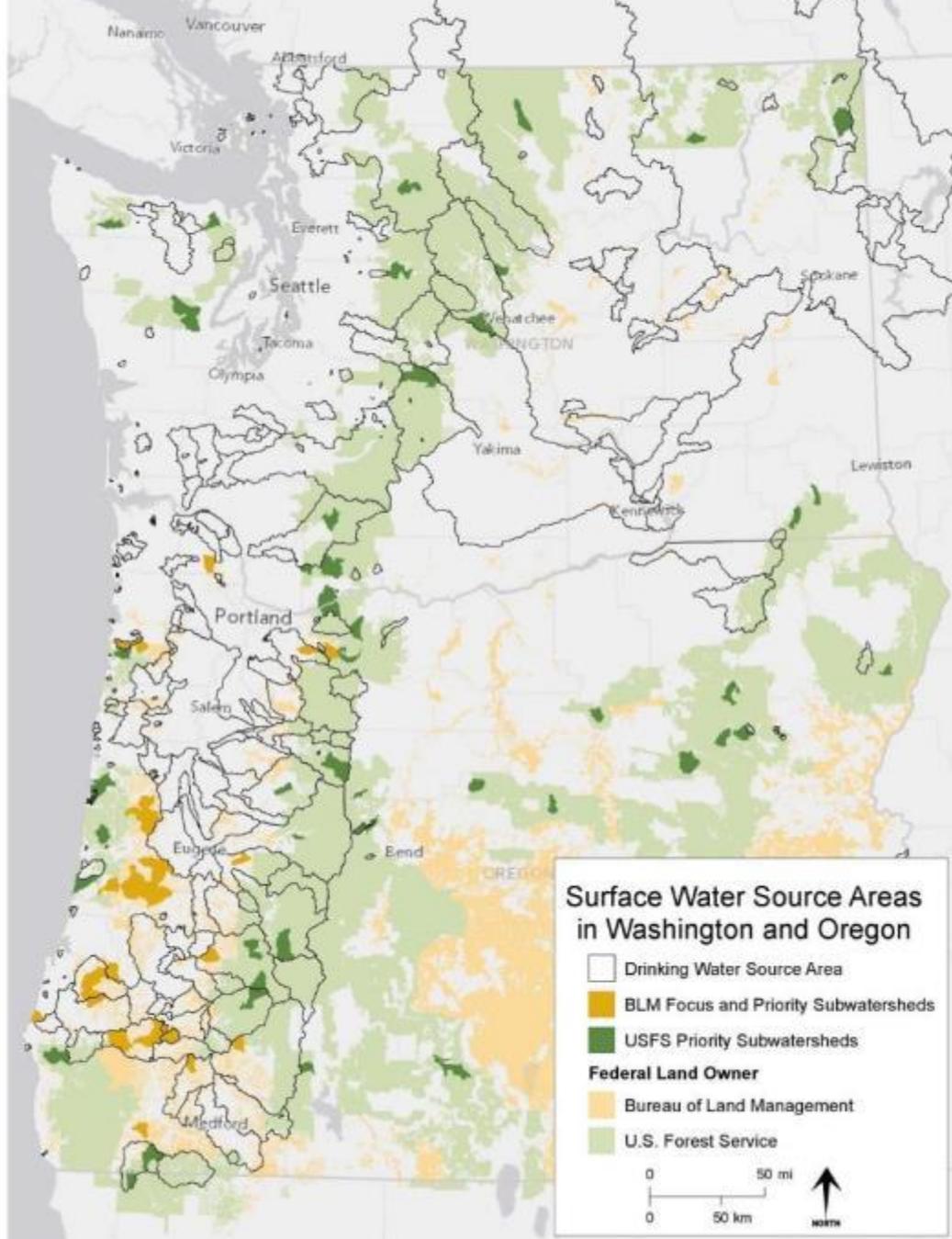
Overview

- WHY SOURCE WATER PROTECTION AND RESTORATION?
- DRINKING WATER PROVIDERS PARTNERSHIP - WHAT IS IT?
- PROJECTS
 - ELIGIBILITY/WHO CAN APPLY/TYPES OF PROJECTS/WHEN TO APPLY
- THOUGHTS ABOUT FINANCING
- Q&A

A photograph of a forest stream with a text overlay. The stream flows through a dense forest of tall, thin trees. The water is clear and flows over rocks. The forest floor is covered in green plants and moss. The text is overlaid on the top left and middle right of the image.

