



Oregon Fish and Wildlife Commission Minutes

Joint Workshop with California Fish and Game Commission
Thursday, October 9, 2014 – 9:00 am
Jackson County Fairgrounds & Exposition Center - *Bob Mace Building*
4034 Fairview Industrial Drive S.E.
Salem, Oregon 97302

Meeting: Friday, October 10, - 8:00 am
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Salem, Oregon 97302

Commission minutes are considered draft until approved by the Commission at its next meeting.

Notice of these meetings had been made by press release of statewide media circulation. Those attending part or all of the meeting included:

Oregon Fish and Wildlife Commission

Bobby Levy, Chair
Michael Finley, Vice-Chair
Bob Webber, Commissioner
Holly Akenson, Commissioner
Gregory J. Wolley, Commissioner
Laura Anderson, Commissioner
Curt Melcher, Interim Director
Teri Kucera, Executive Assistant

California Fish and Game Commission

Michael Sutton, President
Richard Rogers, Commissioner
Jacque Hostler-Carmesin, Commissioner
Sonke Mastrup, Executive Director,
California Fish and Game Commission
Chuck Bonham, Director, California
Department of Fish and Game

MEETING

On Thursday, October 9, 2014, Chair Bobby Levy called the Joint Workshop of the Oregon Fish and Wildlife Commission (OFWC) and the California Fish and Game Commission (CFGC) to order at 9:13 a.m.

WELCOME

Commission members introduced themselves.

President Mike Sutton thanked OFWC and the Oregon Department of Fish and Wildlife (ODFW) for hosting today. He said California (CA) has a lot to learn from Oregon (OR) such as salmon conservation and management and how to live with wolves when they come to CA. The CFGC can share their experiences on forage fish management and phasing out lead ammunition for hunting.

Interim Director Curt Melcher asked both Commissions to allow staff to add public comments after the first three topics. He welcomed all to the Bob Mace Wildlife Center and said Bob Mace was a long time ODFW employee who retired in 1981. His family trust donated the funds to build this facility here at Jackson County Fairgrounds.

KLAMATH BASIN RESTORATION

Chip Dale, Klamath Watershed Manager, during a slide presentation discussed the history of the Klamath Basin. He said what once was a very large and extensive marsh area in southern OR was reclaimed for agricultural purposes by diking and pumping water out of those systems and later putting the water back. By 2001 due to the

1 Endangered Species Act (ESA) a biological opinion was issued by U.S. Bureau of
2 Reclamation (BOR) that said lake levels would be managed date certain for a certain
3 elevation. When Klamath River hydroelectric projects came up for relicensing
4 PacifiCorp no longer honored a power rate deal with the irrigation districts that delivered
5 cheap power. OR was nearing resolution of the Klamath Water adjudication and BOR
6 had biological assessments for suckers in the lake and one for the coho down river. The
7 Klamath, Yurok, Karuk, and Hoopa Valley Tribes needed help revitalizing their
8 economies. He said out of those negotiations came two different agreements.
9

10 Dale said the *Klamath Basin Restoration Agreement* (KBRA) restores fisheries and
11 communities. The *Klamath Hydroelectric Settlement Agreement* (KHSA) deals with the
12 removal of four dams in the Klamath Basin. The two settlements together restore and
13 sustain the natural production of fish, establishes reliable water and affordable power for
14 irrigation interests, and contributes to public welfare and sustainable communities, both
15 Tribal and non-Tribal.
16

17 Dale gave an in depth overview of the programs in the KBRA:

- 18 • Fisheries Reintroduction and Management.
- 19 • Fisheries Restoration Plan.
- 20 • Fisheries Monitoring Plan to help direct restoration and fish management actions.
- 21 • Water Resources Program describes allocation and water uses for:
 - 22 ○ Klamath On-Project Water Users through BOR Project.
 - 23 ○ New; water allocation for federal refuges to benefit fish and wildlife.
 - 24 ○ Terms for Klamath water users and Tribes to resolve water rights disputes
25 and contests out of the Klamath Basin Adjudication.
 - 26 ○ Off-Project Users; folks in upper Basin and independent farmers.
 - 27 ○ Additional water conservation and storage in Upper Klamath Lake and
28 drought management plans.
 - 29 ○ Measures that create and protect Environmental Water for fish and water
30 for water quality issues prevalent in the basin.

31
32 Dale said the County Mitigation and Benefits Program addresses Siskiyou, Humboldt,
33 and Klamath County funding to help them offset the cost of lost tax revenues. The Tribal
34 Program provides the Klamath, Yurok, Kanuk, and Hoopa Valley Tribes with resources
35 to help fish restoration and reintroduction and funding for personnel and technology.
36

37 Dale said the Klamath Basin Coordinating Council will oversee the implementation of the
38 KBRA. Total funding is \$750 million in federal costs for 10 years, of which \$250 million
39 will require new federal authorizations to allow those to move forward. There is \$550
40 million in non-federal funding for KBRA, including KHSA, for dam removal and for money
41 generated through Oregon Watershed Enhancement Board and others.
42

43 Dale said 300 miles of habitat was blocked by the Iron Gate, Copco 1 and 2, and J.C.
44 Boyle dams in the lower river. About 58 miles of the river was inundated under the pools
45 of those dams. He discussed **Klamath Hydroelectric Settlement (KHSA)** provisions:

- 1 • Environmental analysis on whether the dams can be removed. U.S. Secretary of
- 2 the Interior to make decision as to whether dam removal is in the public interest
- 3 and will enhance fisheries but not until after Congress acts.
- 4 • Transfer, decommission, and remove dams by December 31, 2020 and funding:
- 5 ○ \$200 million from power bill surcharge to individual/commercial customers.
- 6 ○ \$250 million from CA bond measure Proposition 1.
- 7 ○ United States not responsible for facilities removal costs.
- 8 • Disposition of property associated with the dams, mitigation, and liability
- 9 protection primarily for the power company that owns the property.
- 10 • Interim operation of the dams.

