

Confluence

A Quarterly Newsletter Exploring the State of Washington's Waters and Shorelands

Vol. 2 No. 2

Winter/Spring 1998

State announces game plan for salmon recovery

Gov. Gary Locke in January 1998 announced a State Salmon Strategy that he said will serve as a road map for restoring the health of troubled salmon runs.

"Nothing symbolizes Washington and the quality of life we enjoy more than salmon. Yet this icon for our state, culture and lifestyle is in jeopardy, and we are on the brink of what was once unimaginable. Formerly abundant runs of these magnificent fish are dwindling to the point the federal government is accelerating steps to protect salmon under the Endangered Species Act," said Gov. Locke.

"This strategy will guide us during coming months as we make decisions that will literally mean the survival of salmon runs, our quality of life and economic vitality as we know it."

Nearly every part of our state, including the densely populated Puget Sound region, is expected to have runs of salmon, steelhead or trout listed as

endangered or threatened within the next two years. Once a species is listed, federal agencies can take dramatic actions to preserve listed species (*see article, page 4*).

"The goal of the state's plan is to restore salmon runs, whether it's before or after listing," said Gov. Locke. "The goal is to ensure that Washington state is in control of its destiny, not Washington, D.C. or a judge in San Francisco."

A comprehensive strategy

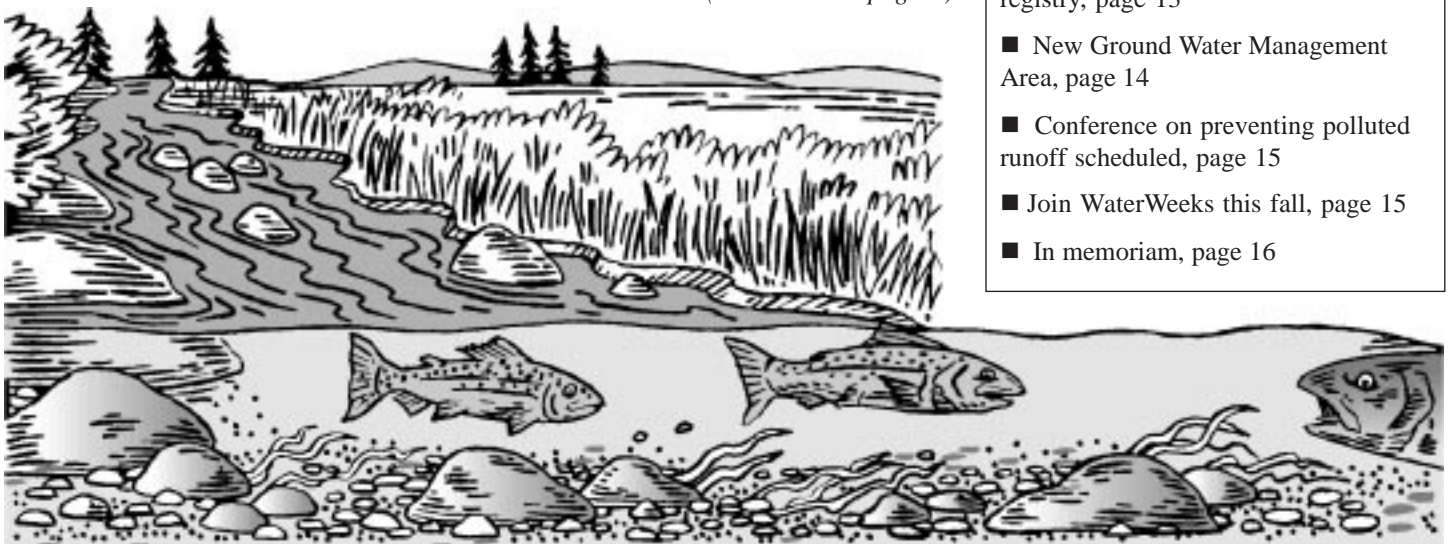
The draft state salmon plan, written by the Governor's Joint Natural Resources Cabinet (*see page 3*), addresses all threats to salmon, often categorized as "The Four H's": Harvest, Hatcheries, Hydropower, and Habitat.

According to Cabinet Chair Curt Smitch, the final plan will include a balanced approach to all four areas, because all the threats to salmon are

(continued on page 2)

In this issue

- Salmon listings may affect entire state, page 4
- Ecology, EPA set faster tempo for water cleanup, page 5
- Case studies in cleaning up watersheds, page 6
- Polluted runoff #1 problem, page 8
- Workshop to discuss updates to state water quality standards, page 9
- Refining SEPA to blend with the Growth Management Act, page 10
- Attorney General opines on exempt wells, page 12
- Water rights rules, page 13
- Watershed planning grants frozen, page 13
- Thousands call about claims registry, page 13
- New Ground Water Management Area, page 14
- Conference on preventing polluted runoff scheduled, page 15
- Join WaterWeeks this fall, page 15
- In memoriam, page 16



To support salmon, our rivers need stable supplies of cool, clean water, clean gravel beds, and healthy streamside vegetation.

State salmon plan *(continued from page 1)*

interrelated (*see graphic, below*).

However, the draft plan focuses special efforts on improving habitat. "The issue of habitat loss is the one area that can benefit most from immediate, concentrated interagency action," said Smith.

The strategy will be implemented on three levels. The first will be a set of **statewide strategies** for addressing specific threats to salmon, such as a plan for reducing nonpoint-source pollution, a schedule for conducting watershed studies (*see page 5*), and other initiatives.

The second level will be the sum of all

the state's **local watershed plans**.

Written by local teams, these plans will identify the problems and solutions for allocating water and saving fish within individual "water resource inventory areas."

The third level is **regional (multi-watershed) initiatives** such as the Puget Sound Management Plan, and the Lower Columbia Steelhead Conservation Initiative.

The final State Salmon Strategy will be completed this fall and submitted to the 1999 Legislature for adoption of any needed legislation and funding. The plan

will eventually be submitted to federal agencies. If the plan is considered adequate to save fish from extinction, state and local governments will be able to maintain control of resource management decisions.

Partnerships

The state strategy will help focus the state response to Endangered Species Act listings, but ultimately, saving salmon is up to Washington residents. "State government alone cannot save our salmon or our quality of life," said Locke. "We're all part of the process."

The Four H's: Human activities that affect wild salmon survival

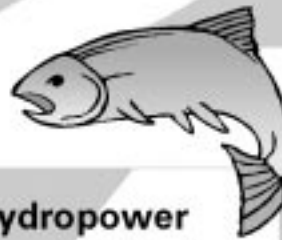
Harvest

Overfishing has contributed to the decline of many fish populations. Often this excessive exploitation is caused by fishery managers trying to access harvestable hatchery salmon or other abundant fish in areas that contain depleted wild salmon populations.

Hatcheries

Hatchery fish that augment harvest levels can interbreed with wild fish, resulting in loss of genetic diversity. Hatchery fish can also spread disease and compete with wild fish for food and habitat.

The state salmon plan relies in great part on existing efforts of the state Fish and Wildlife Commission in cooperation with treaty tribes in setting harvest levels and improving hatchery management.



Habitat

Rural and Urban: Salmon face multiple, complex threats in the developed lower regions of watersheds. Problems include low water flows, pollution, degraded physical habitats, and migration barriers such as culverts.

Forests: Improper forest practices and road construction and maintenance are the biggest threat to salmon in the upper watershed. DNR receives 12,000 applications for forest practices annually.

Washington's Timber Fish and Wildlife forum of government agencies, tribes, industries and the public is writing a salmon protection and recovery plan for habitat in forestlands

The state salmon plan includes both regulatory and non-regulatory solutions to habitat loss, including:

- *Establishing, protecting and restoring instream flows;*
- *Improving water quality by preventing nonpoint source pollution;*
- *Protecting riparian areas and estuaries; and*
- *Removing fish barriers that block access to 3,000 miles of spawning habitat.*

Hydropower

Dams can block fish migration to and from the ocean, kill fish passing through turbines, delay migration, and increase predation. Dams can also cause inadequate flow downstream.

There are 1,018 dams on Washington rivers. The Columbia River hosts 150 hydroelectric projects and 250 reservoirs - more than half the length of the river is blocked to salmon and steelhead.

The state salmon plan designates the Governor's Office as lead for an overall approach to hydropower issues in the Columbia River Basin. Impacts of dams outside the Columbia system can be mitigated through Federal Energy Relicensing Commission (FERC) licensing, and Coastal Zone Management laws.