Forests are an essential clean water source

- **2/3 of U.S. freshwater comes from forested watersheds**
- **60% of the water used in the west originates in National Forests**



Data sources: Washington Department of Health, Oregon Department of Environmental Quality, USDA-FS, Esri, Geos Institute

Risks to Drinking Water Quality and Watershed Health



RELATIONSHIP BETWEEN WATERSHED HEALTH & TREATMENT PLANT OPERATIONS



Channel scouring and sedimentation caused by a landslide reveal seven road culverts (12/21/2018).

EVERY TREATMENT PLANT HAS A LIMIT OF TURBIDITY IT CAN TREAT:

- SLOW SAND - 10 NTU WITH ROUGHING FILTER.
- CONTACT ADSORPTION CLARIFIER & FILTRATION - 30 NTU.
- MEMBRANES - 80 TO 100 NTU.

The background of the slide is a light gray gradient. In the top-left and bottom-right corners, there are several realistic water droplets of various sizes, some overlapping, with highlights and shadows that give them a three-dimensional appearance. The text is centered in the middle of the slide.

THE DRINKING WATER PROVIDERS PARTNERSHIP

MAKING CONNECTIONS

- **Started with the USFS and GEOS Institute**
 - Recognized challenges in protecting and restoring drinking water watersheds
 - The Safe Drinking Water Act does not provide regulatory authority for communities to protect their drinking water
 - Very few towns own their source watershed
 - Only larger towns and cities have capacity to protect or restore source watersheds



Bull Run Lake

REGIONAL PARTNERSHIP FORMS IN 2015

- OR DEQ, WA DOH, EPA, BLM, AND WILDEARTH GUARDIANS JOINED IN 2015, FRESHWATER TRUST JOINED IN 2019.
- PRIMARY GOALS:
 - RESTORE AND PROTECT THE HEALTH OF WATERSHEDS WHICH COMMUNITIES DEPEND UPON FOR DRINKING WATER WHILE ALSO BENEFITING AQUATIC AND RIPARIAN ECOSYSTEMS, INCLUDING THE NATIVE FISH THAT INHABIT THEM.
 - SUPPORT LOCAL PARTNERSHIPS BETWEEN DOWNSTREAM DRINKING WATER PROVIDERS AND UPSTREAM LANDOWNERS AND RESTORATION PRACTITIONERS.
- PARTNERSHIP SUPPORTS LOCAL EFFORTS BY PROVIDING A FUNDING SOURCE FOR SOURCE WATER PROTECTION/RESTORATION
 - RECENTLY AWARDED FUNDS FOR THE 4TH ROUND OF PROJECTS



ELIGIBLE APPLICANTS

- TRIBAL, LOCAL, STATE, OR FEDERAL GOVERNMENTS, EDUCATIONAL INSTITUTIONS, NON-PROFIT ORGANIZATIONS, WATERSHED COUNCILS, LANDOWNERS, SOIL AND WATER CONSERVATION DISTRICTS, AND OTHERS.
- WHILE THE ONLY APPLICANTS ELIGIBLE TO RECEIVE THE STATE FUNDING ARE PUBLIC WATER SYSTEMS, THESE \$'S CAN GO TOWARDS MANY ACTIVITIES.

