**“Glen’s Parallax Perspectives”** is a series of TV programs offering fresh ways for people to see issues such as foreign policy, social and economic justice, governmental functioning, and so forth. We provide voices and viewpoints that are rarely heard in mainstream media.

**Mainstream media, politicians, and culture see the world in conventional ways. In order to solve problems, we need to see things differently.** Glen Anderson created this TV series to help people see things differently so we can solve problems at all levels from the local to the global.

This series title refers to “Parallax Perspectives.” ***Parallax*** is the view you get by looking from different perspectives. For example, put one finger in front of your nose and another finger farther away. Close one eye. Then open that eye and close the other. Your fingers will seem to move. This is called a “parallax” view. **This TV series invites you to look at issues from fresh perspectives.**

Each program airs three times a week (currently every Monday at 1:30 pm, every Wednesday at 5:00 pm, and every Thursday at 9:00 pm) for the entire month on Thurston Community Television (TCTV), channel 22 for cable TV subscribers in Thurston County, Washington. You can see TCTV’s current schedule at [**www.tctv.net**](http://www.tctv.net). This is part of Thurston County Media,[**www.tcmedia.org**](http://www.tcmedia.org).

**You can also watch the program described below through your computer** at [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org). All episodes of “Glen’s Parallax Perspectives” are posted on this blog’s “TV Programs” part and also in one or more of the categories listed in the right side of the computer screen. Also, see much information about a variety of issues grouped by topic at [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org).

🡪 Please invite other people to watch this video at the “TV Programs” part of [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) and/or read this thorough summary there.

🡪 The end of this document offers more information about this TV program’s topic.

**Here is this month’s program:**

**“Solving Local Environmental Problems”**

by Glen Anderson, the TV series’ producer and host
(360) 491-9093
**glenanderson@integra.net** [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org)

This summary includes a few additional bits of information beyond what we had time to say during the one-hour interview.

The January 2019 interview on “Glen’s Parallax Perspectives” TV series provides information and insights into some local environmental issues. Although these examples come from Olympia, Washington, the basic principles will likely be relevant to other locations.

We identified some problems and proposed some solutions. We relied on science to help us understand the problems and the solutions. We explained the science clearly so anyone can understand.

Glen mentioned that in order to solve the problems, we need everybody’s help, including people who have not already participated in environmental organizations.

**Two guests helped us explore these problems and solutions:**

I appreciate the great work that both Sue Patnude and Daniel Einstein have been doing, so I am happy to welcome them to this TV interview.

* **Sue Patnude** grew up in Grays Harbor County. She has a master’s degree in public policy. She has worked extensively in public policy related to science and the environment for 30 years. She has served as a Regional Director for eight counties at Washington State’s Department of Fish and Wildlife. I met Sue many years ago when she was working in the office that the South Puget Environmental Education Clearing House (SPEECH) used to have on W. 4th Ave downtown. Now she is the Executive Director of the Deschutes Estuary Restoration Team. Sue is always good to work with.
* **Daniel Einstein** has a Ph.D. in Bioengineering from the University of Washington. He is an assistant professor of mechanical engineering at St. Martin’s University. He used to be a scientist at the Pacific NW National Laboratory. Before that he was a scientist at the Children’s Hospital at Los Angeles. Before that he was a research scientist at the Cleveland Clinic in Cleveland, Ohio. Daniel works actively to protect our local environment, especially through the Olympia Coalition for Ecosystems Preservation.

Both Sue and Daniel have solid technical knowledge, but they explained everything clearly so laypeople will understand. We started by helping our viewers understand some basic concepts before we explored the substance of local environmental problems and solutions.

The science and the environmental problems and solutions are relevant for other areas, even though our specific cases are located in the Olympia, Washington, area.

**What is an “ecosystem”?**

When we were preparing for this interview, Daniel mentioned that people are concerned about protecting the rainforest in the Amazon region, and – likewise – we need to protect our own very local ecosystems. During the interview he explained that an “ecosystem” is “a web of interconnections” that includes biological, physical and chemical interconnections that “support life in balance.” We can see the physical aspects (birds, fish, trees, and so forth), and there also are aspects that we don’t see (soil chemistry, underground fungal networks, and so forth). “Each one depends in some way on the other.”

Glen affirmed that “we need a systems approach” in order to understand the whole thing. This is true for understanding ecosystems in the Olympia area or anywhere else on earth.