To help build partnerships, the Governor convened the Government Council on Natural Resources. The council includes representatives from cities, counties, federal agencies, the Legislature, and treaty tribes. The council will provide a forum for coordination, information sharing, and partnering opportunities among the primary governmental entities that will have a hand in implementing salmon protection efforts.

At the local level, the plan envisions watershed councils of interested groups writing watershed plans that address local issues of water quality, water availability and stream flows, and habitat.

State leaders emphasize that it's taken

150 years to get to this point, and we shouldn't expect quick fixes.

"The fish we help this fall won't be back for four years, and we won't know if we're successful for that long," said State Representative Jim Buck, a member of the Legislature's Salmon Restoration Task Force. "This is a long-term effort. This is something our children will complete."

For more information

For more information contact Ecology's Hedia Adelman at (360) 407-6222; Department of Agriculture's Linda Crerar at (360) 902-1818, lcrerar@agr.wa.gov; or visit the state's new salmon web site at www.wa.gov/esa/

The challenge of population growth

One of the biggest challenges affecting any plan to save salmon is Washington's rapidly growing population. Forecasters predict one million new residents will move here in the next 10 years. That rate of growth will require new construction equivalent to the size of Seattle, Tacoma, Spokane, and Vancouver combined - developments that could cost us 30,000 acres of fish and wildlife habitat.

The water in 250 streams in Washington is already overallocated. Some 5,000 applications for water right permits are pending. Thousands of small exempt wells (withdrawing fewer than 5,000 gallons per day) are drilled into

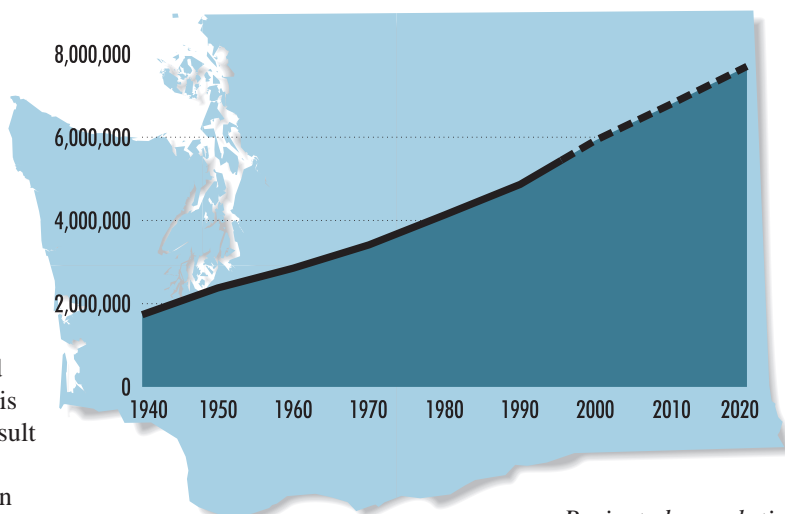
Washington's diminishing aquifers each year (see story, page 12).

Almost 700 water bodies fail to meet state water quality standards, and the pollution is largely the result of the diffuse activities of an

expanding population (see article, page 8).

Governor Locke's state-of-the-state speech painted a vision of the 21st century as one "in which our rivers and streams are alive with fish" and "in which a growing population protects and cherishes the cleanliness of our air and the open spaces that nourish our spirits.

"But we will not realize this vision if we allow today's economic abundance to make us complacent, selfish, or short-sighted," said Locke. "We cannot afford to coast into the 21st century."



Projected population growth for Washington State.

Source: Office of Financial Management

Cabinet members span range of natural resource agencies

The **Joint Natural Resources Cabinet** gathers together the leaders of all state agencies and commissions that have a direct or indirect effect on salmon. The cabinet is a blend of authorities, including Governor-appointed agency heads, leaders appointed by commissions and elected officials.

The cabinet is chaired by the Governor's Natural Resources Advisor Curt Smith.

Governor Locke convened the cabinet "to serve as the state's formal and ongoing institutional framework to promote interagency communication, coordination, and policy direction on environmental and natural resource issues."

The cabinet's highest priority is preparing the state's strategy to restore healthy runs of salmon, steelhead and trout.

Cabinet members are:

- **Curt Smith**, representing Governor Gary Locke
- Commissioner of Public Lands **Jennifer Belcher** (Department of Natural Resources)
- Department of Fish and Wildlife Director **Bern Shanks**
- Department of Transportation Director **Sid Morrison**
- Parks and Recreation Commission Director **Cleve Pinnix**
- Puget Sound Water Quality Action Team Chair **Nancy McKay**
- Interagency Committee for Outdoor Recreation Director **Laura Eckart Johnson**
- Conservation Commission Executive Director **Steve Meyer**
- Department of Ecology Director **Tom Fitzsimmons**
- Department of Agriculture Director **Jim Jesernig**
- Department of Health Director **Bruce Miyahara**
- Department of Community, Trade and Economic Development Director **Tim Douglas**
- Northwest Power Planning Council members **Mike Kreidler** and **Ken Casavant**

Salmon listings may affect entire state

Within the next two years, most of Washington state will be affected by listings of salmon runs under the Endangered Species Act (*see map, below*). This article describes how the federal Endangered Species Act works to protect species facing extinction.

The "listing" process

The Endangered Species Act (ESA) empowers any entity to begin the process for listing a species as endangered or threatened.

The process starts with a **petition** to either the National Marine Fisheries Service (NMFS) for anadromous (*migratory*) fish, or the U.S. Fish and Wildlife Service (USFWS) for resident (*non-migratory*) fish.

Upon receiving a petition, the federal agencies have two years to study the scientific evidence for listing, gather public comment, and make a decision. Agencies seldom meet the time requirements, and are often sued by petitioners to speed the process.

The study must determine whether the species are:

- 1) **endangered** (at risk of going extinct),
- 2) **threatened** (at risk of becoming endangered), or
- 3) **not warranted** (listing not needed).

The entire species need not be at risk: a population uniquely adapted to a specific geographic area may be listed as an **evolutionarily significant unit (ESU)**. All Washington's fish species proposed for listings are runs native to specific streams or watersheds.

Prohibition against "take"

The most serious consequence of a listing under the ESA is the prohibition against "taking" a listed species. The definition of **take** includes killing or harming the species in any way, including significant modification of critical habitat.

Should a species be found endangered, the prohibition is effective immediately. If a species is threatened, the take prohibition is effective when the federal agency adopts a "**4(d) rule**." The 4(d) rule spells out under what circumstances habitat can be modified.

Enforcing the take provision

The ESA allows substantial civil and criminal penalties against violators of the take provision.

However, the take provision is most often enforced through the "**consultation**" process. Once a species is listed, all federal agencies are required to consult with the NMFS or the USFWS before beginning any federal project or taking any action that might harm the species.

The agency "consultation" review leads to one of the following:

Jeopardy ruling (barring the action because it will jeopardize the species);

No Jeopardy ruling (approving a harmless action); or

Conditioned Approval (allowing the action with specific conditions).

The consultation process could have broad effects on resource decisions, including:

- Reallocating water from agriculture and other uses;
- Modifying dam operations;
- Intervening in activities on private and public land deemed critical for listed fish populations; and
- Imposing more stringent guidelines for tree buffers along streams and for timber harvesting on steep slopes and other forest practices.

The courts may also get involved in enforcing the prohibition against "taking" listed species, through civil lawsuits initiated by private citizens. Department

of Agriculture Director Jim Jesernig has warned of the possibility of a "litigation Armageddon." In other states, environmental groups have successfully sued private companies and state and federal agencies for not adequately protecting species.

Habitat Conservation Plans

Public or private landowners can develop habitat conservation plans (HCPs) that spell out how species will be protected. If NMFS or USFWS approve the plan, the landowner can be granted an "incidental take" permit. This permit says that if the landowner follows its plan, it won't be subject to penalties under the ESA should habitat loss "incidentally" harm species.

Both NMFS and USFWS have accepted the Washington Department of Natural Resources' HCP for state forest lands.

Washington's salmon goal

According to Joint Natural Resource Cabinet Chair Curt Smitch, Washington state's goal in responding to salmon listings is to write a protection plan that federal agencies will adopt into their 4(d) rule (*see cover story*).

"While it would be great to avoid listings, it's not very likely," said Smitch. "We can, however, develop a state response to listings that federal agencies will endorse. This will have the effect of keeping state and local governments in control of resource management decisions."



The National Marine Fisheries Service intends to list Puget Sound chinook, Lake Ozette sockeye and Hood Canal chum in late February 1998.

Ecology, EPA set faster tempo for water cleanup

■ Agreement settles Clean Water Act “TMDL” suit

Ecology and the US Environmental Protection Agency (EPA) in January reached agreement on how Washington State will accelerate work to clean and improve the health of nearly 700 polluted waterbodies.