EXAMPLES OF ELIGIBLE PROJECTS

- CULVERT REMOVAL/REPLACEMENT
- ROAD DRAINAGE IMPROVEMENTS; ROAD DECOMMISSIONING
- REMOVAL OF DAMS OR LEVEES AND TIDE GATES
- REESTABLISHING RIVER FLOW MEANDERS AND COMPLEXITY
- REDUCING PESTICIDE APPLICATION
- REFORESTATION OR REPLANTING IN RIPARIAN AREAS
- FENCING INSTALLATION TO PROTECT SENSITIVE AREAS
- EDUCATIONAL OUTREACH EMPHASIZING WATERSHED PROTECTION
- PLANNING FOR PURCHASE OF LANDS WITHIN THE SOURCE AREA
- PLANNING FOR THE PURCHASE OF WATER FOR INSTREAM FLOWS

DWPP PROJECTS



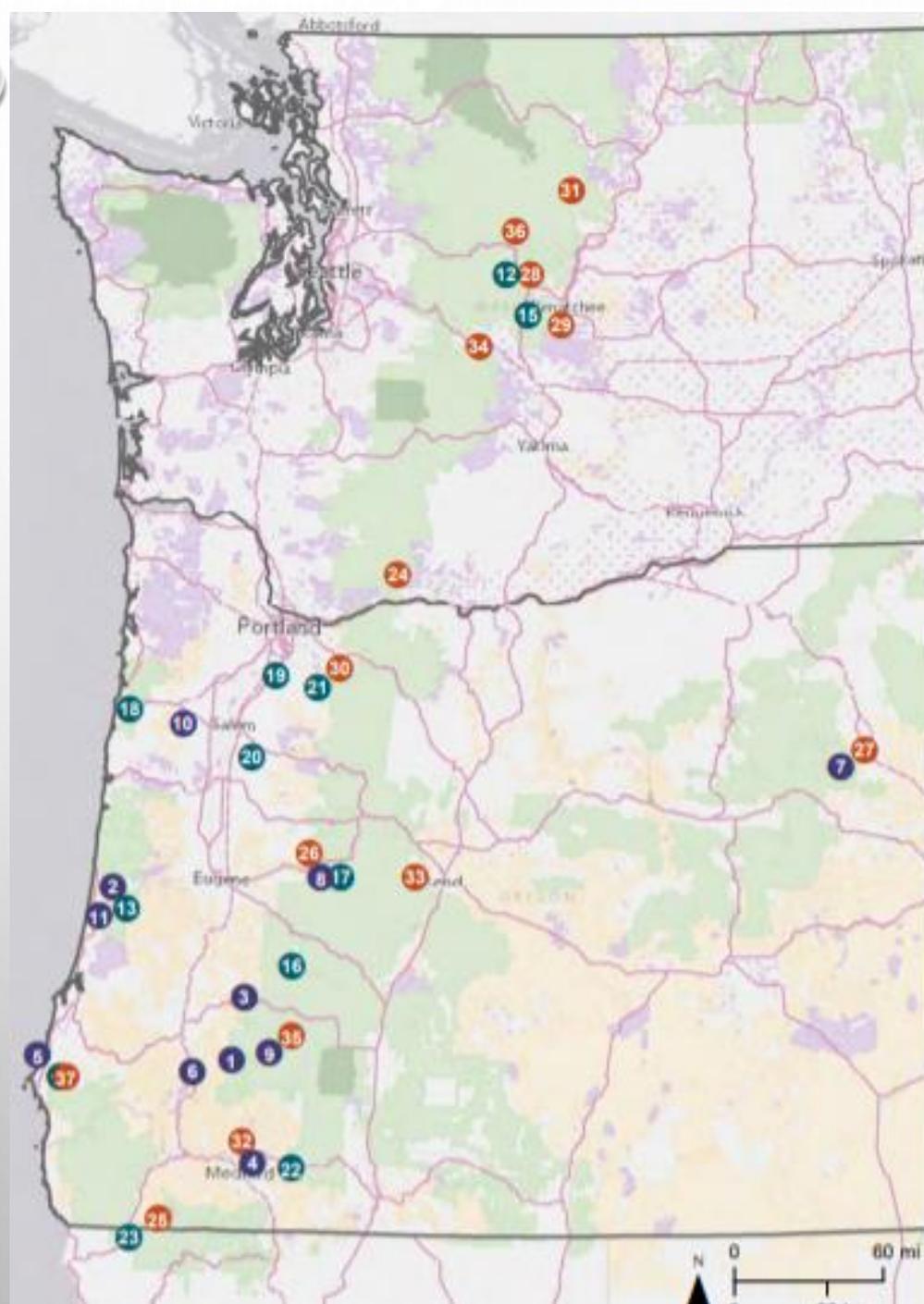
INCREASING PROJECTS RAISES BENEFITS

- STEADY INCREASE OF FUNDED PROJECTS
 - 11 PROJECTS IN 2016
 - 12 PROJECTS IN 2017
 - 14 PROJECTS IN 2018
 - 14 PROJECTS IN 2019
- AVERAGE OF \$400K-\$600K AVAILABLE PER YEAR
 - AWARDS RANGE: \$10K - \$50K
- THESE PROJECTS WILL BENEFIT:
 - COHO, CHINOOK, STEELHEAD, LAMPREY BULL TROUT, CUTTHROAT TROUT, AND OTHER BIOTA
 - WATER RECREATIONISTS
 - OVER A MILLION PEOPLE RELYING ON THESE STREAMS AND RIVERS FOR THEIR DRINKING WATER



Lake Chelan, WA

DWPP Funded Projects 2016- 2018



New WA locations in 2019 included:

- Olympic NF
 - Port Townsend drinking water source
- Umatilla NF
 - Walla Walla drinking water source
