Greetings to the 77th Oregon Legislative Assembly,

I’m pleased to present to you this overview of Coastal and Columbia River Salmon and Steelhead for 2012-2013. The report provides a brief overview of the status of salmon and steelhead runs in Oregon and provides an outlook for salmon and steelhead fisheries for the next two years.

The Department puts this report together because of the importance of salmon and steelhead to Oregon – both to its culture and its economy. Many Oregonians can remember with pride the first salmon or steelhead they caught. They provide the basis for many family stories and memories. But, salmon and steelhead are more than that. They are the major contributors to the state’s economy.

Recreational and commercial fishing contribute more than $330 million to the economies of coastal counties and the Portland metro area. Of this, more than half is generated by salmon and steelhead fishing. Much of that is spent in the state’s most rural counties and helps support countless jobs in these areas.

These fisheries are possible largely due to the state operated hatcheries that release 39 million salmon and steelhead smolts each year to supplement native wild fish populations. In addition to providing fish for anglers to harvest, these hatchery fish are a great investment in the state’s economy. Every $1 spent raising hatchery fish generates $15 in economic benefit.

We take our responsibility to sustain and enhance salmon and steelhead populations very seriously. This includes the conservation and restoration of native, wild runs and the careful management of our hatchery programs to provide fishing opportunity while protecting wild fish.

Thank you for your continued support.

Roy Ellicker
Director
OVER THE LAST DECADE, under the guidance of the ODFW’s Native Fish Conservation Policy, Oregon has made great progress toward ensuring that our wild populations of salmon and steelhead are conserved and recovered for generations to come. Oregon Coast coho are a great example of what can be accomplished when we align our management actions with the needs of the fish. After more than 20 years with little to no directed harvest of naturally produced Oregon Coast coho, Oregon stands poised to implement the largest sport and commercial season in decades come the fall of 2013.

Maintaining and restoring our naturally produced native fish stocks remains the foundation for wild and hatchery supported fisheries. But when it comes to fish for keeping, hatchery fish are the staple for freshwater fisheries, with about 70 percent of the salmon, steelhead and trout caught in freshwater originating from ODFW’s hatchery program. ODFW continues to manage the risk of hatchery fish based on Commission-approved conservation and recovery plans, taking actions as needed to address risk while ensuring that fishery opportunities are not unnecessarily constrained. This focus on conservation has paid off – in terms of the diversity of fishing opportunities, salmon and steelhead fishing in Oregon is as good as it’s been in recent decades.

Conservation has always been one of the top priorities for ODFW and a look at some recent trends in wild fish populations shows an upturn on many fronts:

- The number of returning wild coho has skyrocketed in recent years, exceeding prior record levels. This conservation success story can be attributed, in part, to 14 years of recovery efforts under the Oregon Plan for Salmon and Watersheds. While 2012 showed a downturn in wild coho compared to the prior two years, returns were still well above those of the 1990s.
- Coastal winter steelhead populations have been stable since the 1990s.
- Summer steelhead runs remain strong on the North Umpqua and have made a comeback on the Siletz.
- Fall chinook returns, which dipped in recent years, have rebounded and should continue to increase.
- Spring chinook numbers are improving on the Rogue River and continue to be strong on the North and Mainstem Umpqua.
- Summer steelhead returns to the Columbia River are at some of their highest levels in the last 25 years.
- Fall chinook are returning to the Columbia River in some of the highest numbers since the early 2000s.

As conservation status improves, fishing opportunities also are improving. Fall chinook returns continue to rebound from the very poor returns in 2008, and in recent years ODFW has moved back toward historic,
less restrictive, harvest regulations. For the fourth year in a row, anglers were able to harvest some wild coho from several coastal rivers and lakes. And thanks to conservation measures begun in the mid-1980s, winter steelhead continue to provide a relatively stable and reliable fishery.

At the same time, management tools such as mark-selective fisheries have allowed for substantial harvest opportunities in the popular Columbia River spring chinook fishery.