**What does the concept of “sustainability” mean?**

We discussed another basic concept – “**sustainability**.” Sue explained that the concept of sustainability wants an ecosystem “to be healthy enough to keep us going for a long period of time.”

She said future generations “should also have the opportunity to experience the ecosystem, as we have.” She gave the example that when she was a kid she got to see salmon in the stream, but today kids “do not have that experience because parts of the ecosystem have failed, and salmon are not as plentiful” as before.

**Discuss the role of honest “best available science” in dealing with the environment.**

For any subject in the natural world, a lot of good scientific information exists. Experts say we should use what they call “**best available science**” when devising public policy. Daniel explained that many public agencies require that public policy be based on the “best available science.” He said each word (“best” and “available” and “science”) is important.

He explained that science is the method for making decisions based on observable data. An important aspect of science is that it is reproducible – repeatable – by other scientists who will get the same results. This is a way to keep science honest. “Science is humanity’s best approach at establishing what truth is in a physical environment.”

Daniel said another important aspect is that the findings are “peer-reviewed.” [Although we did not take time during the interview to explore this aspect, basically it means that other scientists examine the findings, the methodology, and so forth, and comment on the quality of that research. Scientists discuss with each other through “peer-reviewed” professional journals and in other ways. This provides checks and balances, so we come closer and closer to truth.]

Glen asked Daniel to clarify for our viewers how to understand the way scientists speak and write about their findings. Often they report their findings in terms of probabilities and likelihoods. But then climate deniers and other opponents of honest science wrongly claim that such wording means that the scientist are not really confident in what they’re saying.

Daniel explained that “scientific hypotheses are typically not binary. They have measurable outcomes.” Those measurements are assessed using a statistical methods that establishes the confidence of outcomes based on probabilities.

He said that regarding “best available science,” people do understand that the legal arena uses the concept of “beyond a reasonable doubt” and “the preponderance of evidence.” These kinds of criteria also pertain to science. The legal concept of “the preponderance of evidence” does not mean that everybody must agree. Generally people agree what the evidence represents. “Our decisions are based on the scientific method, and the scientific method views everything within a statistical framework.”

Sue added that after other scientists have reviewed the science, it becomes established so it can be developed into public policy.

Glen said that during one of our weekly peace vigils he was holding a sign supporting the climate. A pedestrian walked by and said very derisively, “Science: Bah! That’s just some guy’s opinion!” He was not making a joke. His tone of voice showed utter contempt for science – and a profound ignorance of the scientific method. [We did not mention during this interview that his attitude and ignorance are driving public policy now. Well-established methodologies and the practice of “peer review” are remedies for that pedestrian’s misunderstanding. No scientist can get away with publishing “just some guy’s opinion,” because other scientists would expose and rebut it.]

Daniel added that we do not need to perfectly understand everything in order to accept a scientific principle. He said Isaac Newton proposed the theory of gravitation in the 1600s. Not until a hundred years later did Cavendish measure “the big G” -- the “universal gravitational constant.” Since then, the “universal gravitational constant” has been measured and re-measured thousands of times, most recently in 2014, but there is no solid consensus of what that universal gravitational constant actually is. And yet we use gravity in our daily lives. We base engineering and scientific decisions on it.

Daniel said that by temperament, scientists are unwilling to say they are 100% sure of anything. Glen said, “And that modesty works.” Daniel agreed.

**Besides the science, what other factors matter? Let’s consider our best values, public
access, local economics, public participation in a democracy to shape public policy, etc.**

Glen said that besides discussing specific facts, our interview should also see the “big picture.” We discussed understanding science, seeking what’s good for our local community and our economy, protecting the public’s access to our local environment, and urging the public to shape public policy. These and other aspects of the “big picture” matter.

Sue said that for an ecosystem to be healthy, all of its parts need to fit together properly. She said Steh-Chass is the indigenous name for Budd Inlet and the Lower Deschutes watershed. She said that some parts of that ecosystem are not working properly, so that “brings the whole system down.”

Daniel said a “big picture” view would take in all of Puget Sound, which itself is a huge estuary. He said, “Our local ecosystems are essential parts of that larger ecosystem.” At an even bigger “big picture” scale, we should consider that the ocean is becoming warmer and more acidic, and that it contains more dissolved carbon dioxide and less dissolved oxygen. Also, at a global level it is absolutely necessary to consider climate change.

Glen agreed and said that the “climate change” that’s happening is not a nice, orderly “change,” but rather climate **disruption** and climate **chaos**.