The agreement is the result of a 1991 lawsuit filed by the Northwest Environmental Advocates and Northwest Environmental Defense Center. The suit said the two environmental agencies were not adequately meeting Clean Water Act requirements to assess the condition of the state’s waterbodies and develop “Total Maximum Daily Loads” (TMDLs) for lakes and stretches of rivers and marine waters that don’t meet water quality standards.

A **TMDL** is a water cleanup plan that addresses specific water quality problems. The Clean Water Act calls these plans “Total Maximum Daily Loads” because a key element of the plan is defining the maximum amount of pollution (or “load”) a river can take and support its designated uses, such as fishing and swimming. (*The designated uses for Washington waters are listed in state water quality standards.*)

Agreement sets schedule

The agreement:

- Establishes a **15-year schedule** to develop TMDLs for 666 water segments not meeting or not expected to meet water quality standards;
- Builds on Ecology’s **watershed approach** to organize work in a five-year/ five-step process for systematically assessing water quality conditions, issuing wastewater discharge permits and taking other protective actions;
- Establishes a process to set **priorities** for conducting TMDLs within watersheds or areas of the state;
- Includes improved **public participation** and tribal involvement in decisions on cleaning up waters; and
- Requires **EPA** to conduct the TMDLs if Ecology does not meet the 15-year schedule.

Northwest Environmental Advocates executive director Nina Bell said the

settlement makes Washington the only state in the nation to go beyond mere technical analysis to actual on-the-ground implementation of clean water standards.

“We realize that the task ahead will not be easy, as it will depend on the quality of the TMDLs that are developed by Ecology and the changes we will have to make in the way we treat our lands,” said Bell.

“In making these changes, Ecology has the support of the public who wanted the Clean Water Act in 1972 and, over 25 years later, still want to meet its goals of water clean enough for fish, wildlife and people.”

In the past six years, Ecology has produced approximately 200 TMDLs. Under this agreement, up to 1,500 TMDLs may need to be completed. That figure is based on the 666 waters not meeting water quality standards multiplied by the types of pollution problems in the waters. Ecology estimates that most TMDLs will be conducted by Ecology, but encourages other public and private organizations to do them if possible.

Nonpoint problems

A large number of pending TMDLs will address pollution coming primarily from “nonpoint” sources — or the cumulative effects of many diffuse activities.

For example, fecal coliform bacteria from failing septic systems and agricultural practices such as poorly managed dairy farms are the leading pollution problems in Washington’s waters.

High stream temperatures from forestry practices and urban development, as well as low dissolved oxygen from too much pollution taking oxygen out of the water for aquatic life, are other problems.

Making it work

Ecology will now turn its attention to making the agreement work. This will involve talking with the state legislature and other interested parties on how to fund the work and what will qualify as adequate in terms of studying and addressing polluted water in Washington. The steps to actually implementing the agreement will include ideas from Indian tribes, local governments, industries, environmental organizations and others.

Ecology Director Tom Fitzsimmons noted that Ecology currently does not have enough staff to complete the work according to the timeline called for in the agreement. “We will need more people dedicated to this large and difficult task of addressing polluted water at a greatly accelerated rate,” Fitzsimmons said.

Ecology submitted a budget request for 12 additional staff to begin doing the work under the new agreement.

Nationally, there are about 30 other states with pending lawsuits for their TMDL processes.

For more information

For more information, contact Dave Peeler at (360) 407-6461, e-mail dpee461@ecy.wa.gov

Every water cleanup plan is unique

Federal rules require each water cleanup plan, or TMDL, to:

- 1) define and analyze the pollution problem,
- 2) evaluate alternative solutions, and
- 3) describe how the problem will be solved. The rules require public involvement in the process and EPA must approve the final plan.

Although all TMDLs follow the same basic procedures, there is no cookie-cutter approach. Each TMDL must address the specific problems of the watershed, and every situation is unique.

Setting the “load” limits is a scientific endeavor. A TMDL cannot set a goal to simply “make the river cleaner.” Instead, a TMDL might require, for example, that measurements for a particular chemical will be below the state water quality standard. These load limits are important, because they eventually determine how much the various contributors to the pollution (*municipalities, industries, and individuals*) will have to invest to reach the goals.

(See page 6 for profiles of two active TMDLs.)

Cleaning up watersheds: TMDLs at work

The recent federal/state agreement to speed up water cleanups, or TMDLs, means more Washington communities will be involved in the required studies and plans (*see article, page 5*). This article profiles TMDLs in the Yakima and Chehalis River watersheds to show how the process works at the local level.

Yakima basin residents tackle silt and DDT

The Yakima River TMDL focuses on reducing turbidity and the pesticide DDT during the irrigation season. "Turbidity," or cloudiness, is an indicator of suspended sediment. While even pristine rivers carry sediment, too much can clog fish gills and smother eggs, fill in spawning gravel and alter the ecology of the stream.

The TMDL study found the chief cause of high turbidity in the Yakima during irrigation season is soil running off irrigated farm fields. Many farmers irrigate with the "furrow" technique, sending free running water flowing by gravity from the high to the low end of a field. Often, much of the water runs off the field, and with it goes suspended soil particles that dirty irrigation water for downstream farmers and can eventually end up in tributaries and the Yakima River. During the 1995 irrigation season (the last documented year), the four principal irrigation drains delivered, on average, 251 tons of soil into the river *every day*.

The DDT problem is a result of the soil erosion. Although it was banned in 1972, DDT was used heavily in the Yakima Basin and is still attached to organic molecules in the soil. When contaminated farm soils wash into the river, the associated DDT can bioaccumulate up the food chain. A US Geological Survey study found Yakima River bottom fish (such as whitefish, bass, and suckers) have some of the highest DDT concentrations in the US.

Cleanup underway

Once pollution sources are identified, a TMDL must set target loads that will allow the river to meet water quality

standards. Ecology's final TMDL report, released in July '97, sets a target to reduce turbidity to no more than a 10% increase over natural (or "background") levels. This means that sediment in the principal drains and tributaries must be reduced by 75% to 95%. Reducing the sediment will also reduce DDT.

"We're making terrific progress in getting people to recognize the problems," said Chris Coffin, TMDL coordinator for the Yakima River Basin. "Many of the people who can do the most to solve the problem have already started working on solutions. We had a slow start, but conservation districts, irrigation districts and growers are picking up the momentum."

Coffin said the Yakima River Watershed Council was instrumental in getting the word out and bringing all the players together. Originally formed in 1993 by a small group of growers and concerned individuals who came together to address irrigation water supply and management issues, the council has grown to over 800 members including growers, processors, environmental groups, and businesses. The Council also has expanded its scope from primarily water quantity and storage to water quality, conservation, and habitat issues.

"The council and the irrigation districts are key players in developing and implementing the changes necessary to repair and sustain the Yakima River Basin's natural resources," said Coffin. "These are local groups working with, not in response to, state and federal agencies

in determining the future of the watershed."

Two of the major irrigation districts, Roza Irrigation District and the Sunnyside Valley Irrigation District, created a Joint Board of Control to address water quality and quantity issues. They've hired a water quality specialist, began monitoring, and are adopting new policies that will change the way irrigation water is used and returned to the river.

"The districts are doing an incredible job," said Coffin. "They are investing time and resources into real solutions that will benefit both agricultural and salmon interests in the watershed."

The irrigation districts understand that actions they take to protect water quality can help stave off future listing of Endangered Species, Coffin said. Chinook and steelhead are already listed as "threatened," and more listings are looming on the horizon.

"Besides, cleaning up the silt helps the district's customers," said Coffin. "Most of the complaints we get about sediment pollution come from downstream farmers upset with silt clogging up canals, pumps, filters and sprinkler heads."

For their part, farmers are beginning to convert from furrow irrigation to water-conserving drip or sprinkler methods. This can be an expensive transition. However, not only do they save their soil, but with more precise water application, farmers can cut fertilizer and pesticide use significantly.

Governor Gary Locke presented an



Silt-laden water from the Moxee drain flows into the Yakima River. Photo: B. Schmidt

Environmental Excellence Award to the Board of Joint Control in February. The award recognizes exceptional initiative or innovation to protect or enhance Washington's environment.

Ecology will be hiring two technical assistance and compliance educators ("ditchwalkers") to help farmers improve practices to reduce sediment and understand regulatory requirements. Ecology also has developed an electronic spreadsheet program that helps farmers analyze the costs for converting from furrow to drip irrigation.