11 Dale discussed the **Upper Klamath Water Settlement (UKWS)**. The OR adjudication
12 determined Klamath Tribes had instream flow right to the tributaries to Klamath Lake with
13 time immemorial priority date. Low water in 2013 resulted in irrigation shut off for all Off-
14 Project irrigators in the Upper Basin. The Tribes did not make a call on the BOR project
15 users because those irrigators had signed the KBRA. OR Congressmen Ron Wyden,
16 Jeff Merkley, Greg Walden and Governor John Kitzhaber convened the Klamath Basin
17 Task Force in July 2013. Dale said the parties signed the final UKWS on April 18, 2014
18 that set forth:

- 19 • A Water Use Program which increases inflows into Upper Klamath Lake by
- 20 30,000 acre feet of water from Off-Project water users in exchange for a stable
- 21 and sustainable agriculture based on getting water and abeyance of calls by the
- 22 Tribes.
- 23 • Riparian Program gave access agreements to Klamath Tribes and others to work
- 24 on riparian and maintenance.
- 25 • Economic Development Program to Klamath Tribes for economic development
- 26 and cultural opportunities.
- 27
- 28

29 Dale said since the agreements were signed in 2010 the dam removal studies have been
30 completed, the removal fund has collected \$72 million, and the interim measures with
31 KHSa and the PacifiCorp work is being implemented. Last week PacifiCorp agreed to
32 release water out of Iron Gate to address disease issues with salmon in the lower
33 Klamath River. The Upper Basin Agreement programs associated with the Off-Project
34 users have started. He said we need congressional action, which once completed the
35 U.S. Secretary of the Interior will make a determination and funding requirements will be
36 completed to implement the Plan.

37
38 President Mike Sutton said the Klamath is one of their most important shared resources
39 and CA has a long standing interest in dam removal. CA has put its cost of the KBRA in
40 Proposition 1 on the November ballot for voters to approve. The CFGC sent a letter to
41 U.S. Secretary of the Interior Sally Jewell thanking her and BOR for releasing water for
42 anadromous fish in the Klamath and Trinity River systems; it asks her to provide
43 additional water to the Klamath refuges out of concern over migratory water fowl habitat
44 this fall (see letter dated October 9, 2014). President Sutton said the Klamath Basin is
45 the largest river restoration project the U.S. has ever attempted.

1 Director Chuck Bonham, CDFG, added that CA's U.S. Senators Barbara Boxer and
2 Dianne Feinstein have joined OR U.S. Senators to pursue legislation. He said 58% of
3 CA is in an "exceptional" drought which is worse than "extreme"; every county in CA is in
4 some form of drought.

5
6 CA Commissioner Jacque Hostler-Carmesin asked if the Hoopa Valley Tribe was part of
7 the KBRA. Dale said the Hoopas were at the table for much of the negotiations. They
8 had concerns about the affects the KBRA had on their previous settlements.

9
10 Director Bonham said the federally recognized Tribes of the Klamath, Karuk, Hoopa
11 Valley, and Yurok all participated in the negotiations and needed to decide based on
12 their own sovereignty and self-determination views. The Hoopas did not sign. He said
13 they view some issues relative to whether the federal government is advocating their
14 trust responsibility through the form of an agreement. There is an "opt in" provision when
15 it comes to implementing the Tribal community development of the KBRA.

16
17 CA Commissioner Richard Rogers talked about his involvement in CA water issues. He
18 said of the developed water supply urban CA uses 13% and 87% goes to agriculture.
19 The issue of water conservation is in farms and agriculture. This is a marvelous thing
20 because all users have been fairly represented and got involved.

21
22 President Sutton asked Dale what he sees happening in the next several years. He said
23 he flew CA's U.S. Congressman Jared Huffman over the Klamath last month who is
24 interested in introducing a counterpart bill, but has no republican co-sponsor.

25
26 Dale said in the KBRA if it does not get any congressional hearing by the end of this year
27 it is open to dissolving. A meeting is scheduled with the principle parties in Sacramento
28 on October 22 to talk through our next steps.

29
30 Vice Chair Finley suggested that everyone take some kind of action as individuals to get
31 republican sponsorship to help get this issue introduced and passed out of Congress.

32
33 Jason Atkinson, a citizen and former state senator, thanked former Director Roy Elicker
34 for doing a wonderful job dealing with some significant issues. He said this is the largest
35 conservation project in American history and yet nobody outside this room knows it. We
36 have reached the next course of conservation which is about endangered habitat. On
37 the Klamath and KBRA habitat includes community, which has never been done before.
38 Atkinson said we have nearly raised our commitment of \$200 million and have one dam
39 left to be taken out. He asked the CFGC that if Proposition 1 fails to ask their Governor
40 to line item one dollar (\$1.00) with the word "Klamath" into the next budget.

41
42 Atkinson said one problem facing the KBRA is if the legislation changes in the House we
43 upset the entire balance of 46 organizations who gave their heart and soul to this. He
44 helped produce a documentary film "*A River Between Us*" that will be released in 2015.
45 Atkinson asked both Commissions to sign joint letters and make joint calls on a simple
46 message, the two words of "finish" and "Klamath" – finish it. He said the only thing
47 stopping the Klamath from being complete is a lack of leadership.