Finally, we hope to be able to expand fishing opportunities even more through a multi-species planning effort that will cover most of the coast. The Department is working closely with coastal stakeholders to identify ways to further improve fishing while ensuring protection of wild populations.

We still face some challenges, but by balancing the conservation needs of fish with angling opportunity, we expect salmon and steelhead fishing opportunities in Oregon’s coastal and Columbia rivers to remain relatively stable and sustainable.

STATE OF COASTAL SALMON AND STEELHEAD FISHING 2011-2012

Coho:
- The coastal coho population dropped in 2012 from recent large returns. The preseason forecast overestimated the population substantially, but the return was still much better than the critical period in the mid-1990s.
- Since 2009, large wild coho returns have allowed ODFW to open a limited number of wild coho fisheries. In 2011 and 2012, the number of wild coho fisheries was increased to 10 rivers and three lakes including Tenmile Lakes based on the preseason forecast.
- Natural production of coho should allow for continued wild coho fisheries in coastal streams during the 2013 fall run. ODFW will petition NOAA to open fisheries on rivers where the predicted returns are strong enough to support recreational harvest.
- As expected, the 2012 summer ocean coho season saw very low catch rates on hatchery coho. An expanded September ocean coho season that also allowed for the retention of wild coho for the second year in a row saw much better catch rates, and the season was closed two days early when the quota was met.
- Wild coho retention was also allowed for a portion of the season in the Columbia River ocean zone and in areas off of the Washington coast. This is only the second time since 1993 that this has occurred.
- The 2013 sport fishing quota for ocean coho south of Cape Falcon is expected to be similar to 2012.

Fall chinook:
- Oregon Coastal fall chinook abundance in 2011 and 2012 was much improved over 2009 and 2010 in streams on the central and south coasts. The 2013 fall chinook
abundance trend should continue with abundances at or above average in most coastal basins.

- In 2009 and 2010, ODFW used temporary river-by-river regulations to keep as many rivers as possible open to fall chinook fishing. In 2011 and 2012, many fisheries on the central and south coast were back under permanent regulations thanks to improved returns. However, returns were not forecast to be as strong on a handful of rivers on the north coast, where some temporary restrictions continued.
- In 2013, coastal fall chinook seasons and regulations should continue to be close to normal structure with few special conservation-based temporary rules.
- The ocean commercial troll salmon chinook fishery had a near normal season structure for the 2012 season. The forecast for both Klamath River and Sacramento basin fall chinook was for strong returns. (Sacramento fall chinook are the primary contributing stock to Oregon’s ocean chinook harvest in most years).
- The 2013 forecast for Sacramento fall chinook is slightly higher than the 2012 forecast, and should provide for a better than average harvest of chinook if the fish move north this season. The 2013 commercial troll fishery is expected to have a season structure similar to 2012, with catch rates that should be even better than the 2012 season.
- The ocean sport chinook season and catch rates should be much improved in 2013 in all areas with especially strong catches from Winchester Bay South and in waters off the Columbia.

**Winter steelhead:**
- Winter steelhead populations have been healthy and stable in most areas. Early indications show the 2012-2013 winter steelhead fishery should be strong.