Ecology will be participating with irrigation districts and WSU agricultural extension offices in several workshops scheduled in the lower Yakima Basin this winter and spring.

For more information

For more information, contact Chris Coffin at 509/454-7860, e-mail ccof461@ecy.wa.gov.

TMDL to help oxygen-starved Chehalis River

Ecology's TMDL for the upper Chehalis River, approved by EPA in 1996, focuses on high water temperatures and low levels of dissolved oxygen. During the summer, when flows are lower, the river doesn't meet water quality standards established to protect fish.

According to Ecology TMDL coordinator Kahle Jennings, the Chehalis River is in real trouble. "Even in its natural state, sluggish stretches of the river were low in oxygen," said Jennings. "The added stress from pollution can be fatal to fish."

In 1989, large salmon returning upstream to the Chehalis and Black Rivers died because of poor water quality. Two years later, dissolved oxygen dropped to zero downstream of a wastewater treatment plant after an accidental discharge of effluent.

Ecology's TMDL studies showed that in order to improve the health of the river, major changes would be necessary from both "point sources," industrial and municipal wastewater treatment facilities, and "nonpoint sources," including

stormwater runoff, timber and agricultural practices.

Point source solutions

Ecology first focused on discharges from wastewater treatment facilities in the cities of Chehalis and Centralia, and a dairy processing plant. Ecology modified each facility's National Pollution Discharge Elimination System (NPDES) permit to restrict the discharge of pollutants during the critical months of the dry season.

For some of these permitted facilities, this will mean developing alternative disposal methods, such as applying wastewater to the land, or discharging to a different part of the river. These changes are going to be expensive. As a result, the dischargers filed lawsuits against Ecology challenging the limits placed in the permits. Since early 1997 Ecology has been meeting with the parties in the lawsuit to reach a mutually acceptable solution that protects the river and minimizes the costs.

Ecology's original plan was to prohibit flows by a set amount for the driest months of the year. After more study, Ecology agreed to instead tie the amount of permitted discharge to the actual flow in the river. This will save dischargers money and still protect the river.

There will still be long periods of time during summer and early fall when some of the facilities cannot discharge to the river at their present location. One discharger is pursuing land application of

high quality wastewater. Another is planning to build a completely new wastewater treatment facility. The third discharger is looking at upgrading its current facility and building a summer outfall seven miles down river from its current location.

Nonpoint sources

The TMDL study identified dairy farms as the primary source of nonpoint pollution that degrades water quality in the Chehalis River and its tributaries. Ecology is now inspecting all dairies in the upper Chehalis watershed to ensure they are keeping cow manure out of the river.

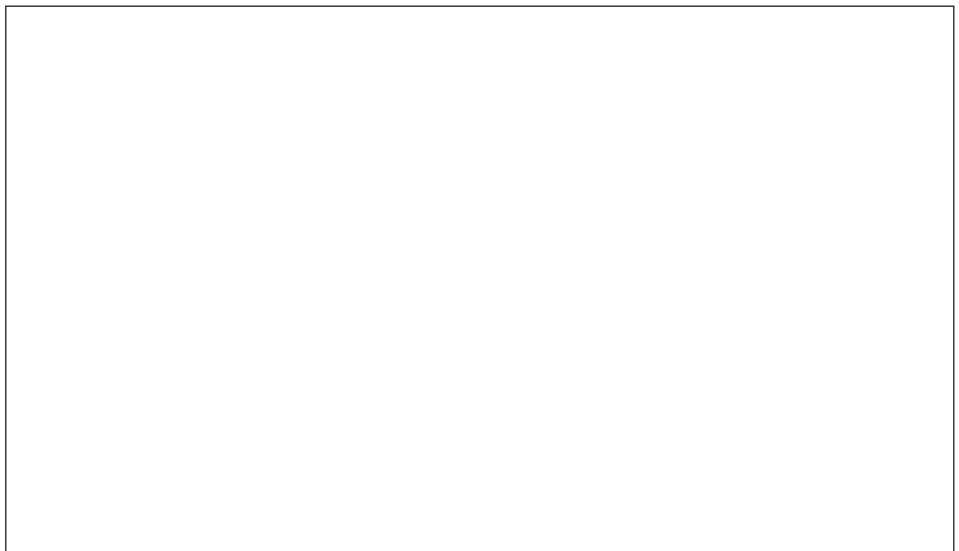
If a farm is properly managing its dairy waste, Ecology will take no action. If a farm cannot stop wastewater discharges within 30 days, Ecology will require the farm to apply for a permit to manage dairy waste.

Since 1994, state law has required federal wastewater-discharge permits for any dairy farm with a waste discharge to a lake, stream or river. The permits require that the farmer take certain steps to reduce polluted runoff from the farm.

Programs to control other sources of nonpoint pollution such as urban stormwater runoff, failing septic systems, and non-dairy livestock will also need to be implemented at the local level.

For more information

For more information, contact Ecology's Kahle Jennings at (360) 407-6269, e-mail kjen461@ecy.wa.gov.



Lake-like stretches of the Chehalis River carry very little oxygen during summer.

Once again, polluted runoff chief cause of water quality problems

Ecology's latest assessment of Washington's water quality confirms what previous reports show — the primary sources of pollution are not industries or sewage treatment plant — they are activities many of us do every day.

The **1998 Washington State Water Quality Assessment** describes the health of 98 percent of the streams, all of the marine waters or estuaries and 99 percent of the lakes in our state.

"The report is the most comprehensive water quality assessment we do," said Megan White, Ecology's Water Quality Program manager. "While the information in the report is not currently focused at reporting trends, we can definitely say that the majority of Washington's water pollution problems come from many diffuse sources — stormwater runoff, agricultural and forestry practices, urban and suburban land development and failing septic tanks."

"What this means is that if we want cleaner water, every resident of the state needs to help," said White. "It's the little things that count - keeping your car from leaking oil, using the correct amount of fertilizer, pumping your septic tank, cleaning up after your pets."

Water health based on uses

In all, the assessment found that 41 percent of our streams are healthy, 35 percent of our marine waters are healthy and 65 percent of our lakes are healthy. The waters were assessed on how well they supported beneficial uses such as aquatic life, swimming, boating and aesthetic enjoyment. (*These beneficial uses are the basis of Washington's water quality standards, see page 9.*)

Fecal coliform bacteria are the primary pollution problem harming streams and marine waters. Fecal coliform may enter waters from dairy farms that are not properly managing their dairy waste, failing septic systems, pet waste and stormwater. The bacteria are an indicator that other pathogens may be present in the water, pathogens that when ingested may make people sick.

Excessive nutrients are the primary problem in our state's lakes. Excessive nutrients come from sources such as irrigated agriculture, gardening practices and urban and suburban property develop-

ment. The nutrients cause algae and other aquatic plants to grow in lakes, which rob the aquatic life of the oxygen necessary for survival. In addition, algae and aquatic plants can make lakes unsafe for swimming and boating and cause a lake's aesthetic value to decline.

Focus on agricultural sources

Statewide, pollution from agricultural practices accounts for 33 percent of water pollution problems. In streams not supporting beneficial uses of water, pollution from agricultural sources accounts for 57 percent of the problem.

"The water pollution problems we are seeing have a direct correlation to our state's declining salmon population. Poor water quality is part of the equation resulting in threatened and endangered salmon and steelhead," said White.

As part of Ecology's Environmental Agenda, the agency will be working to improve its relationship with the agricultural industry and work collaboratively to prevent and reduce pollution (*see Confluence, Fall 97*). Ecology will focus on improvements to the state's dairy waste management program. Ecology

will also conduct three pilot projects to provide on-the-ground technical assistance to help reduce contamination from agricultural lands to water:

- Improving management of agricultural runoff in the Yakima River Basin;
- Working with hobby farmers in the Snohomish River Basin; and
- Reducing pollution from non-dairy livestock operations in the upper Chehalis River basin.

The US Environmental Protection Agency uses Washington's report along with reports from other states to provide the US Congress with a national picture of water quality. Ecology's next statewide assessment is due to EPA in April 2000.

For more information

The 1998 Section 305(b) report is posted on Ecology's Home Page at www.wa.gov/ecology under the "Water Quality" section. For a paper copy, call (360) 407-7472 and ask for Pub. 97-13. For information on the report's content, contact Steve Butkus (360) 407-6482, e-mail sbut461@ecy.wa.gov.

(See page 15 for information on an upcoming conference on preventing polluted runoff.)

