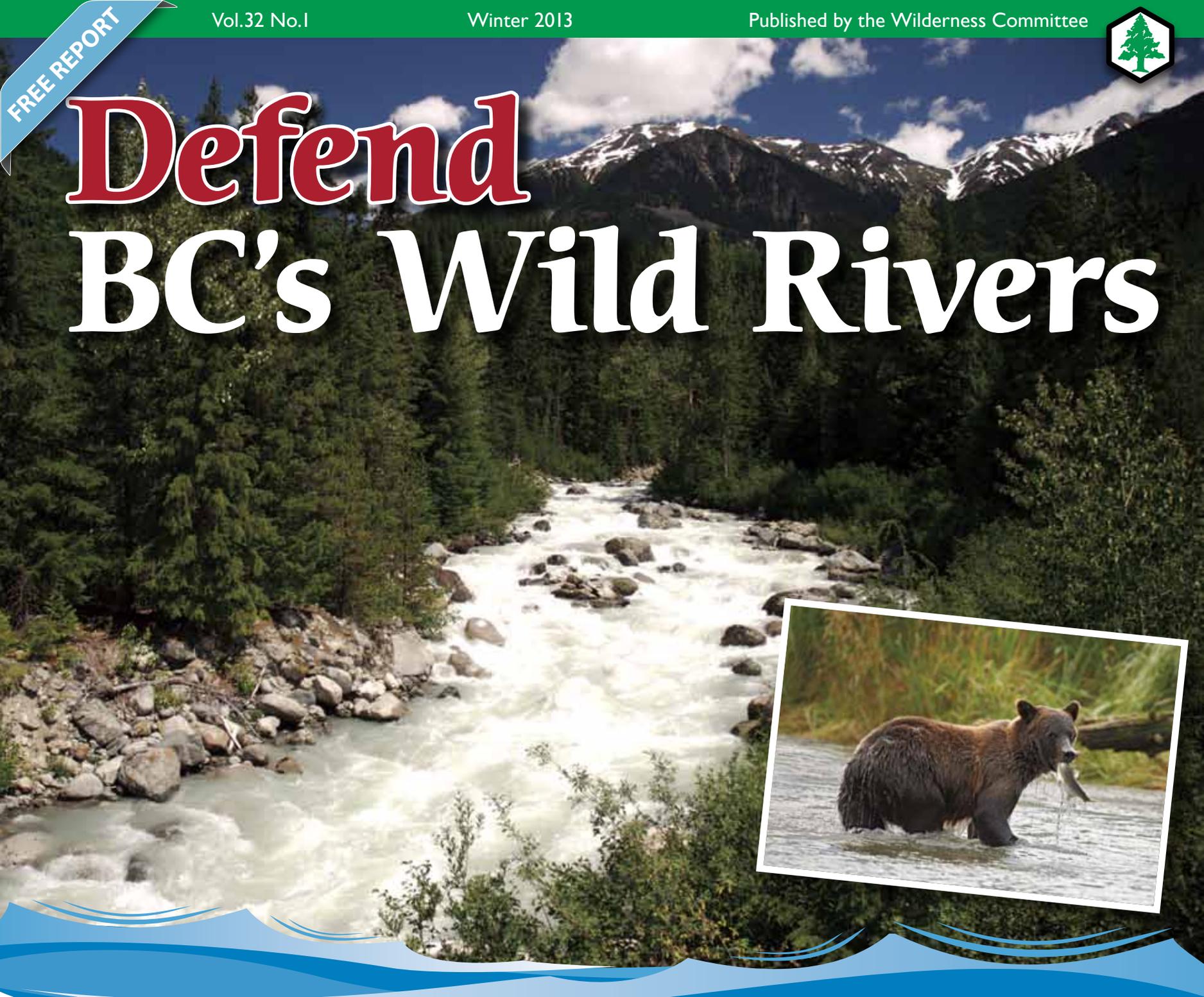




Defend BC's Wild Rivers



Pulling the plug on private power



Gwen Barlee
Policy Director,
Wilderness Committee

Billy Goat, Kookipi, Big Silver, Kokish and Volcano – these interesting names are just a handful

of the 800 wild streams and rivers that have been staked for private hydro power development across British Columbia over the last decade. Triggered by the 2002 BC Energy Plan, which forbade BC Hydro from producing new sources of electricity¹, BC rivers have been snapped up by industry giants such as General Electric, Brookfield Asset Management and Innergex.