**STATE OF COLUMBIA RIVER SALMON AND STEELHEAD FISHING 2011-2012**

**Spring chinook:**
- Spring chinook returning to the Columbia River are comprised of lower river stocks destined for tributaries such as the Willamette and Cowlitz and upriver stocks which return to areas upstream of Bonneville Dam.
- Returns of upriver spring chinook to the Columbia River have ranged widely in recent decades. Upriver runs were poor in the 1980s – averaging 84,500 fish per year – and declined further in the 1990s. The 1995 run marked an all-time low of just 12,800 fish. By the 2000s runs had improved substantially and the average annual return was 210,000 adults.
- Returns of upriver spring chinook in 2011 and 2012 were 221,200 and 203,100, respectively. In both years high water conditions hampered fishing effort below Bonneville Dam and the seasons were extended twice each year.
- The forecasted upriver return in 2013 is 141,400 fish. The lower return is most likely due to ocean conditions and demonstrates the fluctuating nature of salmon returns and fisheries in the Columbia River. For example, in the 1980s annual upriver spring chinook returns ranged from a low of 52,100 to a high of 127,800. In the 1990s the range was 12,800 to 124,300, and in the 2000s it was 86,200 to 440,300.
- Spring chinook returns destined for the popular Willamette River fishery in 2011 and 2012 were 80,300 and 65,100, respectively.
- The predicted Willamette return in 2013 is 59,800. While down from recent years, the predicted return is still high enough to open the fishery with a liberal two-fish bag limit.
**Summer steelhead:**
- Summer steelhead returns to Bonneville Dam in 2011 were 364,900 fish. In 2012 the return fell to 230,800 due to low numbers of one-salt fish. Since the in-river conditions for out-migrating smolts in 2011 were excellent, the low 2012 return was probably due to poor ocean survival.
- Summer steelhead returns in 2013 are predicted to be 339,200 or 94 percent of the 10-year average.

**Fall chinook:**
- The 2013 forecast for Columbia River fall chinook is larger than the 2012 return and includes record forecasts for upriver bright and Snake River wild fall chinook. The total 2013 Columbia fall chinook forecast would be the largest return since 2004.

**OUTLOOK FOR NEXT TWO YEARS**

The year-to-year outlook for coastal salmon and steelhead will always be somewhat unpredictable because of three unknowns:
- The impact changing ocean conditions may have on chinook, coho and steelhead returns to Oregon coastal rivers.
- The extent to which ocean chinook fishing will be constrained by weak stocks in the Klamath and Sacramento rivers, and ocean coho fisheries will be constrained by lower Columbia wild populations.
- The impact of weather, river flows and other environmental conditions on fishing access and success
Taking a Strategic Look at Coastal Fisheries

The Coastal Multi-Species Conservation and Management Plan is being developed to look at the long-term conservation of salmon, steelhead and trout along most of the Oregon coast, and to enhance fishing opportunity within this conservation framework. In 2012, ODFW met with four working groups, one each for the North Coast, Mid-Coast, Umpqua and Mid-South Coast areas, to begin looking at hatchery programs and wild fish harvest in a larger context than just the individual local rivers.

According to Tom Stahl, ODFW Conservation and Recovery Assistant Program Manager, while the stakeholder group members represented lots of different interests, they all shared a common concern for the resource.

“Through a lot of excellent, thoughtful and respectful discourse, we came to agreement on a number of issues,” he said. “Having said that, there also are a couple of issues where not everyone saw eye-to-eye.”

The bigger challenge may be getting members of the general angling public to buy into a management approach that considers the range of conservation and fishing opportunities across streams and rivers, rather than within any given local area.

“The fish in each local stream or river cannot provide all things to all people, so we are looking to balance hatchery programs and the ability to harvest wild fish across the suite of water bodies,” Stahl said. The result could be a decrease in hatchery releases in one area, for example, but an increase in another nearby area.

Another opportunity that is being considered during plan development is the harvest of wild steelhead when and where populations can support it with good management oversight. This is one of those issues where everyone doesn’t see eye-to-eye and has generated a lot of discussion.

ODFW intends to release a draft plan to the public in June that will reflect the input of the four stakeholder groups and the results of a public opinion survey being conducted by Oregon State University. There will be several additional opportunities for public input on the plan before a final version is presented to the Fish and Wildlife Commission in September or October.

For more information about the Coastal Multi-Species Conservation and Management Plan, go to the ODFW website at: www.dfw.state.or.us/fish/CRP/coastal_multispecies.asp.
Coho populations have increased significantly in recent years – enough that for the past four years, ODFW has been able to allow conservative harvest of wild fish from selected rivers and lakes.