- Gifford Pinchot NF
 - White Salmon, Carson source water
- Upper Columbia basin

GLIDE, OR

- **Problem:** High risk of sediment delivery to the North Umpqua River (drinking water source for Glide) due to deteriorating culverts on Forest Service roads.
- **Solution:** Identify highest risk locations and restore roads to reduce hydrologic risk.
- **Implementation:** funds used to remove crossdrain pipes, old culverts, 8,000 cubic yards of fill; and prevent erosion by pulling back steep road fill; cover with native straw and seed.
- **Inventory:** funds were also used to do field inventory combined with computer modeling to identify highest risk road sediment sources.



BAKER CITY, OR

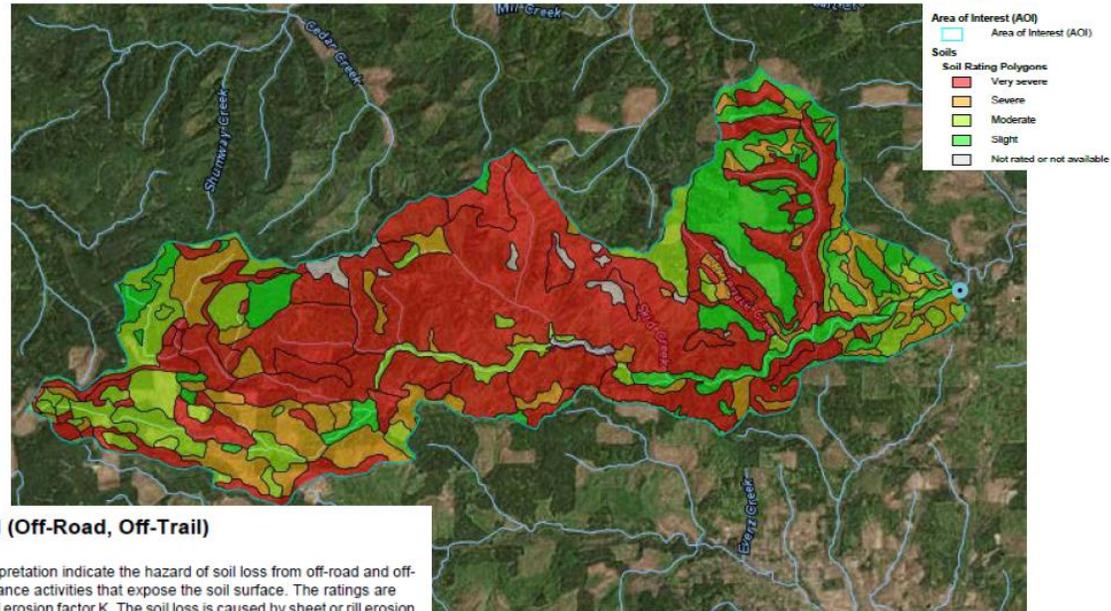
- **Problem:** Baker City experienced a cryptosporidium outbreak in 2013 and identified cattle as a probable source. City is one of only 3 unfiltered sources in Oregon.
- **Solution:** Fix fencing in key areas.
- DWPP funds were used to build fencing in the Elk Creek drainage in key location near grazing allotment. Wooden posts were built locally; barb less wire was used on the lower line for wildlife; city staff and contractors installed the fencing.