**Overview of the Deschutes River Estuary, Capitol Lake, and Budd Inlet**

Glen said that “Capitol Lake” is not really a lake because Mother Nature did not put it there. Rather, Mother Nature created the Deschutes River with an estuary so the river could interact with Budd Inlet and Puget Sound. In 1951 the State of Washington built the 5th Avenue Dam to block the estuary. He said that the planning was so bad that it did not even occur to them that they should include a fish ladder. The fish ladder was added later.

**Water quality in Deschutes Estuary, Capitol Lake, Budd Inlet: Remove 5th Ave Dam so Deschutes Estuary can flow freely.**

Sue explained the water quality problems that the 5th Avenue Dam and Capitol Lake have caused. She said Capitol Lake is really “a sediment reservoir.” It was built in order to prevent sediment from flowing into Budd Inlet. She said the Deschutes River brings down about 35,000 cubic yards every year, on the average. Capitol Lake is actually very shallow. The Deschutes River flows into it, but there is not a natural flow out of it into Budd Inlet and Puget Sound. Without natural water flow, the edges of the water are still, and they hold invasive species, such as milfoil and the New Zealand mud snail. Now the lake is too dangerous for people or dogs or boats to enter.

She explained the concept of “Total Maximum Daily Load” (TMDL). Studies of the river, lake and Budd Inlet have identified how much pollution these can deal with. Water quality has been seriously hurt.

Daniel said that the 5th Avenue Dam has reduced the amount of dissolved oxygen in Budd Inlet’s water. He said, “Dissolved oxygen is basic to marine life. All forms of marine life need dissolved oxygen,” just like all forms of life who live on land need oxygen. He said, “Budd Inlet is the fourth most compromised waterway in all of Puget Sound in terms of low dissolved oxygen. It’s really serious.” He listed a number of species that are especially dependent upon dissolved oxygen and are especially hurt by the low levels of dissolved oxygen. These species include many that live in the water and also shorebirds and other species that depend on water-based species. He said the amount of dissolved oxygen in a body of water has ramifications for the entire food web.

[One of the guests provided this resource from the Washington State Department of Ecology, but we did not have time to mention it during the interview:] **<https://fortress.wa.gov/ecy/publications/SummaryPages/1503002.html>**

[We did not have time to mention that nitrogen pollution from other parts of Puget Sound come to Budd Inlet.]

**Let’s understand what estuaries are and how they work.**

Sue explained that an estuary is the mouth of a river, where the river meets the sea. The fresh water river interacts with a salt water marine environment. Olympia’s 5th Avenue Dam disallows that function, “so the estuary is not there anymore.”

She said that when salmon return to their rivers and streams, estuaries help them transition their bodies from living in salt water to living in fresh water, but the 5th Avenue Dam interferes with that transition.

Also, Capitol Lake, which is really a sediment reservoir, grows a mass of invasive plants. When those plants are alive and growing, they put oxygen into the water, but when those plants die, they release carbon into the water and into the atmosphere. The carbon that flows into Budd Inlet disrupts that water quality. If Budd Inlet had salt marsh habitat – which a natural estuary would provide – that carbon could be sequestered when the salt marsh plants draw the carbon down into the mud and store it there. Plankton in the mud consume that carbon, and the plankton are food for the fish coming through, so they start the web of life. She said this concept of sequestration in estuaries is called “blue carbon.” The 5th Avenue Dam interrupts and prevents that natural flow of carbon and life. For more information about “blue carbon” (sequestering carbon in estuaries) as a way to mitigate climate impacts, see [**www.restoreamericasestuaries.org**](http://www.restoreamericasestuaries.org)

Glen mentioned that an estuary is interactive, with fresh water flowing down into the salt water, but also salt water flowing up when tides are high. That rich interaction generates a lot of biological activity, a lot of nutrients, and a lot of rich habitat and biological diversity. Sue agreed and said that estuaries are probably the most productive habitat that we have. She agreed with Glen’s statement that “we foreclosed that option by putting the dam in the way.”