**Coho harvest and spawners 1950 to 2011**

Coastal coho first listed as threatened under federal Endangered Species Act. Significant harvest restrictions begin.

B. 1997.
Oregon Plan for Salmon and Watersheds is adopted to marshal public and private efforts to restore Oregon salmon populations through watershed enhancement.

C. 2003.
Limited wild coho fisheries opened on Siltcoos and Tahkenitch lakes. These would serve as a model for later fisheries beginning in 2009.

D. 2009.
Fish and Wildlife Commission approves first wild coho fisheries on Oregon coastal rivers since the mid-1990s.
Fall chinook

Changing ocean conditions has been the primary reason for the rise and fall of fall chinook returning to and harvested from coastal rivers over time.

**Fall chinook harvest 1978-2011**


A. Late 1970s to mid-1980s.
Decline in ocean rearing conditions caused several years of poor returns and led to the adoption of the Pacific Salmon Treaty.

Good ocean conditions and restricted harvest in north Pacific fisheries to protect weaker stocks helped adult returns increase.

Poor ocean conditions cause a significant decline in adult returns and led to special regulations on coastal rivers.

D. 2010-2012.
Improved ocean conditions led to significantly better adult returns and fewer special regulations. Renegotiation of Pacific Salmon Treaty in 2009 leads to further reductions in harvest in north Pacific fisheries that impact Oregon stocks.
Fall chinook hatchery releases 1979-2012

Most coastal fall chinook fisheries are on naturally reproducing wild fish. With the exception of the STEP hatchery programs on the Coos River, hatchery releases have remained relatively constant since the 1990s.

A. LATE 1980S.
Wide-scale implementation of STEP hatchery programs on the Coos River.

Winter steelhead

Winter steelhead harvest levels declined significantly from about 1986 to the mid-1990s primarily due to new regulations that limited harvest to hatchery fish only. Since the mid-1990s, steelhead harvest levels have remained relatively constant on most coastal rivers. At the same time, data indicates that the population of wild spawning fish also has remained relatively steady over the past several years.

Winter steelhead harvest 1979-2011

A. 1986 to mid-1990s.
New regulations restricting harvest to hatchery fish reflected evolving public attitudes about protecting wild fish, and efforts to avoid the listing of winter steelhead under the federal Endangered Species Act.

**Winter steelhead hatchery releases 1979-2011**

Beginning in the early 1980s and through the mid-1990s, the release of hatchery winter steelhead declined amid emerging concerns that hatchery fish could be having a negative impact on wild steelhead populations. Since then, releases of hatchery winter steelhead on most coastal rivers have remained relatively constant.

A. 1983 to mid-1990s. Gradual reduction in the numbers of hatchery steelhead released reflecting growing concerns about the possible impact of hatchery fish on wild steelhead populations.

After years of declining returns, spring chinook harvest on the Columbia River is severely restricted.

Spring chinook harvest opportunities are expanded thanks to a large forecast of 364,900 upriver fish and adoption of a new US v. Oregon agreement. These, combined with a high rate of marking hatchery fish, allowed the states to adopt the first ever mark-selective spring chinook fishery in the Columbia.

C. 2001-PRESENT.
Special harvest regulations are adopted each year based on the predicted run size and allowable take of ESA listed stocks. This allows for maximum opportunity while still meeting treaty obligations and ESA constraints.
WHY MANAGEMENT CAN BE COMPLICATED

The key to creating stable fishing opportunities is maintaining and restoring productive populations of salmon and steelhead.

This means:
• Setting harvest levels for chinook and coho salmon that are responsive to changing ocean conditions and that maintain a mix of stocks from California, Oregon and Washington – some of which are federally protected, and all of which can fluctuate from year to year.
• Managing in-river fisheries to maximize fishing opportunities while still protecting wild fish populations and providing for future fisheries.
• Balancing management and opportunity under a bevy of treaties, agreements, laws, policies and regulations designed to allocate available harvest and protect wild fish populations.