1
2 Both Chair Levy and President Sutton agreed to write a joint letter.
3

4 Kristin Lambert, Director of Water Programs for Klamath Basin Rangeland Trust (KBRT),
5 said KBRT is a small non-profit located in the Upper Klamath Lake watershed. She said
6 KBRT works primarily on restoring flow and hydrologic connectivity in the streams that
7 are tributaries into the Upper Klamath Lake. They focus on the Bull Trout, Redband
8 Rainbow Trout and the Spotted Frog. Lambert said their mission is to restore and
9 conserve the quality and quantity of water in the upper Klamath Basin and to enhance
10 and restore the natural ecosystem processes. Also important is to supply the water for
11 downstream agriculture ranching, native fish, and wildlife populations. They engage in
12 restoration, landowner assistance, instream flow protection, monitoring and research so
13 they can implement adaptive management. Lambert highlighted some of their projects
14 and spoke to the process and challenges of retiring 30,000 acre feet of water that the
15 settlement requires. She discussed an instream water project with landowners on Seven
16 Mile Creek and a project with Crater Lake National Park for bull trout recovery. She said
17 this work needs to continue regardless of the legislation passing and its content. As we
18 develop these water market tools we have the ability to move water throughout the Basin
19 based on market needs. She discussed the water quality component to restoration.
20

21 CA Director Bonham said within the \$7.5 billion water bond, if approved, \$200 million is
22 allocated to the Wildlife Conservation Board that he chairs and President Sutton sits on.
23 He said that money would be used for enhanced stream flow projects.
24

25 Vice Chair Finley asked if the landowner on Seven Mile Creek had received recognition
26 regionally or from the Governor or Commission. Lambert said the landowner has not but
27 it would be incredibly beneficial. Vice Chair Finley suggested that the Commission work
28 with the Governor's Office on recognition of this landowner.
29

30 **OREGON WOLF CONSERVATION AND MANAGEMENT PLAN**

31 President Sutton said CA has not had wolves for nearly 100 years. Early this year, we
32 accepted a petition to list the grey wolf under the CA ESA partly because of OR7 in
33 northern CA. Yesterday at their meeting, CFGC ratified the findings of their decision.
34 Over 30 people talked, many expressing fear about having to co-exist with wolves on
35 ranches and farms. He said this is an example of how we have a lot to learn from you.
36

37 Russ Morgan, OR Wolf Program Coordinator, during a slide presentation discussed the
38 history of wolves in OR. He said they were mostly gone from OR by the 1930's. After a
39 number of generations OR got its first collared wolf (B45) from Idaho in 1999. He said
40 the North Rocky Mountain Reintroduction reintroduced 66 wolves over the course of two
41 years. Wolves in OR are listed under the OR ESA and that B45 was the single largest
42 catalyst for the development of the Oregon Wolf Management Conservation and
43 Management Plan (the Plan) in 2002. After public process a Wolf Advisory Committee
44 (WAC) was created and final plan was adopted in December 2005 with the following
45 guiding principles:

- 46 • Plan based on "conservation" as required by OR law.
- 47 • No active re-introduction of wolves.

- 1 • Provide relief for livestock producers from expected wolf depredations.
- 2 • Address impacts to deer and elk populations.
- 3 • Flexibility in managing wolves while providing needed protections.

4
5 Morgan said OR was divided into east and west wolf management zones. The idea was
6 to conserve wolves to the point where they may be delisted statewide while maintaining
7 protections in the west zone. He discussed the three phases and the population
8 objectives in the Plan:

- 9 1. Phase 1 is the conservation phase; 4 breeding pairs for three consecutive years in
10 the east zone. A breeding pair is 2 adult wolves that produce at least 2 pups
11 which survive until the end of the calendar year.
- 12 2. Phase 2 is a buffer to prevent relisting; 5-7 breeding pairs.
- 13 3. Phase 3 is a management phase; 7+ breeding pairs.

14
15 Morgan discussed elements in the Plan to achieve conservation in OR. He said the Plan
16 adopted in 2005 calls for a periodic evaluation every five years and was last updated in
17 2010. Morgan discussed notable events since the Plan was adopted, including OR7's
18 travel and return to OR to produce a litter of pups with his mate in the southern OR
19 Cascades.

20
21 Morgan said most of OR remains federally listed. ODFW supports federal delisting in OR
22 because our Plan serves adequately to protect the animal. For that portion of OR under
23 federal management, the State still has management responsibilities. In the western two-
24 thirds of the state (federally listed area), OR operates under a Federal/State
25 Coordination Strategy.

26
27 Morgan said the wolf population in OR is increasing roughly 30% per year which roughly
28 doubles the population every two years. To date we increased to 10 packs and nearly 30
29 pups have been documented, though counts are not yet complete. He said staff applied
30 12 radio collars to wolves in 2013 and so far this year six wolves have been collared.
31 Staff sometimes needs to replace the GPS collars because they do fail and either the
32 wolves die or disperse to other areas.

33
34 Morgan said when depredation of livestock is suspected, OR is charged with conducting
35 an investigation per the Plan, Oregon Administrative Rule (OAR), and Oregon Revised
36 Statute. Last year staff conducted 41 investigations in OR and confirmed 13 incidents of
37 wolf depredation.