The move to stimulate private power projects – also known as independent power projects (IPPs) – was promoted as tackling climate change. But in reality it had little to do with producing low-carbon energy, as the BC government at the time was actively opposed to implementing the Kyoto Protocol. Instead the plan was focused on electricity privatization and deregulation – twin concepts sweeping

North America at the time. Today, because of that horribly misguided energy policy, **BC Hydro is now on the hook for over \$50 billion – yes billion – in energy purchase agreements to IPPs.**²

To make matters worse, the electricity produced by IPPs was never really meant for BC. Much of it was slated to go south to California. However, California doesn't consider river diversion energy to be "green" and they won't pay a premium for it.

So here we sit, with a publicly-owned utility saddled with an enormous debt for expensive power we don't need. Plus, it comes at the wrong time of the year, during late spring snow melt instead of winter when power needs are highest. BC Hydro, once the envy of North America for providing us with reliable low-carbon electricity, now hovers on the edge of bankruptcy.

This is a major concern for the Wilderness Committee, because a healthy, viable BC Hydro is one of our best tools against climate change. And far from addressing climate change, Clean Energy BC (a lobby



group representing IPPs) is advocating for their electricity to be used to power liquid natural gas (LNG) terminals. If plans for these energy-intensive terminals go ahead, we would massively exceed BC's greenhouse gas emission reduction targets – making a mockery out of our efforts to address global warming.

In addition, **confidential government documents**

uncovered by the Wilderness Committee have revealed serious and ongoing environmental non-compliance at IPPs.

By becoming educated about IPPs, the impact on our wild rivers and the threat to BC Hydro, we can promote truly sustainable energy practices and make smart decisions through proper

Photo cover: Boulder Creek, part of the recently-approved Upper Lillooet IPP (Jeremy Sean Williams), **cover inset:** Grizzly bear (Robert McCaw). **Above, left:** Construction at Upper Harrison IPP (Gwen Barlee), **right:** Wolf (Glen & Rebecca Grambo), **below:** Sockeye salmon (Chris Cheadle).

planning, increased democracy and robust environmental standards.

Read this paper to find out:

- ➔ How we can protect our wild rivers and safeguard BC Hydro
- ➔ What confidential government documents revealed about environmental accidents at IPPs
- ➔ How recent changes to federal environmental laws have put more of BC's rivers at risk
- ➔ How a change in the definition of "self-sufficiency" could change the landscape for river diversion projects in BC

\$50B
BC Hydro is now on the hook for over \$50 billion – yes billion – in energy purchase agreements to IPPs

"The private sector will develop new electricity generation, with BC Hydro restricted to improvements at existing plants."
- BC's 2002 Energy Plan³

Not playing by the rules

When people in BC first heard of river diversion projects, they were told that they would have a small environmental footprint and wouldn't be located in fish habitat. Unfortunately, that's not the case.

original riverbed. Astoundingly, companies have refused to leave adequate water for fish because of the significant financial incentive to divert water to increase power production.

An even greater problem is that there's no provincial planning process in place for IPPs in BC. Environmental oversight by government authorities has been rendered ineffective after years of cuts to staff and the

dramatic weakening of environmental regulations at both the provincial and federal level. Despite rock-bottom environmental standards and poor enforcement of existing laws, IPPs are exempt from the Forest and Range Practices Act because they are considered "minor tenures." This exemption means IPPs have been allowed to cut down trees right to the edge of stream banks and log in Old-Growth Management Areas without sanctions.