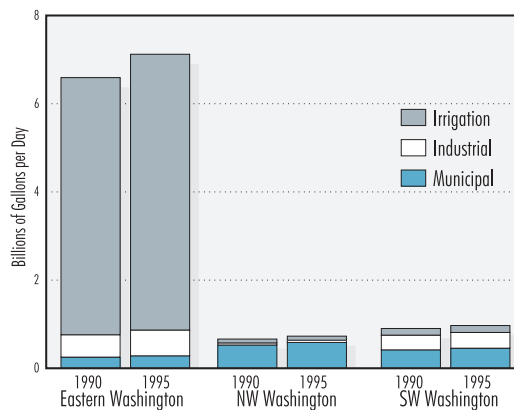
Ecology takes snapshot of overall environmental health

How is Washington's environment doing? Is it getting better, or worse? How can people help? Ecology has produced a concise, 16-page booklet that gives a snapshot of our state's environmental health. The report uses key "indicators" to show trends and conditions in the following areas:

- **Water** (bacteria in surface water, nitrates in ground water, water availability, and shellfish bed closures);
- **Air quality;**
- **Toxic chemical releases;**
- **Hazardous waste generation;**
- **Nuclear and toxic site cleanups;**
- **Solid waste disposal;**
- **Oil spill prevention;** and
- **Compliance with environmental laws.**

For each area, the report describes why the issue is important, causes of the problem, and what can be done.

For a copy, call Ecology's Publication Distribution Office at (360) 407-7472, and ask for *Washington's Environmental Health 1997*, Publication No. 97-702.



Water use in Washington. Source: USGS

Workshops to discuss updates to water quality standards

Ecology is hosting public workshops in March to discuss possible changes to state surface water quality standards (*see schedule, below*).

The standards are regulations that protect the “beneficial uses” of our state’s lakes, rivers, and marine waters. These uses include swimming, fishing, aquatic life habitat, and agricultural and domestic water supply.

With help from advisory panels and technical work-groups, Ecology is working on three major changes to the regulation: adding a strategy for implementing the “antidegradation policy,” eliminating the use of mixing zones for certain bioaccumulative toxic chemicals, and restructuring the way beneficial uses are protected under the water quality standards regulation.

Antidegradation policy

The current antidegradation policy states that “existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed.” Ecology is proposing to include in the standards a strategy for implementing this policy.

The state proposal also contains a program that would allow citizens to nominate specific waters into special conservation status. Such status would strictly control and sometimes disallow entirely water quality degradation.

Consistent with federal Clean Water Act regulations, the state antidegradation proposal would not allow any action to exceed water quality standards or impair beneficial uses that have been in existence since November 1975. The policy would allow degradation when certain conditions are met. These conditions include that the entity causing the degradation demonstrates that no economically achievable alternatives exist that will reduce or eliminate the degradation or harm, and that the activity causing the degradation is in the public interest. Public interest is measured by benefits to the public such as employment and community economic health, alleviation of public health threats, and the demonstration of innovative pollution control practices.

Eliminating mixing zones for certain chemicals

Ecology is considering gradually phasing out the use of “mixing zones” for certain highly toxic bioaccumulative pollutants during a 15-year period. Mixing zones are areas surrounding discharge sites where pollutants are diluted to meet water quality criteria. The bioaccumulative chemicals of concern include such compounds as dioxin, PCB, DDT, mercury, and pentachlorophenol. These chemicals persist in the environment where they bioaccumulate to high levels in the tissue of fish and shellfish.

Shift to “use-based” format

Ecology is proposing to change the way the beneficial uses of waterbodies are assigned and protected.

The current “classification” system has only three levels of protection that can be assigned to rivers; one to lakes; and four to marine waters. These levels, or “classes” include a list of characteristic beneficial uses (*e.g., swimming, fishing, etc.*) that must be protected and include a list of numeric water quality criteria (*e.g., pH shall be within the range of 6.5 to 8.5*) to protect the listed uses.

Ecology, industries, municipalities, environmental organizations and others have found this system too limited to provide the appropriate level of protection to all types of waters and for all types of beneficial uses.

Some of the concerns with the current system are:

- existing criteria are not fully protecting some sensitive species of aquatic life,
- the system doesn’t use the most recent

scientific information on setting bacterial standards for protecting swimmers, ■ the system doesn’t provide appropriate levels of protection for naturally low-quality waterbody types.

The current proposal is part of an effort to correct all of these deficiencies, and to develop a system that would allow Ecology to assign protected uses to individual waterbodies in a more scientifically defensible manner.

The result may be that some waterbodies will receive more protective criteria and some will have reduced regulatory protection.

As part of the use-based proposal, Ecology is re-examining the criteria currently used to protect beneficial uses. The focus of this review is on the “conventional” water quality parameters (*dissolved oxygen, temperature, pH, turbidity, bacteria, and total dissolved gas*).

Ecology is reviewing the appropriate criteria to protect the beneficial uses of swimming, shellfish harvesting, domestic and agricultural water supplies, and fish and amphibian health.

The use-based proposal will also address what the appropriate criteria and beneficial uses should be for waterbodies such as irrigation and drainage ditches. These waterbodies currently are protected through a default process, which assigns either the first or second most protective set of water quality criteria to them.

For more information

For more information on the standards or upcoming workshops, contact Ecology’s Mark Hicks at (360) 407-6477, e-mail mhic461@ecy.wa.gov

Water quality standards workshop schedule

Workshops to discuss possible changes to state water quality standards are scheduled for:

- Spokane Library (Shadle Branch), 3/2
- Ecology Kennewick Office, 3/3
- Hal Holmes Center, Ellensburg, 3/3
- Ecology Lacey office, 3/5
- Ecology Bellevue Office, 3/9

- Fairhaven Pavilion, Bellingham, 3/11
- Vancouver Water Resources Education Center, 3/12

To order review documents (*Focus sheets on discussion topics, a draft antidegradation plan, and technical documents on various proposed criteria*), contact Mark Hicks at (360) 407-6477, e-mail mhic461@ecy.wa.gov

Refining the role of SEPA in the age of growth management

Washington's State Environmental Policy Act (SEPA) is getting leaner and more focused. Amendments to SEPA rules (*WAC 197-11*) went into effect in November 1997 that aim to help local governments integrate SEPA with Growth Management Act planning. The changes were required by the 1995 Legislature.

Ecology developed the amendments together with the Department of Community, Trade and Economic Development and an advisory committee of diverse interests. The revisions apply to project review *primarily for jurisdictions planning under the GMA*. However, certain pieces apply to *all* jurisdictions (such as changes in appeals procedures and a requirement to combine environmental and permit review).

GMA prompts SEPA update

Adopted in 1971, SEPA requires that state and local governments analyze the environmental consequences of proposed "actions."

Actions include many kinds of proposals, including adopting **planning documents** (such as a zoning code) and reviewing permits for **individual development projects** (such as a proposal for a new shopping mall).

In its early days SEPA was in many cases the only "tool" to regulate impacts of development on the environment. Local comprehensive plans and zoning regulations were often minimal, and zoning was not required to be consistent with plans.

Over the years, as other local and state regulations developed, SEPA served as a "fallback" system to address environmental impacts.

The Growth Management Act brought local governments many new responsibilities that in some cases overlapped with SEPA.

According to Ecology planner Neil Aaland, the GMA contained little direction on how to integrate its requirements with the existing SEPA process. "Agencies needed direction on how to deal with overlapping regulations and gaps in regulatory authority," said Aaland.

Law requires integration

The 1995 Legislature addressed the issue

in the landmark reform measure ESHB 1724, which declared GMA as the "fundamental building block of regulatory reform," and amended several state environmental and land-use statutes, including SEPA.

One of the chief goals of the reform law was to reduce duplicative regulation. Agencies were used to looking at each proposed action "from scratch," and often didn't take into account other local restrictions.

"The legislature recognized that existing GMA plans and regulations address a wide range of environmental impacts that need not be addressed by SEPA at the project level," said Aaland.

Aaland believes that while case-by-case project review will continue, SEPA's direct role will be to fill in the regulatory "gaps" - those environmental impacts not already addressed in GMA comprehensive plans and development regulations.

Better plans = faster permits

Aaland believes integration will be more successful where local governments conduct thorough environmental analysis in their comprehensive plans. "As local governments improve analysis at the

planning stage, they can speed up individual decisions on projects, and provide more predictable outcomes for developers and for the public," said Aaland.

How does the new rule help make the SEPA process more predictable?