38
39 Morgan discussed the new lethal take rule for wolves. Lethal control of chronically
40 depredating wolves began in 2009 when two wolves were killed in Baker County.
41 Litigation over whether staff could legally conduct lethal control resulted in a mediated
42 settlement agreement in 2013. New state legislation and OARs increased the level of
43 non-lethal measures before lethal control in response to depredation is an option, and it
44 also increased the Department's transparency to the public with all things related to wolf
45 management. The Department developed and maintains a wolf website that is updated
46 regularly (see <http://www.dfw.state.or.us/Wolves/index.asp>).

1 Morgan said the new lethal control rule requires at least four wolf depredations within a
2 six month period before lethal control can be considered. However, not all of these
3 confirmed depredations qualify toward lethal control; now a producer has to be
4 implementing non-lethal measures in order for it to qualify. The rule:

- 5 • Mandates, as a condition of lethal control, non-lethal measures. Morgan clarified it
6 does not mandate that a producer use lethal non-lethal measures. It mandates
7 that if lethal control is to be an option that they use non-lethal measures.
- 8 • The rule and statute allows producers to take wolves without a permit if caught
9 attacking livestock, even while ESA listed in the state. When in a chronic situation
10 allows producers to take a wolf chasing livestock.
- 11 • These rules only apply lethal take to federally delisted part of that eastern third of
12 OR. In the western two-thirds of OR you cannot take a federally listed wolf.

13
14 Morgan said last year was the second full year of implementation of the Compensation
15 Program funded through counties from the Oregon Department of Agriculture. ODFW
16 role is to confirm depredation and delineate areas of known wolf activity because there is
17 missing livestock component built into compensation. He said last year \$63,000 was
18 spent in seven counties, of which \$16,000 was payment for actual losses.

19
20 Morgan said the Plan calls for a research program understanding how wolves interact
21 with other important wildlife species in OR. This year we implemented a project to look at
22 the interactions between wolves, elk, and cougars. A Ph.D. project at Oregon State
23 University is underway.

24
25 CA Commissioner Rogers asked if the definition of “chronic” depredation (2 to 4
26 depredations in a six month period) was based on a biological component, and if so what
27 percentage of a wolves’ intake would that be in a year? How did the Department come
28 up with that meaning that that is a problem animal? Morgan said going from 2 to 4 and
29 adding six months was a negotiation; it does not have a biological component to it.

30
31 Commissioner Rogers said you don’t really know if that animal is a problem or not and
32 whether you could not defend it in court if that were tried. Morgan said lethal control is
33 not designed to be retribution. If implemented it is a solution to a problem, in this case
34 livestock depredation. Even though the 2 to 4 in six months is not based on a biological
35 component it is economic and also based on the idea that if wolves are going to
36 depredate that they’re going to do it more, a common assumption.

37
38 Commissioner Rogers asked if there is a difference between CA’s environmental
39 laws and OR’s with respect to whether economics can enter into the management of a
40 listed species. He questions how defensible the criterion is. He said in CA they are not
41 allowed to take monetary concerns when they are listing and managing a listed species.
42 Can you? Morgan was not able to answer that question. He said we do now statutorily
43 have the ability to take an ESA as a result of this new lethal take law.

44
45 Director Curt Melcher said our current Plan says 4 depredations in 6 months. It allows us
46 to consider that we may use lethal but does not mandate that we use lethal removal. We
47 met with a broad group and this definition everybody said they could live with it.

1
2 Chair Levy said most producers that are on allotments are off their allotments in four
3 months, they will never be able to hit that limit unless the wolves do it night after night.
4

5 President Sutton said on lethal control it only applies where the species has been
6 delisted. It does not apply to the rest of the state nor would it apply in CA under ESA or
7 the federal listing. He said it's a future discussion for CA. He asked Morgan if he has
8 seen non-lethal control across the board in OR.
9

10 Morgan said more non-lethal measures are being used today across all wolf country.
11 However, none of these non-lethals work all of the time, and some work better than
12 others depending on the situation. It is extremely difficult to know the effectiveness of
13 non-lethal measures when depredation does not occur.
14

15 Chair Levy is a producer of cattle and sheep. She said non-lethal methods in cattle are
16 different than for sheep. With sheep you have the availability of night penning but you
17 cannot night pen 1,500 head of cattle in mountain rangeland. They use range riders, 4-
18 wheelers, and her husband flies over their cattle rangeland daily. They night pen their
19 sheep at night and have two shepherders and use 4-to-5 dogs per band of 2,500
20 sheep. She said their dogs wear nailed collars in the vicinity of known wolves. They use
21 a range rider, fly over the properties where their sheep run, and use fladry and electric
22 fencing. Chair Levy said they lease federal forest land. The federal government allows
23 them to night pen for four nights in a known wolf area. She said their dogs have been the
24 most effective of non-lethal methods. Her friends in Canada use 12 dogs with nailed
25 collars and those nailed collars have effectively kept the wolves away completely.
26

27 Commissioner Wolley asked Morgan to discuss the landowner notification process.
28

29 Morgan said our Plan requires staff to keep livestock producers informed of wolf
30 activity and the public as needed. The GPS collars transmit data to staff's computers and
31 an automated system created by ODFW informs livestock producers via text message or
32 email or both where the wolves are in relation to their livestock. The system can be
33 limited by failure of the collars and the data transmitted. He said wolves are very hard on
34 collars. In 2013 more than 83,000 messages were sent to livestock producers in OR.
35

36 Commissioner Rogers asked if there is an implied liability to that if somebody has a
37 problem with a wolf and staff did not know and did not get the notice out. Morgan said
38 the more and closer the information is to the actual location of the animal there is a
39 potential for more risk to the animal. Instead of giving point location actual data the
40 messages the livestock producers receive are areas that vary based on the operation
41 and type of terrain. Some areas are 30,000 to 40,000 acres and these wolves move all
42 the time and can be gone by the time the producer got there.
43

44 Chair Levy said at our regular meeting tomorrow, producers will request receiving the
45 information on a timelier manner and more often. During the four months you run your
46 sheep or cattle in the vicinity of a known wolf pack or collared wolf, receiving that
47 information every four hours versus once daily the producers would have a better

1 opportunity to prevent a loss by using a proactive method to deter the wolves from killing
2 their animals. At the end of the four month period you would return to once per day.