**Deschutes Estuary Restoration Team (DERT):**

Glen expressed support for the great local non-profit organization for which Sue works. For about ten years the Deschutes Estuary Restoration Team (DERT) has been working toward removing the 5th Avenue Dam and restoring the Deschutes Estuary to healthy functioning. People can get easy-to-understand information from DERT’s website, [**www.deschutesestuary.org**](http://www.deschutesestuary.org)

He said that when he was producing the TV series for the Olympia Fellowship of Reconciliation, he interviewed two of DERT’s board members, Helen Wheatley and Dave Peeler, for the December 2014 TV program, “Restoring the Deschutes Estuary to its Natural Flow.” Helen and Dave explained the science very clearly so everyone can understand. People can watch that interview and read a thorough summary of what we said through Glen’s blog at [**http://parallaxperspectives.org/tv-restoring-the-deschutes-estuary-to-its-natural-flow**](http://parallaxperspectives.org/tv-restoring-the-deschutes-estuary-to-its-natural-flow)

People can get easy-to-understand information from DERT’s website, [**www.deschutesestuary.org**](http://www.deschutesestuary.org). Sue explained that DERT is working to remove the dam, let the river flow into Budd Inlet, re-create a functioning estuary, and restore the Deschutes watershed. DERT always needs to raise money.

They are encouraging the Environmental Impact Statement (EIS) being developed by the state agency with primary responsibility for Capitol Lake, the Department of Enterprise Services. She explained that this state agency is responsible for managing facilities such as state-owned buildings, so they manage it as if it were a building. Glen explained that the Legislature created DES to pull together a large number and variety of administrative functions into one large agency, but DES does not have the environmental consciousness or the environmental expertise necessary for managing Capitol Lake.

Sue said DES’s EIS is trying to figure out what to do with the lake (the sediment reservoir). One option is to continue the status quo and “manage” the lake by dredging it occasionally. Another option would be to create a small fresh water pond to reflect the Capitol Building, and to remove the dam and restore the estuary. The third option is “a full-blown estuary restoration.” DERT is watching the EIS process.

**We further explored the concept of “Total Maximum Daily Load” (TMDL) and various kinds of pollutants in our waters.**

Sue explained that the Environmental Protection Agency (EPA) regulates TMDL and counts on the State of Washington to implement environmental protections. The State identifies a list of water bodies that are compromised and should be studied for TMDL. The studies determine how much pollution a water body can take without suffering even more serious damage. The process allocates different amounts of pollution to different kinds of discharger (agriculture, municipal dischargers, stormwater, and so forth). She said DERT is paying attention to that.

Daniel added some information relevant to TMDL that also pertains to toxicology in general. He said the TMDL does not establish what is harmless, but rather what is tolerable. How much is tolerable? That’s a debatable point and is a policy decision.

Glen asked Daniel about other pollutants in Budd Inlet’s water, such as dioxin and PCBs, both of which are horribly dangerous to our health. Daniel said those are “legacy chemicals,” toxins that are persisting “after Olympia’s industrial past.” He said, “Dioxin is most famously associated with Love Canal.” It can come from various sources, but here it is likely to come from treating wood, making plywood, and so forth. He said that a major challenge for both dioxin and PCBs is that “they persist in the environment for a very, very, very long time.”

Glen mentioned that for decades the local and state governments have said they are cleaning up the toxic pollution, but it persists anyway. Daniel agreed and said dioxins are persisting in our shorelines’ soils all throughout Olympia. Most significant for Budd Inlet is that dioxins are persisting in the sediment. Dredging in Budd Inlet stirs them up and exposes them to our local environment. We might be safer with no dredging so they will not be stirred up and further exposed to us.

Daniel said that Olympia and many other cities on Puget Sound have industrial pasts. This is important for our concern about all of our ecosystems.

One problem is the concept of “bio-magnification.” When a toxin enters the food web through sediments or in other ways down near the bottom of the food web, planktons eat them, and fish and other marine animals eat those planktons, and on up the chain to salmon and orcas and human beings. The dioxins persist and contaminate all who eat. He said dioxin is in the egg shells of our local great blue herons. The problem is not localized.

[We did not have time to point out that there is no real remedy for dioxin and PCBs. Likewise, there is no real remedy for nuclear waste. We must prevent these kinds of pollutions, since we can’t really clean them up after the fact.]

**Protect waters from stormwater runoff.**

A major source of problems in our local water – in Capitol Lake, Budd Inlet, and Puget Sound – is water that flows downhill from everywhere and ends up in these waters. Stormwater is a problem that contains toxins, including toxins from our driving habits, including tiny particles from tires. It is the biggest source of pollution in Puget Sound. It is very treatable with very simple technology. Stormwater has many non-point sources, so that adds complexity. But storm water is treatable.

Daniel said stormwater is full of urban runoff, including by-products from the combustion of our cars’ gas, leaks of automobile oil, and various kinds of metals, and many, many other kinds of pollution. He said, “Stormwater is the largest source of water pollution in Puget Sound.”