Given the considerable amount of non-compliance at operating Energy Management's project to dam and divert the river. This was just months after the Outdoor Recreation Council of BC identified the Kokish as one of the most endangered rivers in the province.

Even aside from their impact on fish, river diversion projects are far from green. Each project comes with transmission lines up to hundreds of kilometres in length, and involves blasting, new road networks, logging and tunneling. Up to 98 per cent of the river's flow can be diverted, leaving just a trickle of water in the

biologists in BC and dramatically weakened the Canadian Environmental Assessment Act,

What is continually overlooked is that the Kokish River has highly sensitive fish and fish habitat and the project has a potential high scale of negative effect."
-Department of Fisheries and Oceans (DFO)*

Research by Watershed Watch found that **over 70 per cent of run-of-river IPPs are located in known or suspected fish habitat.** A case in point is the recently approved Kokish River project on Vancouver Island – a river with five species of wild salmon, two endangered runs of steelhead, Dolly Varden trout and eulachon. Despite the protests of thousands of people and scores of community groups including the BC Wildlife Federation, BC Federation of Fly Fishers and the Steelhead Society, both the provincial and federal government authorized Brookfield Renewable

*This is a high risk project, in that the subject effects of plant operations (ramping) have led to multiple occasions of death to juvenile anadromous salmonids (chum, Chinook and coho fry)." -DFO*⁷

*BC government documents showed over 700 incidents of non-compliance at 16 IPPs on the south coast in 2010 alone.*⁹



Photo above: Pipe at Kokish River IPP construction site (Jeremy Sean Williams), right: Sockeye salmon (Dale Sanders).



Thousands of pages of government documents uncovered by the Wilderness Committee revealed serious and ongoing problems at river diversion projects in BC. The documents showed "considerable non-compliance with managing flows for fish on operating projects," that projects are "increasingly in sensitive fish habitats," that industry best practices are "inadequate and inappropriately applied" and that government oversight of the industry is wholly deficient. Indeed, a recent Freedom of Information (FOI) request found companies that were out of compliance with their water licences for weeks and months at a time.

removing 492 projects from CEEA oversight – including many IPP projects. They also eviscerated the Navigable Waters Act, which previously applied to thousands of water bodies across Canada; today only 97 lakes and 62 rivers are covered by the Act.^{10, 11}

Hydro IPPs in BC
Operating = 45
In development = 33
Applications = 800+



Photos (from left): The iconic Keyhole Falls will be reduced to a trickle by the Upper Lillooet IPP (Jeremy Sean Williams), Construction at the Kokish River IPP (Jeremy Sean Williams), Bald eagle (Jakob Dulisse).

BC Hydro: Protecting our best tool against climate change

BC Hydro is the public utility that produces electricity from the province's large heritage dams, and it is owned by the people of British Columbia. For over 50 years it has provided us with reliable low-carbon electricity and has annually returned hundreds of millions of dollars to public coffers for our schools, libraries and hospitals.

Today, BC Hydro is in big trouble. Forced to issue energy purchase agreements to IPPs, BC Hydro is now on the hook for over \$50 billion in contractual obligations for energy that comes at the wrong time of the year and is surplus to our needs.¹² This massive financial obligation means rate increases that will show up on your hydro bill. Even worse, BC Hydro was forced to issue these contracts to IPPs

at far above market value. Right now there is a glut of hydroelectric power in the Pacific Northwest, so much so that the Bonneville Power Authority in Oregon last spring paid – yes, paid – other utilities like BC Hydro to take power off their hands. Astoundingly, BC Hydro couldn't take advantage of this golden opportunity because of its contractual obligations to buy high-priced, intermittent power from IPPs.¹³



In this paper...
Ashlu, Upper Harrison, Kokish, Upper Lillooet

FYI: lotsa dead fish from yesterday's Ashlu episode. ...will be interesting to see DFO's response."
-BC Ministry of Environment correspondence¹⁴



Photo top: Protest against proposed Glacier/Howser IPP (Gwen Barlee). Above, left: Ashlu Creek IPP during construction (WC files), right: Ashlu Creek before construction (Steve Rogers).