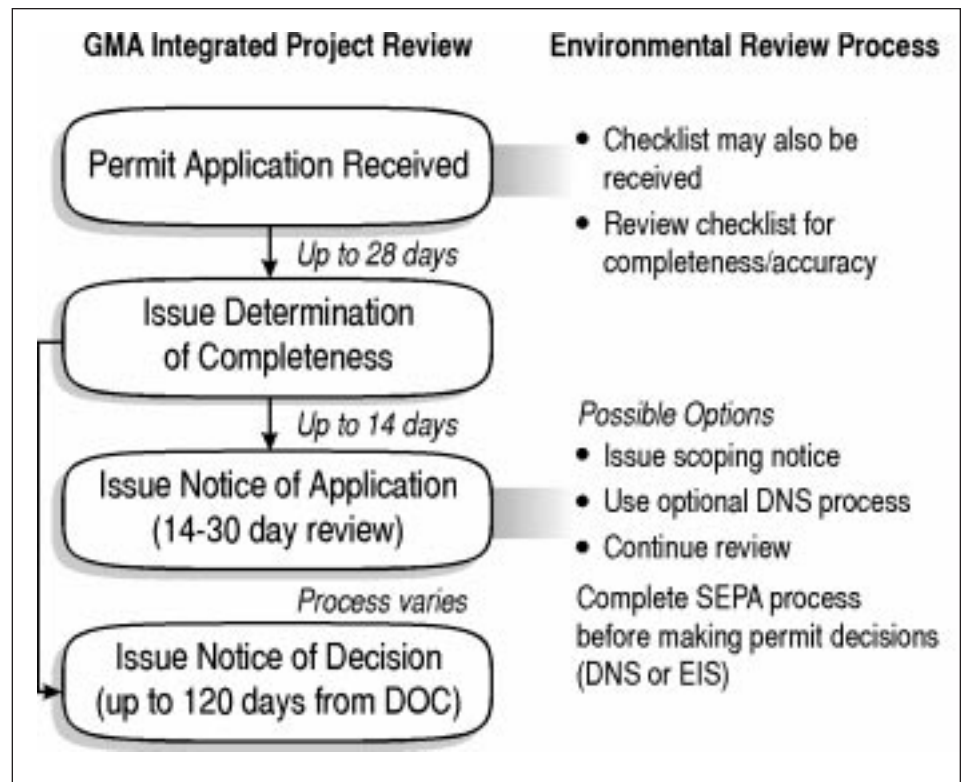
When a local planner gets a project proposal, they compare it with their community's comprehensive plan and development regulations.

The planner checks for consistency with local land use designations, residential density or building intensity, and infrastructure decisions.

Under the new rules, if the project is consistent with those decisions and the environmental analysis has been done, then a local government may determine that the project impacts have been adequately addressed and further review under SEPA is not required.

"If a local government does proper environmental review at the *planning stage*, their planning decisions should not be revisited at the *SEPA project review stage*," said Aaland.

According to Department of Community, Trade and Economic Development planner Heather Ballash, ESHB 1724 and



This chart shows how the SEPA process fits with the 120-day integrated project review process required by the Growth Management Act.

the new SEPA rules encourage local governments to develop better environmental analysis in their comprehensive plan and development regulation deci-

sions. "The benefits will be better plan decisions and more streamlined review of permits that are consistent with those decisions," said Ballash.

information as well as ease the analysis of a project or "non-project" action with existing plans, programs or regulations.

To get on a list to review draft forms, fill out the coupon below.

New Handbook on the way

Ecology is revising the **SEPA Handbook**, commonly known as "the green book," to reflect changes in the SEPA process. *Confluence* will advertise the new book when it is available.

For more information

For more information about SEPA/GMA integration contact Neil Aaland, 360/407-7045, e-mail naa1461@ecy.wa.gov.

Categorical exemptions slated for update

As an outgrowth of changes to SEPA rules, Ecology is preparing an environmental impact statement (EIS) on revising the list of **categorical exemptions** allowed under SEPA.

The current list includes more than 30 exemptions, including construction of four or fewer houses, small commercial buildings, and parking lots for 20 or fewer cars. Changes to categorical exemptions will require rule amendments.

Use the clip sheet below to get on the mailing list for this project.

"Planned Actions"

A new feature in the SEPA rule is a description of how local governments can designate "planned actions." Under this provision, GMA cities or counties can identify specific types of actions that will undergo full environmental analysis early in the planning process.

The actions must be limited to a specific geographic area (*not the entire city or county*) or to certain types of development. The environmental analysis must be included in a specific type of EIS (one prepared for certain types of actions including comprehensive plans, subarea plans, and master planned resorts).

Combining early environmental analysis with the planning process will reduce permit processing time for individual projects. If the significant impacts of certain types of development are adequately addressed, they may be designated as planned actions. These projects then will not require a threshold determination or an environmental impact statement.

Aaland believes most of the planned action approach has always been allowed under SEPA, but the new rules strengthen the linkage between environmental review and GMA planning efforts. He thinks planned actions will be most useful in two types of situations.

The first is one in which a local government has a strong interest in how specific properties are developed. An example is when a city or county wants a site with hazardous waste problems cleaned-up and redeveloped.

The second situation is for larger geographic areas, where a regional approach would help the local government gather environmental information and determine impacts and mitigation measures up-front.

Reforms will take time

Aaland warns that it will likely take time for environmental information to more fully integrate into GMA planning. "SEPA has been viewed as a separate process for so long, it may be hard for local governments to integrate it," he said.

Land-use attorney Ken Weiner, writing in *Washington State Bar News*, reports that achieving integration hasn't been easy. "Old habits die hard. Plus, although relatively few projects get appealed, and a tinier fraction go to court, fear of appeals plays a part," Weiner said. "Practitioners are afraid to integrate land use and environmental review because they have developed an industry of preparing fairly boilerplate SEPA documents over the past 25 years."

Updating the SEPA checklist

Weiner believes new models for integrating documents will go a long way toward speeding up integration. Towards that end, Ecology is now working with a SEPA Advisory Committee to prepare new SEPA checklists.

The committee is working on two forms: a "project" checklist (for specific development projects) and a "non-project" checklist (for plans and programs). The goal of the integrated forms is to provide environmental



Keep me informed about SEPA!

Please place my name on the following mailing lists:

- Updating the SEPA checklist
- Review of Categorical Exemptions

Name _____ Affiliation _____

Address _____ City, State _____ ZIP _____

Send this form (or a photocopy) to: Debbie Russell, Word Processing, Washington Department of Ecology, PO Box 47600, Olympia, WA 98504-7600, OR e-mail your request to dsti461@ecy.wa.gov with the subject line "SEPA."

Attorney General issues new guidelines on exempt wells

The Washington State Office of the Attorney General in October issued a formal legal opinion regarding exempt ground water withdrawals that may impact existing and future development projects throughout the state.

The Departments of Ecology and Health requested the opinion to settle differences of opinion among various parties about the intent and meaning of the exemption.

What are “exempt” wells?

Washington State’s ground water code allows individuals to draw up to 5,000 gallons per day from a well without a water right permit from Ecology (*see sidebar*). Developers often refer to these exempt wells as “six-pack wells,” because each can serve about six homes. Users of water under the exemption are entitled to rights equivalent to those obtained through a permit.

According to Ecology water policy analyst Doug McChesney, the exemption has historically served a useful purpose. “The exemption gives landowners an unconditional right to drill a well for basic water needs,” said McChesney. “That concept has tremendous appeal to our society’s sense of values.”

However, some state agencies and local governments were concerned that the exemption is being misused to circumvent delays in getting water rights. Ecology has a backlog of thousands of permit applications.

To avoid getting on the end of a long, slow line for permits, some developers are using the exemption as a shortcut.

For example, a housing development with 100 units that could be served by one large water system might subdivide into 20 small public water systems, each theoretically exempt from permit requirements.

Ecology, Health and some local governments estimate there are currently hundreds of such housing developments with multiple “six-pack wells” that were drilled under the assumption that each well was exempt.

The Attorney General’s opinion states that this interpretation of the law is incorrect.

What the opinion says

The opinion has five main components:

- If you want to develop land and use more than 5,000 gallons of ground water per day, you need to apply for a water right permit from Ecology. A project needs a permit if it will require more than 5,000 gallons of water per day, regardless of how many wells will be used.

- The law does not allow water wells or systems without a permit to join together or intertie, except under specific circumstances. (*Washington law does allow wells with permits to intertie. It also allows a water system with a permit, under certain circumstances, to consolidate into its system exempt wells that become a part of its system.*)

- A person with an exempt use may apply for a water right permit. Ecology must review applications for water right permits, even exempt uses of water.

- Ecology may not issue a water right certificate to someone with a water use that doesn’t need a permit, unless the owner of the well obtains a permit from Ecology; or the owner of the well consolidates his or her right with a right covered by an existing permit or certificate.