Glen added that tiny, tiny microscopic fragments of our automobile tires are a serious source of that pollution. Daniel agreed. He said that researchers at Washington State University have been trying to identify which specific kinds of chemical pollutants are hurting salmon the most nowadays. Daniel also said, “Coho salmon are particularly sensitive to stormwater runoff.”

Glen said that the public should not feel so overwhelmed by the problems that people shy away from solving them. This interview needs to explore how to solve the problems we’ve been discussing. How could we reduce pollution from stormwater runoff?

Daniel said the solution is very well known and has been well known for a very long time. We can use nature to treat storm water. Rain gardens at residential or neighborhood levels can detoxify the toxins in runoff. Stormwater retention ponds and saltwater marshes work too. Microbes do the work. Fungi in the soil around native plants detoxify stormwater to a great extent.

He said researchers have exposed coho salmon to stormwater runoff from I-5, and they die rapidly. But they ran an identical sample of that stormwater runoff through a column of green mulch, wood chips and soil, and when they exposed other coho salmon to the water that had been treated in this simple, natural way, those salmon did not die.

He said the solutions already exist. “As citizens we need to take responsibility for our own stormwater,” and he urged local governments to take responsibility for the community scale.

Sue added that prevention is important too. She said people should not put “Weed and Feed” on our yards, because that puts more nutrients into the groundwater and ecological system.

[We did not have time to say that some of the newest neighborhoods have better standards than old neighborhoods, so many old neighborhoods need to be retrofitted.]

[We did not have time to say that St. Martin’s University uses a number of storm water retention ponds that serve the entire campus and Lacey City Hall.]

[We did not have time to further discuss the need for communities and local governments to take responsibility for their own storm water. The State needs to do a better job of regulating and issuing permits for storm water. About 40 outfalls dump into Upper and Lower Capital Lake. About 2/3 come from the State Capitol campus. Let’s deal with that.]

More information is available at two websites:

[**http://www.wastormwatercenter.org/jenmcintyre/**](http://www.wastormwatercenter.org/jenmcintyre/)

[**http://www.washingtonnature.org/cityhabitats/**](http://www.washingtonnature.org/cityhabitats/)

**Salmon**

We talked a bit further about salmon. People know that the sharp declines of salmon are a problem, but they might not understand WHY salmon runs are decreasing. We need to educate the public about that.

Sue said that the decline in salmon population is hurting the Southern resident orcas, for whom salmon is their primary food source. The State of Washington has a task force studying the problem, and Sue said that on the day we taped this interview (December 13, 2018), Governor Jay Inslee announced a budget proposal to deal with that.

Sue said there are many reasons why salmon are not returning here to spawn. Juvenile salmon have great difficulty getting out into the ocean to grow. Problems exist way out in the ocean too.

[We did not have time to say that salmon have serious difficulty swimming through Puget Sound and Budd Inlet so they can go upstream and spawn.]

[We did not have time to say that Olympia’s coho Salmon run is extinct in 2 out of 3 years. The third year has only a few fish.]

Glen said that multiple remedies exist, and we need to implement a variety of remedies, because each can help to some extent or in some ways.

**Southern resident orcas**

People also know that fewer orcas – killer whales – are living in Puget Sound. Their declining numbers point to problems. Daniel said that people are not talking enough about Puget Sound’s declining health as a significant reason for the orcas’ crisis. He said they spend part of the year in the Pacific near the Columbia River and farther south. During this time of year (December) they are in Puget Sound.

He said they feed exclusively on Chinook salmon. He said that many of the Chinook nowadays come from urban creeks and streams flowing into rivers (Green River, Puyallup River, etc.) that flow into Puget Sound. He emphasized, **“Sustainable cities are the key to the health of Puget Sound.”** He explained, “Cities have a dominant impact and influence on water quality. Water quality … affects everything in the marine life and marine web and beyond.”

He gave a local example that pertains to what Sue was saying about our own local estuary. “Our salmon have to run through this gauntlet of low dissolved oxygen and legacy contamination to move up the Deschutes River, to move up Percival Creek, and it’s really important to preserve the watersheds and the upper regions of those streams. But without addressing what happens in the city, there really is no sustainable future for our salmon runs.”