Do we need the power?

For the most part, BC's electricity needs are covered by existing hydroelectric infrastructure. Over the past 33 years, there have been only five years in which BC has imported more electricity than it has exported. When trade deficits do occur, private run-of-river power is not helpful, as BC Hydro considers it an intermittent supply with low dependable capacity. Furthermore, the contractual obligations with IPPs in BC have actually prevented BC Hydro from being able to access far cheaper, low-carbon power from the Pacific Northwest.¹⁵

In the last call for power BC Hydro paid \$124 per megawatt hour for IPP energy¹⁶, when electricity during the spring at power trading stations in the Pacific Northwest was going for \$20 per megawatt hour, and at times entering into "negative pricing." High-priced contracts with IPPs are actually preventing BC Hydro from buying and storing such low-cost, low-carbon electricity from the open market.

It's a recipe for financial disaster. If we do need more power BC Hydro has many options, including implementing better conservation measures, buying cheaper power on the open market, or accessing the 4,000 GWh of electricity we are entitled to through the Columbia River Treaty – reliable electricity that would meet BC's energy needs much better than the very expensive and "soft" private power that BC Hydro has been required to purchase.

Although BC Hydro has recently forecast an increase in electricity demand, most of that projected increase is from proposed industrial development including new mines, pipelines and liquid natural gas (LNG) terminals.¹⁷ Most of these industrial projects shouldn't go ahead, due to the associated water pollution and greenhouse gas emissions. But even if they do proceed, IPP energy won't be running these developments because it is too unreliable and intermittent for producers to depend upon. ...plus, it's considered far too expensive.¹⁸

The Kokish River

The Kokish River, near Port McNeill on Vancouver Island, is a river that should have always run wild. Home to five species of wild salmon, two endangered runs of steelhead, cutthroat trout, Dolly Varden and eulachon, this river is the epitome of sensitive and high-value fish habitat. Astoundingly, the 45-megawatt (MW) project currently being built on the Kokish would see almost the entire length of the 10 km main stem of the river put into a pipe and diverted. The 9 km diversion reach is important rearing, spawning and migration habitat for both salmon and steelhead – including a rare summer run of steelhead.

The industrialization of this river by industry giant Brookfield is troubling given the serious concerns voiced by Department of Fisheries and Oceans (DFO) staff in BC, not to mention the opposition of thousands of citizens, scores of conservation and outdoor organizations and wilderness tourism businesses.

River diversion projects were never supposed to be situated in fish habitat – let alone extremely high-value fish habitat like the Kokish River.

Based on a rating of 'high' for incidents and non-compliance for similar IPP projects, and as this project is located within a much higher valued watershed supporting all five Pacific Salmon species including summer and winter steelhead populations, the Risk Assessment for this project using the Habitat Management Risk Framework results in a rating of 'Significant Negative Effects'.¹⁹ -DFO



Legend
• Applications for Private Hydro Power Water Licences
• Existing Private Hydro Power Water Licences



Electricity “self-sufficiency” The devil is in the details

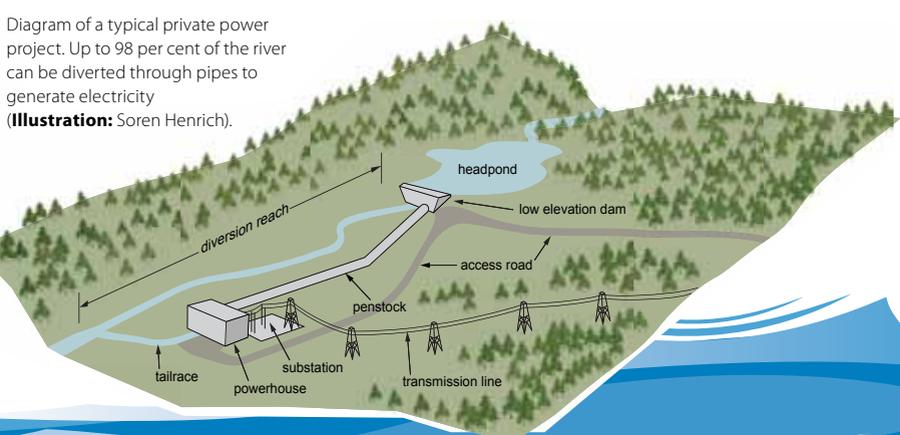
Electricity “self-sufficiency” sounds like a good thing...right? Your head-nodding reaction is what the BC government was counting on when it said BC must be “self-sufficient” in electricity in the 2010 Energy Plan.