- Washington law does not allow an owners of an exempt well to transfer or change his or her withdrawal of water to a different location or for a different purpose, such as changing the use of the water from domestic in-house use to industrial use. However, the owner of the exempt well could obtain a transfer or change to his or her withdrawal if he or she obtains a permit from Ecology or consolidate his or her water right with a permit or certificate.

What’s next

In response to the Attorney General’s opinion, Ecology is urging people who are developing property that will be using more than 5,000 gallons of ground water per day to apply for a water right permit.

Also, Ecology encourages landowners currently using multiple wells withdrawing more than 5,000 gallons of water per day for a single development project to apply for a permit. Ecology will work with landowners and local communities to identify alternatives for getting water to

accommodate the continued population growth in our state while still protecting our aquatic resources.

For more information

For more information, contact Doug McChesney at (360) 407-6647, or dmcc461@ecy.wa.gov. The Attorney General opinion is posted on the World Wide Web at: www.wa.gov/ago/opinions/opinion_1997_6.html.

The trouble with misusing permit exemptions

Washington’s ground water law (RCW 90.44.050) exempts from permit requirements “... any withdrawal of public ground waters for stock-watering purposes, or for the watering of a lawn or of a noncommercial garden not exceeding one-half acre in area, or for single or group domestic uses in an amount not exceeding five thousand gallons a day, or for an industrial purpose in an amount not exceeding five thousand gallons a day, is and shall be exempt from the provisions of this section...”

According to Ecology Water Resources Program Manager Keith Phillips, misuse of this exemption could harm senior, existing water rights and ground water resources. “Increased use of non-permitted wells could take waters our streams need to support fish and aquatic life,” said Phillips. “Developments supplied with water from exempt wells are an especially acute problem in areas where water supplies are limited by the threat of seawater intrusion, or overappropriation.”

Washington is running out of cheap, available water for people and fish, said Phillips. “We have current and pending threatened and endangered species listing for salmon and steelhead, many of which relate directly to water supply,” he said. “Local communities and the state must plan carefully for water use. A proliferation of exempt wells undercuts local and state governments’ ability to solve water supply problems.”

Ecology adopts water right permit rule

Ecology adopted rules in February that set priorities for processing water right applications.

In March 1997, the Washington State Supreme Court, in its *Hillis vs. Ecology* decision, raised questions about public involvement in the way Ecology sets priorities for processing of water right permits.

Then in May, the Kittitas County Superior Court ordered Ecology to stop investigating or processing pending ground water right applications until appropriate rule making was completed.

In response to the court decisions, Ecology filed an emergency rule in June

to allow the agency to process water right applications involving public health and safety (*see Confluence, Spring/Summer 1997*).

In writing the permanent rule, Ecology held public workshops and hearings around the state. Ecology received more than 300 comments on its initial draft.

The permanent rule incorporates and expands upon the emergency rule. The permanent rule also addresses basin assessments and an overall approach to making water right decisions.

For more information contact Ecology's Steve Hirschey at (425) 649-7066, e-mail shir46@ecy.wa.gov.

Claims registry opening generates thousands of inquiries

Ecology's efforts to advertise a new filing period for water rights claims are paying off.

The 1997 State Legislature required that Ecology open the claims registry, which is designed to capture water rights established before the state began issuing water right permits. These "vested" historic water rights include the use of surface water before 1917 or ground water before 1945.

Ecology set up a toll-free number and has continued to advertise in 21 newspapers since August. As of February 1, Ecology has talked to over 10,000 people either by phone or in person and mailed more than 5,130 informational packets.

Ecology has researched 1,528 water rights in response to requests. Of the 195 Claim forms received, 83 new qualifying claims have been registered.

Ecology has also developed a speaker's bureau to help provide information about claims and water right issues in general. **To arrange for a speaker at your organization, call Paula Smith at (360) 407-6607.**

"The public response has been all that we'd hoped for," said Keith Phillips, Ecology's Water Resources Program manager. "This has provided us an opportunity to talk to folks about water resources in general. Many people are unsure about the status of their water right and what needs to be done to protect it. The fact that we have had so many calls

shows how interested people are about water resource issues."

The current filing period ends June 30, 1998. You are eligible to file a Statement of Claim during the 1997 opening if you, or a previous property owner:

- began using surface water before 1917, or ground water before 1945, *and* continue to do so, *and* have not previously filed a claim or other water right document; or
- claim to have used water on lands abutting a stream, lake, or watercourse *and* you can prove that the lands upon which water use is claimed were taken out of federal ownership prior to 1917 *and* the water was put to beneficial use before 1932, *and* you have not previously filed a claim or other water right document.

During this claims registration period, the legislature limited the eligibility of some water users to file claims. For example, people using ground water that is exempt from the permit process, water users in areas with on-going adjudications, and water users in the Odessa ground water management subarea, are not eligible to file a claim now.

For more information

For more information, call **1-800-468-0261** and leave your name, mailing address, and telephone number.

To speak to someone in Ecology's Headquarters office, call (360) 407-6738.

Watershed grant process frozen

A \$2.5 million grant program to help communities get started on watershed planning is in the cooler, for now.

The grant money is at the center of a legal dispute between the legislature and the Governor's Office, and Ecology cannot issue the grants until the matter is resolved.

Since October 1997, Ecology has received 47 applications for grants to help local governments develop watershed plans aimed at resolving water issues in their areas and improving habitat to restore salmon runs.

The grants would help build the local capacity to collect and evaluate watershed information and to make decisions and recommendations on the future management of water resources, water quality and the water-related habitat.

Legal ups and downs

The state legislature set aside \$5 million in 1997 for the grants (*see Confluence, Spring 1997*), but later sued the Governor and Ecology over authority to spend the money after Governor Locke vetoed specific implementation language.

The Washington State Supreme Court denied review in November, but sent the case to Thurston Superior court. In December Ecology released a few grants to local communities.

Then in January the Superior Court issued an injunction that prevents Ecology from issuing any more grants for the time being.

A February deadline for applications is on hold indefinitely until the grants program is more certain.

Jurisdictions that received grants are waiting for further direction from the courts before spending any money.

At this time, local governments should continue to send grant applications to Ann Shipley, Ecology, PO Box 47600, Olympia, WA 98504-7600.

Ecology will post updates on the grant program on our World Wide Web site at www.wa.gov/ecology/ under "Water Resources - Water Rights."

Ecology designates new groundwater management area

Efforts to reduce nitrates in the Mid-Columbia Basin ground water received a boost in February when Ecology approved a request from Franklin, Adams and Grant counties to form the Columbia Basin Ground Water Management Area. The counties are forming the management area to coordinate efforts to reduce nitrate contamination in the Mid-Columbia Basin (see *Confluence*, Winter 1996/1997).

“This is the first time in Washington that several counties have joined forces to address this kind of water quality problem,” said Ecology Director Tom Fitzsimmons. “I applaud the commissioners in these three counties for their far-sightedness in seeing the need for a cooperative, collaborative approach to solving the region’s nitrate problem.”

The management area process will bring together local governmental entities, industry associations and environmental organizations in Adams, Franklin and Grant counties to help local government deal with the public health and pollution problem of nitrates.

A local advisory committee will be formed to oversee development of a region-wide plan.

“The key to the success of this effort will be the local commitment to participate in the process and implement the resulting recommendations,” Fitzsimmons said. “In the business of environmental protection, we need to begin looking at entire systems-or watersheds-and look well beyond political boundaries. To do so is more than a trend.

It’s the only way to operate that makes sense. It is the only way we are going to effectively maintain our state’s quality of life.”

The Ground Water Management Area petition was submitted in response to a study in 1995 that showed water from 20 percent of the drinking water wells tested is estimated to have exceeded the federal standards for nitrates in drinking water at least one time during the three preceding years.

Ecology is aiding local efforts with a \$533,000 Centennial Clean Water Grant for characterizing and monitoring the groundwater and for public education and outreach.

For more information contact Ecology’s Viki Leuba at (509) 625-5179.

A snapshot view of groundwater nitrate problems

Nitrates in ground water are caused by excessive use or over-application of agricultural chemicals and lawn fertilizers, poorly managed farm operations and failing septic systems. The nitrates in fertilizers and human and animal fecal waste seep through soil to drinking water aquifers.

Nitrates break down in the human body and can interfere with the natural transfer of oxygen to the blood stream. Children under the age of one year and pregnant women are at the greatest risk for “blue baby syndrome” (methemoglobinemia). In rare cases, it may be fatal if not treated.

Based on this risk, more than 10 milligrams per liter of nitrate-nitrogen in drinking water is unsafe under state standards. Levels between 5 and 10 milligrams per liter serve as a clear indication that ground water quality is at risk.