**Blue herons and other birds**

Glen said that we’ve talked about the water and the fish and orcas that live in the water, so we should talk more about the birds that spend a lot of time in the water and eat things from the water. He expressed appreciation for Daniel’s great work protecting habitat for blue herons and other birds who live in and near our waters. He asked Daniel to tell us about the birds in the context of what we’ve been discussing.

Daniel said, “The shoreline bird population in Budd Inlet has crashed in the last twenty years.” He said it has been dramatic and observable. In 2002 the City of Olympia commissioned a study to try to establish a baseline. This would not be an original baseline, since we were already in a post-industrial area. Our numbers now are only about 5% of what they were relative to that baseline from less than twenty years ago. “It’s been a catastrophic crash in shorebird population. It relates directly to all of these things that we’ve been talking about.”

Glen asked him about the habitat he has been improving on Olympia’s west side, running down to West Bay, to protect a safe place for blue herons and other birds and wildlife. Daniel provided context by explaining his organization, the Olympia Coalition for Ecosystems Preservation ([**www.olyecosystems.org**](http://www.olyecosystems.org)). They are an urban land trust. [We discussed the land trust concept a few minutes later.] Their mission is to protect, preserve and restore Olympia’s urban “ecosystems that include fresh waters, tidelands, shorelines, upland forests, and all of the watersheds associated with each of those.”

Specifically, they protected the breeding habitat of the Pacific Great Blue Heron. People see the herons foraging in our local waters. These birds like to be near the estuary “because it’s a particularly productive ecosystem for them.” Our local herons, the Pacific Great Blue Heron, is a unique sub-species found only in the Salish Sea. Only about 9,000 breeding individuals are left in the world.

One of the greatest threats to them that we can control is habitat destruction. Their habitat uphill from Olympia’s West Bay was going to be “developed,” but the community opposed that. Community members joined together and committed themselves to protecting that property and also to restoring it. “Restoration is an important part of this conversation. Conservation is no longer enough. We need to restore destroyed habitats in order to achieve that goal of being sustainable.”

Sue and Daniel added that we need to preserve habitats that are still intact.

Glen reminded people that this organization – the Olympia Coalition for Ecosystems Preservation – has the website [**www.olyecosystems.org**](http://www.olyecosystems.org). He said their website provides lots of good information. He also encouraged people to donate to both of the non-profit organizations we’re featuring in this interview, because they are doing significant work and they are always short of funding. The organization that Sue is representing is the Deschutes Estuary Restoration Team (DERT) at [**www.deschutesestuary.org**](http://www.deschutesestuary.org)

**Other “big picture” aspects, such as habitat, the ineffectiveness of “business as usual,” the climate crisis, and so forth**

After discussing some local environmental problems and solutions, Glen invited our guests to take a moment to consider another “big picture” view. These problems and solutions exist within a context of the climate crisis, sea level rise, economics, business pressures, people’s jobs and pocketbooks, and a variety of people’s interests, including their needs for various kinds of recreation. Other factors also include all levels of government, including local state and federal levels, the local tribes, and non-profit organizations.

Sue mentioned habitat. She said that what our society has been doing to protect Puget Sound has not been working very well, because Puget Sound is currently “in deep peril.” She said, “We need to change the way we’re doing business.” She said that she works closely with local Native American tribes that are proposing “a wholesale look at how we have done things and how to do them differently so we can start protecting our habitat and restoring the habitat that’s needed for bringing the salmon back.”

She said it’s “very, very, very important.” She said that the many policies, regulations, etc., and the “salmon recovery” money, the Puget Sound Partnership’s planning, and other official efforts have not yet solved the problems. We absolutely must do things differently now, especially with the climate crisis, warmer water temperatures, and sea level rise making things worse. She said that significant changes are necessary in order for our own survival too.

Daniel said climate change involves the increase in carbon dioxide in our atmosphere and the increase in average temperature. We need to make significant changes in public policy. Locally we need to restore our forests. Ice from Antarctica and from the world’s glaciers is melting rapidly, so that will add more water to the oceans, so the sea level will rise. “Olympia’s downtown will be inundated,” he said, so this really is an existential question for us. We need to ask seriously what we’re going to do about that. He also said that the issue is bigger than merely where we are going to live. The “legacy toxins” that he explained a few minutes earlier become even more relevant because when the water rises and inundates Olympia, those “legacy toxins” become more mobile and flow more directly into our living area. They will become much more difficult to clean up then, so we need to take smarter, more serious actions **now**.