3
4 Commissioner Rogers asked about the cost of running that information system. Morgan
5 said the system had developmental costs to write the software. The biggest cost is
6 collaring and capturing the wolves. Once a GPS collar is applied to a wolf if there are
7 more locations the battery life is shorter and that necessitate recapture. He said darting
8 one wolf costs as much as \$6,000.00.

9
10 Commissioner Holly Akenson lives in Wallowa County where wolves first appeared in
11 OR. She said it has been a difficult process but OR has done a good job of keeping the
12 process going. There is a lot of adaptive management and learning from things that were
13 not anticipated. It's critical to have that flexibility but at the same time recognize there
14 may be litigation and the legislature may come up with mandates for you. She said it is
15 important involving stakeholders in those decisions. The biggest issue in OR is not
16 biological but it is social tolerance. No matter how much information is available when
17 wolves first show up there is chaos. She urged the CFGC to post information about
18 wolves on their website – their biology and issues about human safety. Also to work with
19 local producers to develop the solutions that work for them. If they have been involved
20 with crafting those solutions they are much more engaged to do those non-lethal
21 techniques and learn what might be happening and start preparing for it.

22
23 Chair Levy said if you follow your plan with a lot of public input and start educating your
24 public early you will be much more successful. She said the biggest expense for a
25 producer is spending money on non-lethal methods. OR does provide compensation and
26 CFGC needs to be prepared to help their producers as much as possible. You also need
27 to have trained biologists who can investigate a wolf depredation.

28 29 **OCEAN ACIDIFICATION AND TEMPERATURE ANOMALIES**

30 Ed Bowles, Fish Division Administrator, said the Governors of Washington, Oregon,
31 California and the Premier of British Columbia (collectively known as the Pacific Coast
32 Collaborative (PCC)) signed a regional agreement to collaborate on addressing
33 greenhouse gas emissions. The PCC is working with the federal government to address
34 ocean acidification on the West Coast. A Memorandum of Understanding between the
35 State of California and the State of Oregon establishes the West Coast Ocean
36 Acidification and Hypoxia Science Panel on ocean acidification and hypoxia. Bowles
37 introduced Dr. Bill Peterson, an oceanographer and Senior Scientist with NOAA
38 Fisheries at the Hatfield Marine Science Center in Newport, OR.

39
40 Dr. Bill Peterson works on copepods, the most abundant animals in the world with a key
41 role in the food chain. He said they convert tiny microscopic plants into little bite sized
42 pieces that little fish eat. They have sampled off the coast of OR for 20 years to produce
43 forecasts on salmon returns in the next year or two based on ocean conditions. He said
44 the Pacific Decadal Oscillation (PDO) and El Nino events are two main drivers of West
45 Coast oceanography, along with local upwelling. They look at the physics off the coast
46 of OR from an across-basin and look at the food chain affected by the local physics.
47 They study phytoplankton, zooplankton (copepods), forage fish, and predators.

1
2 Dr. Peterson said when the wind blows towards the equator it pushes the surface waters
3 off-shore. The water from 500-feet below that rises to the surface is 1,500 years old and
4 full of nutrients that fuels the blooms of tiny microscopic plants called “blooms”. Without
5 upwelling these plants would not reproduce. Upwelled waters are very low in oxygen and
6 pH, good for the plants but bad for fish. With global warming upwelling might get stronger
7 and if it does, even lower oxygen and pH will come into the OR upwelling zone.
8

9 Dr. Peterson explained the subtropical and subarctic gyres in the North Pacific. He said
10 the split in these currents happens off the coast of OR. The PDO in a cold water phase is
11 called La Nina and El Nino in a warm phase. When northwesterly winds blow towards
12 the equator we get colder water and southwesterly winds blowing over the ocean pushes
13 warm water from the equator up. In a year with no storms, which happened last winter,
14 this whole pattern becomes very different.
15

16 He talked about the negative and positive mathematical numbers of these patterns. From
17 1925-1998, the PDO shifted every 20-30 years. He said that more recently, the PDO is
18 changing every five years; we don't know why and it is completely unusual. The
19 Subarctic Coastal Currents bring cold water and northern copepod species to the North
20 California Current (NCC), and the West Wind Drift and Davidson Current Current brings
21 subtropical water and southern copepod species to the NCC. The food chain structure
22 depends on the source waters which feed the NCC which is controlled by the PDO and
23 NPGO.
24

25 Dr. Peterson discussed Sea Surface temperature (SST) anomalies and said a positive
26 PDO is warm all across the equator but the equator is not warm - it's cold. There was no
27 wind last winter over the Gulf of Alaska, so the water does not mix very deeply which
28 brings the cold water up. This has created a blocking high pressure which is why CA got
29 no rain last year. The El Nino would have helped but it is not developing like it was
30 supposed to. He discussed global SST anomalies. In the global record every time there
31 is a spike in warmth globally there is an El Nino at the equator. He said the entire North
32 Pacific is warming up without an El Nino.
33