Treaties and inter-jurisdictional agreements that allocate the available ocean harvest

Pacific Salmon Treaty (PST), Pacific Fisheries Management Council (PFMC)
• In the ocean, stocks from many different river systems intermingle, and overall ocean harvest opportunities are generally limited by the weakest of these stocks.
• Ocean chinook harvest is often constrained by federally listed chinook stocks in the Columbia and some California rivers, not by Coastal Oregon populations.
• Ocean coho fisheries may be constrained by weak populations in Canada, the lower Columbia River or the Oregon Coast.
• The PST determines how Canada and the United States (Alaska, Washington, Oregon and California) share the available harvest of certain stocks of salmon, while the PFMC allocates the U.S. share among fisheries off Oregon and Washington. The PFMC also proposes the rules that guide the management of other salmon stocks off Oregon, Washington and California.

Increased efforts to protect and restore wild populations

Federal Endangered Species Act, Oregon Endangered Species Act, The Oregon Plan for Salmon and Watersheds, Oregon’s Native Fish Conservation Policy
• Listing under state or federal endangered species acts not only impacts fishing opportunity for the listed species or population, fishing opportunities on other populations may be limited in order to reduce incidental mortality to listed fish.
• Through efforts under the Oregon Plan for Salmon and Watersheds, the state has made a long-term investment in protecting and restoring fish habitat, promising even brighter days ahead.
• Protecting and restoring wild populations before they become listed helps preserve fishery management options, which generally become more restrictive once a populations is listed as threatened or endangered.
• Regulations such as angling deadlines to protect spawning areas, selective fisheries that limit harvest to hatchery fish only, shorter seasons and reduced bag limits are all tools used to keep fishing opportunities while reducing risks to wild populations.

Better understanding of the relationship between wild and hatchery fish

Fish Hatchery Management Policy, Hatchery and Genetic Management Plans
• Over the last few decades, ODFW has been changing hatchery programs to reduce the potential negative impact hatchery fish can have on wild fish populations.
This has included adopting many of the general recommendations of the Hatchery Scientific Review Group, which in 2009 completed a comprehensive review of several hatchery programs.

- The emphasis has been on making adjustments to reduce interactions between wild and hatchery fish, rather than reducing or eliminating hatchery programs.
- These changes have included releasing older, migration-ready smolts to reduce in-stream competition, fin-clipping hatchery fish to allow harvest of hatchery fish only, and adjusting acclimation sites to intercept returning hatchery adults before they reach spawning areas.
- Changes in hatchery programs have caused some changes in fisheries. For example, returning adults now congregate near the sites where they were released as smolts rather than being more widely distributed throughout the river. The goal is to help increase the harvest of hatchery fish and thus reduce the interactions between wild and hatchery fish on the spawning grounds. Several studies have shown that when hatchery fish successfully spawn with wild fish, reproductive success with the wild fish population declines.
- Scientists at the Oregon Hatchery Research Center (OHRC), a cooperative effort between ODFW and Oregon State University have been studying questions related to fish recovery and hatchery programs, including the differences that may exist between wild and hatchery fish, and how to better manage those differences. For example, recent studies have looked at ways to increase angler harvest of hatchery fish before they reach the spawning grounds by acclimating fish lower in the river.
- The best long-term solution to stabilize fisheries is to restore wild salmon and steelhead populations to harvestable levels, and to implement responsible hatchery management programs to minimize impacts to wild populations while still enhancing fishing opportunities.

**Unpredictable ocean conditions**

- Changing ocean conditions can have a huge impact on how many fish return to the river to spawn and are available for harvest.
- These conditions, primarily water temperature, food availability and predator distribution can be cyclical – better in some years, worse in others – causing significant changes to a fishery from one year to the next.
- When ocean productivity is low, the number of adult fish returning to spawn is low. This holds true no matter how many juvenile fish emerged from the spawning grounds or were released from hatcheries.
- Many of the best years for fishing (as measured by number of fish harvested) occurred during upswings in ocean conditions.