[We did not have time to discuss the environmental importance of protecting environmental sustainability. In Washington state, technology is the #1 industry, and outdoor recreation is #2. Public waters are absolutely crucial, but now many waters are too polluted for boating or swimming. We need what one of our guests had previously called “the restoration economy.” Communities can indeed practice good environmental policies while maintaining healthy economies.]

**State and local governments affect the problems and solutions.**

Glen said that the issues we’ve been discussing need strong, effective actions by all levels of government. He said, “Right now the federal government is rushing as fast as they can in the wrong direction. They are deliberately trying to make things worse, and that is unconscionable.” He said state and local governments say some good things, but their actual effectiveness falls short of their nice statements. Glen asked Daniel about how well state and local governments have been functioning.

Daniel said that the problems are extremely complex, so he can’t give a single prescription. A lot of things need to be done by a lot of people, and we should do all of them. He said his non-profit organization is one way for ordinary people to take responsibility for solving problems, and to just do it. Some problems (*e.g*., the 5th Avenue Dam) are under governmental control, so they are beyond the scope of what ordinary people can solve. Glen said we can donate to the two non-profit organizations we’re featuring here, but some aspects of the problem are beyond our immediate control.

Daniel emphasized that “it’s really important for the community to understand that they must be involved in a very direct and concrete way in order for our local environment to be sustainable – and for our planet to be sustainable.” He said we are so interconnected nowadays that “everyone needs to do something now.”

Glen said that when serious problems require governments to take strong actions, the governments tend to create “blue-ribbon committees,” intergovernmental entities such as the Puget Sound Partnership, and so forth. Then they hold meetings and talk and issue reports. Glen said it seems that they are trying to **create the illusion that they are doing something** “while they’re really doing way less than what we need.” The problems are very big, and some powerful interests (businesses, etc.) do not want to solve those problems, so governments choose to create the illusion of action while actually shying away from solving the problems. It seems that they want to reduce pressure from the public while they actually cater to the powerful business interests.

Glen said we must keep the pressure on the government while also working with groups such as those that Sue and Daniel represent, because those groups bring knowledgeable people together and they are actually doing useful things.

Sue said we must also work with the tribes. They were here long before the rest of us arrived, and they used the estuaries and shorelines sustainably as resources for their survival. “We came along and took it all away. We need to listen to them.” Glen agreed and said, “They understood it and they made it work for thousands of years.”

[We did not have time to say that Washington state is growing rapidly, so we must take strong actions now to protect our environment and make sure we can be sustainable. Also we did not have time to say that Olympia is one of the fastest-growing cities in the nation, and that we are in danger of losing some of the things that we love about Olympia.]

**Land trusts**

The West Bay Woods conservation area is an example of a “land trust.” Glen asked Daniel about what a “land trust” is. Daniel said that an organization buys land outright (or secures development rights through a conservation easement in which a property’s owner continues to own it but forever relinquishes the right to develop it or use it in certain ways). The organization commits to preserving the property in perpetuity. The organization stewards and restores the property. It sets up a financial trust to legally protect the property’s conservation in perpetuity.

Glen expressed support for the “stewardship” approach to dealing with a natural resource instead of exploiting it. We need to be good stewards of all of our land and air and water. It’s an entirely different mind-set.

Sue said the tribal culture is to be good stewards. “They take what they need but do not exploit the resource.”

[We did not have time to further discuss the West Bay Woods conservation area, which is the first (and only) private conservation area in Olympia. They have the second of two conservation easements in the city. Historically that neighborhood was blue-collar mill workers.]

**Non-profit organizations working on these issues. This interview features two non-profits. Other local, regional and national groups exist too.**

We have already discussed the **Deschutes Estuary Restoration Team** (DERT) ([**www.deschutesesturary.org**](http://www.deschutesesturary.org)) and the **Olympia Coalition for Ecosystems Preservation** ([**www.olyecosystems.org**](http://www.olyecosystems.org)).

This latter organization’s website says: “Our vision is of thriving nature and a thriving community in a sustainable urban ecosystem, one that enables Olympia to prosper while caring for the South Puget Sound.”

The website defines its mission in this way: “To protect, preserve, and restore the diverse ecosystems of Olympia, Washington that include the freshwater, shoreline, tidal waters, and upland forests that are home to the Pacific Great Blue Heron, cutthroat trout, salmon, and companion species. In coordination with community members, local agencies, and other non-profit groups, we work to ensure that these ecosystems remain vital in perpetuity.”

I encourage people to donate financial support for both of these non-profit organizations and others that vigorously protect the environment.