DALLAS, OR

- **Problem:** 1987 Rochhouse Creek fire led to increased sediment in creek, Mercer Reservoir and severe erosion
- **Solution:** Air lifted 522 logs for 34 new instream structures
 - Improves fish passage and increases woody debris to slow flows in key salmon habitat
 - Contributes to cleaner and more sustainable drinking water supply downstream by trapping sediment

Drinking Water Source Area & NRCS Erosion Hazard (Off-Road, Off-Trail)



Erosion Hazard (Off-Road, Off-Trail)

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.



LEAVENWORTH, WA

- **Problem:** Icicle Creek, town's source water, is also an overly loved recreation destination impacting water quality. Creek also supports ESA listed Spring Chinook, steelhead and bulltrout.
- **Solution:** Improve outreach to ensure visitors embrace protection of Icicle Creek.
- DWPP funds were used to develop outreach materials and support outreach at trailheads, campgrounds and community events.



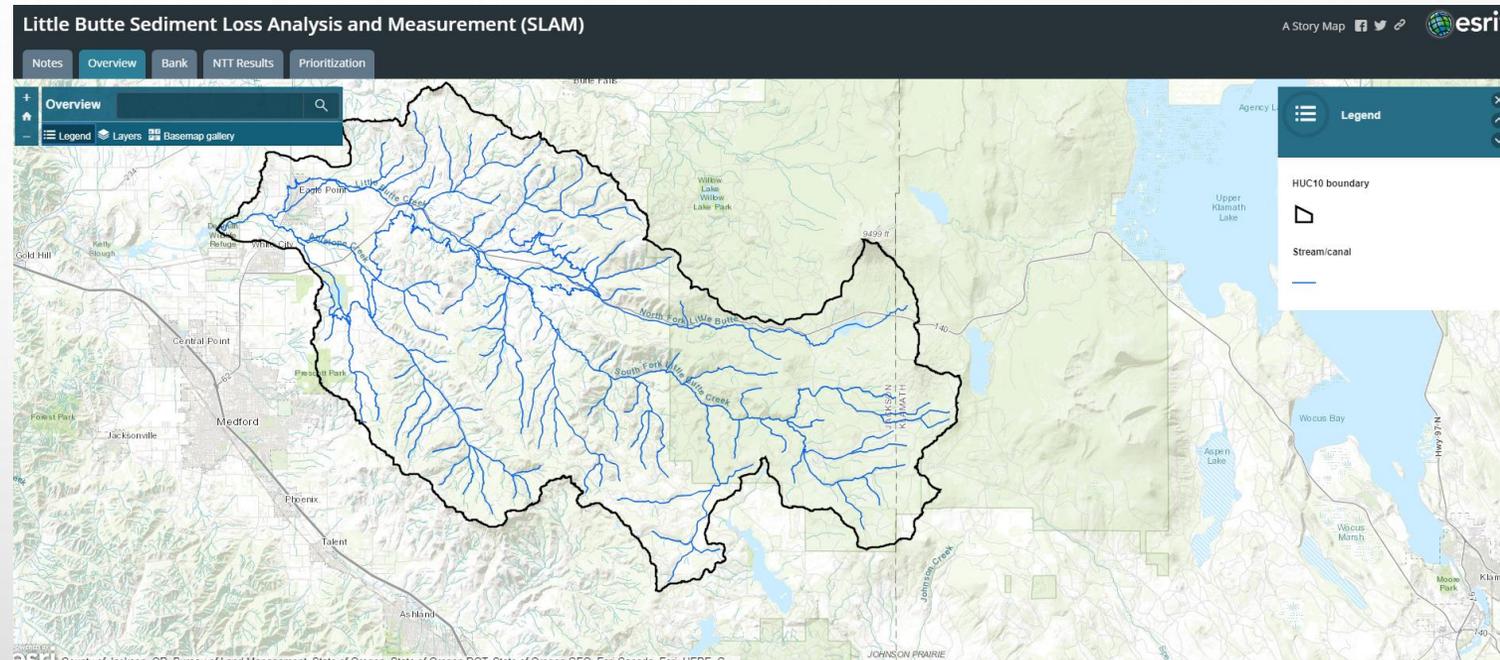
CASHMERE, WA

- **Problem:** Mission Creek joins Wenatchee River, source water for Cashmere. Stream function is diminished due to incised and eroding/flood damaged road/trail in the floodplain.
- **Solution:** Re-route trail, restore floodplain for ESA listed steelhead & spring Chinook, build partnerships.
- DWPP funds will be used to develop alternatives for trail re-route, conceptual plan, baseline monitoring and community outreach.



MEDFORD, OR

- **Problem:** Water providers and restoration interests in the Medford area wanted to develop a tool to better inform and prioritize their restoration approach to their municipal watershed, Little Butte Creek.
- **Solution:** The Freshwater Trust helped develop the Sediment Loss and Measurement Tool to prioritize actions.