34 Dr. Peterson talked about the consequences of a warm North Pacific, e.g., tropical fish
35 being caught in Alaska. He said how will this affect salmon? 2005 ended up a big
36 disaster for the Sacramento run and the 2008 run did not come back because of a very
37 warm ocean. He'd be surprised if there is a fall Chinook coming back to Sacramento in
38 2018; it will be low runs for sure. They will get their first indication next spring when the
39 spring Chinook jacks come back. He cautioned the Commissions to watch this closely.
40

41 Dr. Peterson said we are long overdue for a big El Nino. The last one came in 1997 and
42 they have been coming every five or 10 years. The one right now has not happened and
43 there will not be a big one this year.
44

45 Dr. Peterson said in 2005 there was no upwelling. Of all the phytoplankton that is
46 produced some is grazed by microzooplankton, copepods, and krill but most of it sinks to
47 the sea floor, decomposes and pulls down the oxygen even more (creating hypoxic

1 conditions). As it decomposes it releases carbon dioxide which dissolves under water
2 and decreases the pH (creating acidic conditions). He said this is the dark side of
3 upwelling – hypoxia. In 2006, they measured zero oxygen over the course of a couple
4 days off the Port of Newport which is not good; zero oxygen (anoxia) kills things.
5 Hypoxia does not kill things but does cause things to redistribute and drives fish off the
6 bottom because they cannot breathe.

7
8 Dr. Peterson said they are studying the food chain effects of Ocean Acidification (OA) on
9 pteropods, copepod and euphausiid eggs and larvae. If OA has an effect on copepods
10 reducing their numbers then you have a problem feeding the little fish and salmon. He
11 discussed the cycle of oxygen concentration in deep waters on the shelf off of Newport.
12 Anything below 1.4 of oxygen concentration is the hypoxia level. Usually from June
13 through September we have this hypoxia problem.

14
15 Dr. Peterson discussed a pteropod called *Limacina helicina*, a small snail and major food
16 of pink salmon and herring found off of Newport. Its shell is pitted and dissolving due to
17 low pH off the OR coast. He said Aragonite, a mineral in the snails' shells, will dissolve
18 below a value level of 1.0 (in Aragonite Saturation). Off of Newport in July and August
19 every sample taken since 1998 has been below 1.0. He said we don't know how this
20 might affect copepods. If upwelling gets stronger this may extend June through
21 September.

22
23 Dr. Peterson said we have a problem with hypoxia and OA but don't know what to do
24 about it. We need more research to determine if it's going to have a big impact on the
25 copepods and food chain.

26
27 President Sutton said in CA all state agencies have a mandate to prepare climate
28 adaptation plans. How do wild fisheries adapt to acidification and these climate effects?
29 Dr. Peterson said in this case we do need more research. We could lose the pteropods
30 and the world would not die but the pteropods do show that there is a problem now.

31
32 Director Sonke Mastrup said we have spent the last 20 years developing fisheries, in
33 most cases making permits very restrictive and inflexible. We don't know what fisheries
34 are going to be where or whether there will be new ones. As state Commissions working
35 with PFMC and others we need to rethink our entire approach and figure out more
36 adaptable and flexible approaches as the ocean changes.

37
38 President Sutton said our two Commissions do as much work in the marine environment
39 as we do in the terrestrial. Over the last several years as managers CA has tackled
40 approximate threats that we can take action on now such as stop the over fishing. CA
41 created the nation's largest network of marine reserves off the CA coast that will be more
42 resilient to the impact of things like this.

43
44 Commissioner Laura Anderson said through using smart systems and cooperation with
45 people spending thousands of hours out on the ocean that are interested in solving these
46 issues that is where we, as a state, should put our resources - creating data systems.

1 Once those systems are in place we should share that information between our states
2 along with Washington, British Columbia, and Alaska.

3
4 Dr. Peterson agreed and said if the Commissions write to their congressmen in D.C. to
5 remind them that we need citizen science, more observations and data.

6
7 **Public Testimony:**

<p>Guido Rahr Portland, Oregon</p>	<p>Guido Rahr is President of Wild Salmon Center, an international salmon conservation organization. Rahr presented an idea to establish wild fish zones that are managed for wild salmon and steelhead at the basin level or the sub-basin level throughout the region to capture important centers of wild salmon abundance and diversity. He said our system is roughly split between hatchery and wild fish production. The next 50 years will see a lot of changes. In order to bring fish forward to the next generation we need to build a resilient portfolio of hatchery and wild fish populations that can navigate and adapt to this changing world. Rahr asked both Commissions to expand this work and anchor each region with wild fish management zones to balance the hatchery system and to provide nodes of genetic and life history diversity to manage these changes. He said the only way to get this done is to ask our agencies to develop a regional plan and begin the process.</p>
<p>Scott Beckstead Sutherlin, Oregon</p>	<p>Scott Beckstead, Senior OR Director, Human Society of United States (HSUS), said he oversees state directors in 12 western states including CA. He said HSUS considers the lead poisoning of wildlife to be a major animal welfare problem across the nation. HSUS supports programs and legislation to eliminate lead ammunition in hunting. They appreciate the leadership by CA in implementing a phase out of lead ammunition in hunting. They have known for decades that lead is highly toxic, wildlife in OR is being poisoned by lead ammunition in hunting activities, and that the elimination of lead ammunition in hunting waterfowl has achieved remarkable results. He said HSUS knows that southern OR historically is the native range of the CA condor and there is a desire in OR to reintroduce the CA condor to its native OR range in OR, but that is not a feasible plan until we remove toxic lead ammunition used in hunting from our landscape. It is the desire of HSUS and its supporters that the OR Commission would follow CA's lead and take the step of eliminating lead ammunition in hunting.</p>

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9 Vice Chair Finley asked CA for an overview on eliminating lead ammunition.