However, the way the BC government defined electricity “self-sufficiency” forced BC Hydro to plan as if every year would be a critical low water year.²⁰

“If it doesn’t change, it would be hundreds of millions of dollars per year that we would be spending of our ratepayers’ money with no value in return...The way the self-sufficiency policy is defined right now ...would require us to buy far more long-term power than we need.”
 – BC Hydro President Dave Cobb²¹

This neat trick required our public utility to buy far more electricity than it needed from IPPs, regardless of the price. This excess energy was to be sold to California but our neighbours to the south don’t consider river diversion

energy to be green, and they won’t pay a premium for it. Given poor export market conditions for electricity, last year the BC government changed the definition of self-sufficiency so BC Hydro only had to plan for “average” water years. This simple change in definition dramatically reduced the amount of additional IPP energy BC Hydro was forced to buy, and it saved ratepayers billions of dollars.



Public good before private profits

The call to protect our watersheds, wild rivers and salmon from private power projects isn’t a rejection of green energy. Rather, it is an affirmation of the value that conservation, proper planning, high environmental standards, democratic processes and the continued viability of BC Hydro hold in the fight against climate change.

Protecting BC Hydro is a step in the right direction, but we need to do more. At the moment there are scores of unneeded river diversion projects that have contracts with BC Hydro but have not yet been built. If these proposals go ahead they would cost untold billions of dollars and further hurt the viability of BC Hydro. To protect our rivers – and our pocketbooks – these projects need to be stopped, and existing power contracts need to be opened up and examined to see if they are in the public good.



Photos this page (top to bottom): Glacier Creek in the Kootenays (Jakob Dulisse), Protest against proposed Glacier/Howser IPP (Gwen Barlee), Logging at Kokish River IPP (Jeremy Sean Williams), Morkill River (Paul Morgan).

Terms to know:

Ramping: River diversion facilities have the capacity to increase and decrease flow levels in the diversion reach and downstream of the powerhouse (see diagram above). The rate at which these fluctuations occur is called the “ramping rate”. Most IPPs have designated ramping rates because ramping too quickly can lead to stranding and killing fish, which has happened at multiple IPPs in BC.

IFR: Refers to the *Instream Flow Requirement*. This is the amount of water left in the diversion reach (see above) of a run-of-river project after diversion. There is a considerable financial incentive for the proponent to have very low IFRs because more water diverted means a higher profit margin. Low IFRs can magnify the impact of ramping incidents.

Take Action!

People working together kept the Upper Pitt River, and Glacier and Howser Creeks running wild – and you can help us do the same for scores of other wild rivers that are at risk. Contact BC’s Premier and the Leader of the Opposition, and urge them to enact an immediate moratorium on IPPs in British Columbia.

We have the ability to do green energy the right way in BC. We can start by putting the public good and our wild rivers ahead of private profits.

Letters written before an election can have a big impact, so write the Premier today!

write today!

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WildernessCommittee.org · 1-800-661-WILD (9453)

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- It is extremely unlikely that developers would be willing to pay \$125/MWh for IPP energy, if they can access the “heritage rate” of \$40/MWh that BC Hydro provides large industrial customers, or in the case of LNG terminals, natural gas generation which runs between \$50-70 MWh.
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Yes! I Want To Defend BC's Wild Rivers!

clip
 And return to the:
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