- DWPP funds were used to support a series of meetings of local stakeholders to develop and apply the tool.



CARSON & WHITE SALMON, WA

- **Problem:** Improve watershed resilience by improving water storage, creek complexity, fish habitat and reduce sediment.
- **Solution:** Re-introduce beavers and reduce sediment from roads.
- DWPP funds will be used for spatial analysis and field surveys to (1) identify locations for beaver dam analogues and (2) identify most problematic forest roads for future restoration work.



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OTHER FUNDING SOURCES

Source water financing – Questions to consider

What's the money for?

BMPs vs education campaign
vs habitat project vs easement
acquisition

When do you need the money?

One-time or restricted payment
vs continuous or recurring
revenue stream?

Who pays?

Beneficiary (ratepayer) or
others?

How much control do you want/need?

Who sets financing terms?
Liability? Ownership?

Who can receive these funds and has the capacity to secure & manage them?

Eligibility criteria?
Transaction costs? Ability to
repay debt?

Sample Funding Sources



LOCAL

- Utility rates, surcharges, fees
- Budget appropriation
- Taxes (sales, property, income, etc.)
- Fines
- Special Districts
- Bonds (borrowing)

STATE & FED

State Revolving Loan Funds + many other **grant and loan** options (DoC, USDA, HUD, FEMA, etc.)

PRIVATE

- Grants: Foundations, Corporations etc.
- Borrowing: PRI

OTHER

Asset management. E.g., diversify revenue streams if town/district owns forestland:

- Carbon credits
- Timber & special-forest products
- Water quality trading market
- Leasing in-stream water rights
- Easements

To Apply or for More Information:

DWPP Website: <https://workingwatersgeos.org/drinking-water-providers-partnership>
(Next RFP in November 2019)

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