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President Sutton said in 2007, CA spent millions to bring the CA condor back from the brink of extinction. They found that condors were being poisoned by lead, specifically lead ammunition in carcasses left in the field. The 2007 Legislature passed a bill requiring the elimination of lead ammunition in the Condor range. Over the next several years condors were still getting poisoned from flying elsewhere to eat carcasses.

President Sutton said last year the Legislature expanded its desire to eliminate lead from the wildlife food chain by passing Assembly Bill No. 711 (AB 711). This statute requires a five year phase out of lead ammunition from all hunting by 2019, but does not require the elimination of lead ammunition entirely; you can still target practice with lead. The action was shifted to CFGC to implement regulations. The CFGD is developing a regulatory calendar and schedule for that implementation by December.

Dan Yparraguirre, CFGD Deputy Director, added that ammunition in general is in short supply and the manufacturers are making money on traditional ammunition. Our law enforcement officers have no way to detect a copper bullet from a lead bullet so that technology is under development. They held 14 workshops statewide. They will propose rulemaking at the CFGC's December meeting. He said this is also for the take of wildlife, e.g., folks involved in depredation issues will have to make the switch as well.

President Sutton said a number of hunters have told us that they are switching to non-lead ammunition already even though it is not required because they consider it as a better round ballistically. We are grappling with the availability of ammunition and in what caliber. They define availability as available at the local hardware store; not online.

Commissioner Rogers has seen x-rays with 100 to 300 lead fragments from a lead bullet that went into and hit a deer or elk bone and shattered. He said those fragments would have been feed to that hunter's family. This has been studied back East and there are some venues taking action from a public health perspective.

CFGC Executive Director Mastrup said you have to deal with the anxiety, fear, and perceptions about what people believe it is about rather than what it is about. Anything you can do put those fears and anxieties right up front and deal with them.

Public Testimony:

<p>Allen Ahr Grants Pass, Oregon</p>	<p>Allen Ahr, a resident of OR and a farmer, is an environmental specialist that has lived in the Klamath area for about 37 years. Highlights of his testimony:</p> <ul style="list-style-type: none"> • PacifiCorp applied for a 50-year usage permit which has been approved. So, for 50 years they want to use these facilities to provide electric and power. • OR and CA have spent millions of dollars trying to say the reason why we should take these dams out is because fish can't get upstream in the rivers and we need a whole new breed of fish. • Ahr said he proved that hexavalent chromium, a water
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	<p>contaminant, was here. He has seen on the Rogue River different species of fish in the last three years with cancer and cancer cysts throughout their body and organs. His concern is taking out the dams. All the science and evidence by the laboratories proves that you can't just store them in there and then tear a dam out.</p> <ul style="list-style-type: none"> • ESA under NOAA says you will do a study three years prior up to five years prior to removing a dam. He has not seen those studies started under NOAA. His concern is taking a sampling here and there behind one dam and then finding out there is hexavalent chromium. He's concerned about the levels of cancer in the fish yet the only dam where you could view the fish was taken out. • Ahr is concerned about the levels of toxic material in the sediments that were built up behind the dams taken out.
<p>Roy Hall Fort Jones, California</p>	<p>Roy Hall, Chief of the Shasta Nation (SN), said there are four federally recognized Tribes on the Klamath River. We were not one of them. He said tribal sovereignty existed before the Constitution. SH has tribal sovereignty that is their Tribal power. There are four counties in CA and four in OR impacted by Shasta Indian lands. SN still holds the original title to those lands, the federal government does not. He said an Indian Tribe cannot convey title of their land to anyone or state except by Treaty to the federal government. The States of OR and CA do not have legal lawful title to Indian lands in these eight counties. All of these regulatory laws are unconstitutional and not lawful. Any laws and legislation created outside the constitution are not legal. He said 47 entities participated on the KBRA. He said stakeholders are regional governance which is not of the Constitution of the U.S. The KBRA created by stakeholders to remove the dams is totally unlawful. He said this is where our Tribe is coming from – this is not going to happen. We're going to use the law of the land; the Constitution. Any of you that are public officials have taken the oath of office to uphold the Constitution and the laws.</p>
<p>Betty Hall Fort Jones, California</p>	<p>Betty Hall, Shasta Nation Tribal Historian, read a document <i>Shasta Nation Unextinguished Aboriginal Lands</i>. The SN Indian Lands with unextinguished Aboriginal title includes but is not limited to Shasta, Siskiyou, and northern section of Trinity and Modoc Counties, and the western section of Klamath, Jackson, Josephine and Curry Counties. Not to be confused with the corporations of the United States, State of California or State of Oregon. Hall said these Indian lands will be negatively impacted by introduction or presence of</p>