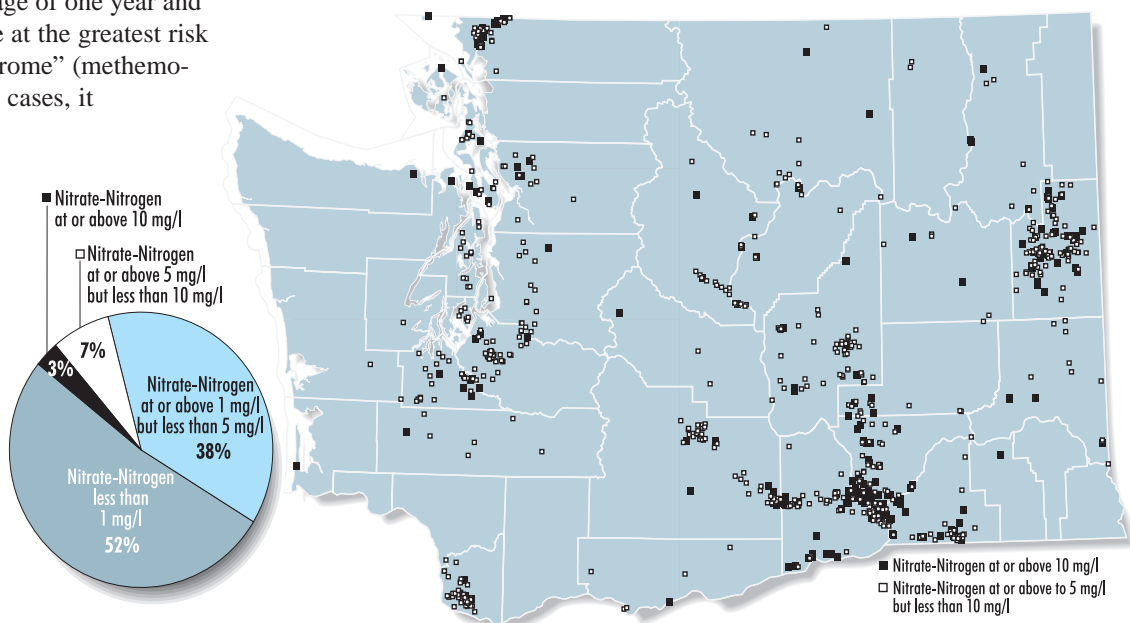
The map below shows the percent and location of tested public water supply wells where nitrate-nitrogen levels are above 5 milligrams/liter.

Prevention is best

Cleaning up ground water contamination is more expensive than preventing the problem. To prevent nitrate contamination,

Ecology recommends homeowners regularly pump on-site septic systems, use fertilizers sparingly, or contact their local extension service for advice on alternative lawn care options.

Ecology recommends that farmers contact their local conservation district for guidance on proper manure storage and use of agricultural chemicals.



Conference on preventing polluted runoff scheduled

Ecology welcomes you to attend "**Partnerships in Preventing Polluted Runoff**," a free conference on preventing nonpoint source water pollution, on March 31 and April 1, 1998 at the Wenatchee Convention Center. (*The conference was originally scheduled for November 1997.*)

Runoff is the major source of pollution in the majority of Washington's lakes, rivers and streams (*see page 8*). Many citizens, groups and agencies are working to prevent this type of pollution from reaching and contaminating our waters. This conference is an opportunity for these groups to interact, learn from each other, and build new partnerships.

The **purpose** of the conference is to:

- provide a forum where private and public partnerships in managing polluted runoff can present their accomplishments and lessons learned;
- provide an opportunity for forming

new partnerships to manage nonpoint runoff through the discovery of common linkages between groups;

- provide an opportunity to identify problems in polluted runoff and identify possible innovative solutions.

The intended **audience** for the conference includes staff and representatives of local governments, special districts (conservation districts, public utility districts, etc), farm and trade association members, and others, as well as state and federal agencies.

The conference will include sessions on:

- Agriculture & pollution
- Community Education Centers
- Corporate Initiatives
- Education
- Enforcement
- Farm Associations
- Groundwater
- Incentives for citizens

- Local Watershed Planning
- On-site sewage systems
- Small communities
- Stormwater facilities
- Sustainability
- Tribal programs
- Trade Associations
- Urban Erosion Control
- Watershed Councils

The conference is partially funded by the U.S. Environmental Protection Agency, Region 10.

For more information

A conference agenda and a list of speakers will be posted at www.wa.gov/ecology/ under the "Water Quality" section. There is no charge for registration until March 15. After March 15, a \$25 fee will be charged.

For information contact Ecology's Bill Green at (360) 407-6795, e-mail wgre461@ecy.wa.gov.

Join the WaterWeeks potluck!

Washington WaterWeeks is a five-week series of education, celebration and involvement activities offered statewide each fall (Aug. 29-Oct. 4).

WaterWeeks activities are designed to help people learn about and take action to protect and enhance our water resources - lakes, rivers, watersheds and ocean waters.

If your organization wants to help residents in your area learn how to protect and enhance Washington's waters, plan an educational action event for WaterWeeks this year.

Last year, local groups sponsored 150 events, including:

- habitat restoration projects
- river and beach cleanups
- watershed explorations
- hatchery tours
- salmon celebrations
- scuba diving activities
- water treatment plant tours
- wildlife viewing expeditions
- children's activities
- water quality monitoring classes and more!

While some groups plan new events, many also offer already planned and scheduled water-related activities that take place during the WaterWeeks period.

Marketing local activities

A listing in the **WaterWeeks Activity Guide** can help local programs reach new audiences and members. Beginning in August, 80,000 copies of the colorful guide are distributed statewide through information centers, businesses, libraries, museums and other locations.

WaterWeeks events are also advertised through television and radio Public Service announcements, and are posted on the World Wide Web.

Local event planners also receive promotion packets with clip art, media kits, posters, banners, and bulk orders of the Activity Guide.

Focus on salmon habitat

With the pending listing of salmon species under the Endangered Species Act across the state, many residents will be looking for ways to help fish recover in their neighborhood streams.

This year's WaterWeeks guide will include a special "**Hands On For Healthy Habitats**" insert with information tips on how citizens can get involved in recovery efforts year-round.

WaterWeeks invites all organizations involved in salmon restoration to get involved in WaterWeeks 1998.

For more information

For more information, or a planning packet, call the WaterWeeks office at (360) 943-3642.

The deadline for including events is May 29, 1998.



In memoriam

Washington State mourns the loss of a great environmental leader. On January 5, Ecology's Deputy Director **Terry Husseman** was in the Governor's Office presenting the state's strategy to save



salmon when he died of a heart attack.

"All of us who knew and loved Terry know how deeply committed he was to the environment, and how tirelessly he worked to solve some of the most difficult environmental issues facing this state," said Ecology Director Tom Fitzsimmons. "He was one of this state's greatest environmental resources."

During his state-of-the-state address Governor Gary Locke said, "Terry was a brilliant attorney who, with patience, wisdom and courage, was a key leader in helping launch the clean-up at Hanford, protecting the public from toxic and nuclear waste, healing the relationship between state and tribal governments, and preserving our clean water."

Like so many other state employees, his legacy was built day by day, over years of quiet devotion to the public good. We must honor his memory - and the memory of the countless thousands of other citizens and public servants who have given their lives in service to others - by living up to the standard of excellence they set for all of us."

Confluence

con-flu-ence [kon-floo-en(t)s] *n.* 1: a flowing together of two or more streams 2: an act or instance of congregating: an assembly: crowd

Confluence is the quarterly newsletter of the Washington State Department of Ecology. The name symbolizes the flowing together of water quality, water quantity, and shorelands issues into a common forum. The word also refers to a gathering of people, which is what it takes to solve water problems.

Contributors: Chris Coffin, Mary Getchell, Jani Gilbert, Bill Green, Kahle Jennings, Paula Smith. Graphics: Tom Leonard, Nikki McClure, Tim Schlender.

Photos: Kahle Jennings, Marcia Husseman, B. Schmidt. Editor: Tim Gates.

Address questions or comments to the person(s) identified at the end of the article or Tim Gates at 360/407-7256, e-mail: tgat461@ecy.wa.gov.

Ecology is an Equal Opportunity and Affirmative Action employer. If you have special accommodation needs, call TDD# (360) 407-6006.

This newsletter is funded in part by the National Oceanic and Atmospheric Administration. The views expressed herein are those of the authors and do not necessarily reflect the views of NOAA or any of its sub-agencies. *Printed on recycled paper.*