**Near the end of the interview, Glen had time to mention only a few sources of information.
Here are those plus some additional ones. Many more exist too.**

Glen said that this interview will appear on Thurston Community Television (TCTV cable channel 22 in Thurston County WA) three times a week throughout January 2019. It will air every Monday at 1:30 pm, every Wednesday at 5:00 pm, and every Thursday at 9:00 pm.

This interview is posted to Glen’s blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org), so people will be able to watch it from any location at any time for many years into the future. Visit [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org), and click either the “TV Programs” category or the “Environment” category or the “Olympia Area” category. Along with the link for watching this interview, people can click a link to read the thorough summary that you are reading now, reporting on what we said during this hour. The end of the blog’s thorough summary provides the following links to additional information.

**Two of the TV programs Glen produced in 2018 and one from a few years before are highly relevant. You can watch all three of these interviews – and read thorough summaries of what we said – by visiting my blog**, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org).

Visit my blog and click the “Olympia Area” link and scroll down to my **December 2014** program and summary about “Restoring the Deschutes Estuary to its Natural Flow.” A direct link is: [**http://parallaxperspectives.org/tv-restoring-the-deschutes-estuary-to-its-natural-flow**](http://parallaxperspectives.org/tv-restoring-the-deschutes-estuary-to-its-natural-flow)

Visit my blog and click the “TV Programs” link for the **September 2018** program and summary about why local governments do not adequately protect the environment ([**http://parallaxperspectives.org/tv-local-governments-must-protect-the-environment**](http://parallaxperspectives.org/tv-local-governments-must-protect-the-environment)) and the **July 2018** program about basing public policy on honest science ([**http://parallaxperspectives.org/tv-base-public-policy-on-honest-science**](http://parallaxperspectives.org/tv-base-public-policy-on-honest-science)).

**Other resources include:**

* [**http://www.wastormwatercenter.org/jenmcintyre/**](http://www.wastormwatercenter.org/jenmcintyre/)
* [**http://www.washingtonnature.org/cityhabitats**/](http://www.washingtonnature.org/cityhabitats/)
* The Washington State Department of Ecology published this information about Total Maximum Daily Load (TMDL): [**https://fortress.wa.gov/ecy/publications/SummaryPages/1503002.html**](https://fortress.wa.gov/ecy/publications/SummaryPages/1503002.html)
* For more information about “blue carbon” (sequestering carbon in estuaries) as a way to mitigate climate impacts, see [**www.restoreamericasestuaries.org**](http://www.restoreamericasestuaries.org)

**We did not have time to discuss many additional ways of informing the public and engaging them in shaping public policy. But here are some ideas the three of us generated before we taped the interview:**

Governments and big businesses have not been very effective in solving serious problems. In order to solve the kinds of environmental problems we’ve been discussing, ordinary people need to learn about the issues, get excited about solutions, work with non-profit organizations, and push the governments to shape public policy.

* About 90 miles north of Olympia, the Snohomish River was a success story of “blue carbon.” See information about this at: [**https://www.estuaries.org/bluecarbon**](https://www.estuaries.org/bluecarbon).
* We need to educate the public and strengthen public values for the environment and sustainability at local neighborhood levels and for the larger community culture.
* We need to convert science into information for educating the public – and also into public policy.
* Every person makes the difference! When the people lead, the government will follow.
* Encourage young people to step forward.
* Meet every person where they are. Connect with people’s values. We share more than we don’t share. We need leadership that acknowledges and supports that.
* Much environmental work goes into to talking and lobbying. But we also need very strong actions too.
* Every person makes the difference! When the people lead, the government will follow.

**Glen thanked our guests and our viewers – and offered closing encouragement.**

I thanked our three guests for sharing their expertise:

* Sue Patnude
* Daniel Einstein

And I thanked all of the people who have watched.

We all live on Planet Earth, so we all need to take good care of it.

Many problems exist at global and local levels.

Good people and good non-profit organizations are working hard to solve the problems.

I encourage you to connect and help.

New people are always welcome.

Non-profit organizations can use all kinds of skills, including your skills.

You can get information about a wide variety of issues related to peace, social justice and nonviolence through my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org)or by phoning me at
(360) 491-9093 or e-mailing me at **glenanderson@integra.net**

I end each TV program with this encouragement:

**We're all one human family, and we all share one planet.**

**We can create a better world, but we all have to work at it.**

**The world needs whatever you can do to help!**