	<p>any wolves and will be subject to the SN Tribal Wolf Ordinance #3182013 dated March 18, 2013 that states SN Tribal sovereignty preempts state power and allows the SN to exercise jurisdiction over tribal matters. Any State action to introduce wolves in Indian lands shall be declared unlawful by the SN and U.S. Constitution and plans to move forward shall be unlawful. Introduced wolves within SN exterior boundaries will be subject to removal in safety to inhabitants and livestock.</p> <p>Hall said the entire area of the Kurok Tribe is Shasta lands. From Clear Creek to the Klamath River headwaters is Shasta lands. There are hundreds of grave sites and sacred sites under the water of those reservoirs. What is going to happen when those dams come out? Will they wash down the river? Hall provided a copy of <i>Historical Records of the Klamath River Its People and Fish (October 4, 2009)</i>.</p>
<p>Bill Gaines California</p>	<p>Bill Gaines has worked in CA's wildlife policy arena for 25 years. He said about one-third of the continental North American Migratory waterfowl population uses the Klamath National Wildlife Refuge complex every year during migration. Historically it was hundreds of thousands of naturally occurring wetlands. Today due to drastic changes in the natural hydrology many of those wetlands are gone. What remains are managed wetlands that need surface water. He said the refuge is last in line for water behind Tribal needs, agricultural contract water, and the ESA. He asked the Commissions to support the KBRA and to elevate the Klamath Refuge in relative importance to all the other needs of the Klamath Basin. He noted President Sutton's letter to Secretary of the Interior Sally Jewell and asked both Commission's to send a joint letter touching on the exact same points and to find a continued working relationship.</p>
<p>Roman Porter California</p>	<p>Roman Porter, CEO for California Deer Association (CDA), said an important issue today is that these two bodies with so much information, the scientific backing, and political awareness of what is happening are coming together on these principal issues. He hopes this opportunity happens on an annual basis to identify those key issues. CDA hopes there will be additional conversations regarding migratory deer herds with staff and the Commissions. He said relative to CA's adoption of a wolf management plan, Oregon has done a good job of trying to determine what appropriate pairs are and how to move forward. He hopes that California would look at that ungulate population and how in California</p>

	we are appropriately determining what our numbers are as we form that management plan.
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2 **ROUND TABLE DISCUSSION**

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4 **Forage Fish Management.**

5 President Sutton said after efforts to get forage fish bills passed in CA, a set of
6 stakeholders asked the CFGC to adopt a new policy on precautionary management of
7 our forage fish species. We asked them to form a group and they prepared a draft
8 Precautionary Forage Fish Management Policy. President Sutton and Commissioner
9 Rogers co-chair the Marine Resources Committee which recommended the draft to the
10 full CFGC who adopted it.

11
12 Commission Rogers said our Commission is divided into committees with two
13 commissioners, so each major area can be discussed in depth and then brought back to
14 the full Commission with recommendations.

15
16 Vice Chair Finley has done work in aquaculture with different groups. He said 50% of the
17 seafood we eat nationally and internationally is farmed, but there has to be a source of
18 food. He said we need to look farther down the food chain than just the anchovies and
19 other fish and intervene early to say this is the basis of a food chain for a higher order of
20 fisheries. We can't manage a higher order if they don't have anything to eat.

21
22 President Sutton said krill is included on their list of defined forage species. Their policy
23 limits the expansion of existing fisheries or the initiation of new fisheries on forage
24 species unless they can demonstrate that the needs of the ecosystem are provided for.

25
26 Commissioner Rogers said one problem with these fish for which previously were not a
27 fishery is in general they are data poor. For an agency to acquire the data necessary to
28 give them comfort to establish a fishery it is significant dollars from nonexistent budgets.

29
30 Gway Kirchner, OR's Marine Resources Program Assistant Program Manager said in
31 2003 the State of Oregon prohibited commercial harvest and possession of krill. In 2006,
32 the Pacific Fisheries Management Council (PFMC) prohibited commercial fisheries on
33 krill. She distributed ODFW's "*What is Oregon doing to protect unmanaged forage fish?*,
34 and said staff is putting their efforts in the federal prohibitions of unmanaged forage fish
35 and completing next year a management plan for forage fish for OR.

36
37 President Sutton said we have a couple of major forage fisheries that are within state
38 jurisdiction, e.g., squid. We manage sardines in conjunction with PFMC. CA is in the
39 early stages of a herring fisheries management plan (FMP) that is within state jurisdiction
40 since it's an inshore fishery. He said we will be interested in your progress here because
41 in many of our FMP's we do not tie ourselves directly to PFMC.

42
43 Commissioner Akenson asked how much integration is there among the states with the
44 forage fish plans. Are they all tied to the same federal rules?

1
2 President Sutton said we all have seats on the federal council offshore but in the U.S.
3 there are three interstate fishery commissions on the pacific, the gulf and the Atlantic
4 which serve specifically to coordinate among the states.

5
6 CFGC Executive Director Mastrup said even though sardines is under the auspices of
7 the PFMC process it does not preclude neighboring states to talk about mutual interest
8 and strategy because the PFMC process is not designed to look out after states'
9 individual interests. He said more direct communication among the two states to map
10 out the issues going on with sardines would not be a bad idea. If we both start
11 developing fisheries dependent on forage fish stock and we don't coordinate we could
12 create a lot of mess in both states when these fish start moving around.

13
14 Kirchner said the start of our FMP is our framework. To this issue we have in our
15 technical review sent that framework to colleagues in CA, to CDFW, and the Washington
16 Department of Fish and Wildlife so we have that cross pollination. We intend to do that
17 with our FMPs as well to insure that some of these fisheries we share can bring in the
18 good work from the other states as well as our interests.

19
20 Chair Levy adjourned the meeting at 4:53 p.m.

