Deschutes Basin Habitat Conservation Plan

NEPA Public Scoping
August 14, 2017 – Madras, OR
August 15, 2017 – Bend, OR
The Deschutes Basin Habitat Conservation Plan (DBHCP)

- An HCP is required for activities covered by an Incidental Take Permit issued under the Federal Endangered Species Act

- Deschutes Basin HCP will modify Irrigation District and City of Prineville activities to minimize and mitigate the impacts of those activities on the species covered by the Incidental Take Permits

- Has been in collaborative development since 2010
DBHCP Covered Parties

- Eight Irrigation Districts of the Deschutes Basin Board of Control (DBBC)
  - Arnold Irrigation District (AID)
  - Central Oregon Irrigation District (COID)
  - Lone Pine Irrigation District (LPID)
  - North Unit Irrigation District (NUID)
  - Ochoco Irrigation District (OID)
  - Swalley Irrigation District (SID)
  - Three Sisters Irrigation District (TSID)
  - Tumalo Irrigation District (TID)

- City of Prineville, Oregon
DBHCP Covered Species

- Bull Trout
- Middle Columbia River Steelhead Trout
- Middle Columbia River Spring Chinook Salmon
- Deschutes River Summer/Fall Chinook Salmon
- Sockeye Salmon
- Oregon Spotted Frog
DBHCP Covered Activities

- Storage and Release of Irrigation Water
- Diversion of Irrigation Water
- Conveyance and Delivery of Irrigation Water
- Irrigation Return Flows
- Existing Hydropower
- City of Prineville Activities
Storage and Release of Water

- Five Main Storage Reservoirs
  - Crane Prairie Reservoir – Deschutes River; 4,900 acres
  - Wickiup Reservoir – Deschutes River; 11,200 acres
  - Crescent Lake Reservoir – Crescent Creek; 4,008 acres
  - Prineville Reservoir – Crooked River; 3,028 acres
  - Ochoco Reservoir – Ochoco Creek; 1,060 acres

- Reservoirs store water in fall, winter and early spring; and release water during irrigation season (Apr – Oct)
Wickiup Reservoir
Ochoco Reservoir

DBHCP

August 14 -15, 2017
Storage and Release of Water

- Four Reregulating Reservoirs
  - Haystack – North Unit Main Canal; 230 acres
  - Upper Tumalo – Tumalo Feed Canal; 165 acres
  - Watson – Whychus Creek Main Canal; 80 acres
  - McKenzie Canyon – Whychus Creek Main Canal; 12 acres

- Operated to buffer short-term fluctuations in demand
Diversion of Water

- 19 Primary Diversion Structures
  - Divert stored water and live (natural) flow
  - Screened to prevent entrainment where fish are present
  - Passage for upstream and downstream movement where fish are present
North Canal Dam (Deschutes River)
Red Granary Diversion (Ochoco Creek)
Whychnus Creek Diversion

DBHCP

August 14-15, 2017
Diversion of Water

- 112 Pumps and Small Diversions
  - Most are owned and operated by patrons
  - Very small diversion rates
  - Most are currently unscreened
Crooked River Patron Pump
Conveyance and Delivery of Water

- Collectively over 1,170 miles of canals, ditches and pipelines
- Old canals are the focus of on-going water conservation projects
- District authority/responsibility ends at point of delivery to patron
Pilot Butte Canal
Pilot Butte Canal Piping Project

DBHCP
August 14-15, 2017
Lone Pine Pipe at Crooked River
Return Flows

- 46 identified points where irrigation water is returned to natural water body
  - Operational spills from canals
  - Surface runoff at downstream ends of Districts
Juniper Canyon Return to Crooked River
Existing Hydropower

- Eight hydropower generators on existing canals
  - Siphon – Central Oregon Canal
  - Juniper Ridge – Pilot Butte Canal
  - Ponderosa – Swalley Main Canal
  - Mile 45 – North Unit Main Canal
  - Monroe Drop – North Unit Main Canal
  - Watson – Whychus Creek Main Canal
  - Watson Net Meter Micro – Whychus Creek Main Canal
  - McKenzie – Whychus Creek Main Canal
Example of Hydraulic Head on the Pilot Butte Canal
City of Prineville Activities

- Small diversions from Crooked River and Ochoco Creek (as OLD patron)
- Groundwater pumping for municipal use
- Discharge of treated effluent to Crooked River
DBHCP Covered Lands

- Beds, banks and waters of the following:
  - Deschutes River (Crane Prairie Reservoir to mouth)
  - Crescent Creek (Crescent Lake Reservoir to mouth)
  - Little Deschutes River (Crescent Creek to mouth)
  - Tumalo Creek (lower 21.7 miles)
  - Whychus Creek (TSID Diversion to mouth)
DBHCP Covered Lands

- Crooked River (Prineville Reservoir to mouth)
- Ochoco Creek (Ochoco Reservoir to mouth)
- McKay Creek (Jones Dam to mouth)
- Lytle Creek (lower 5.7 miles)
- Trout Creek (Mud Springs Creek to mouth)
- Mud Springs Creek (lower 8 miles)
Term of the DBHCP

- To be determined (20 – 50 years)
Need for the DBHCP

Effects of the Covered Activities on the Covered Species
Oregon Spotted Frog

- Distribution on the Covered Lands
  - Crane Prairie Reservoir
  - Wickiup Reservoir
  - Deschutes River (Wickiup to Bend)
  - Crescent Creek (downstream of Crescent Dam)
  - Little Deschutes River
Oregon Spotted Frog

- **Affected by:**
  - Fluctuation of reservoir levels
  - Seasonal high and low stream flows
  - Rapid changes in stream flow
  - All related to storage and release of irrigation water
Bull Trout

- Distribution on the Covered Lands
  - Deschutes River (upstream to Big Falls)
  - Whychus Creek (upstream to RM 2.4)
  - Crooked River (upstream to Opal Springs)
Bull Trout

**Affected by:**

- Flow reductions during summer (irrigation diversions) and winter (irrigation storage)
Steelhead Trout

- Distribution on the Covered Lands (current and potential)
  - Deschutes River (upstream to Big Falls)
  - Trout Creek and lower Mud Springs Creek
  - Whychus Creek (upstream to RM 37)
  - Crooked River (upstream to Bowman Dam)
  - Ochoco Creek (upstream to Ochoco Dam)
  - McKay Creek (upstream to RM 19)
Steelhead Trout

- **Affected by:**
  - Flow reductions during summer (irrigation diversions) and winter (irrigation storage)
  - Return flows
Chinook Salmon

- Distribution on the Covered Lands (current and potential)
  - Deschutes River (upstream to Big Falls)
  - Whychus Creek (upstream to RM 37)
  - Crooked River (upstream to Bowman Dam)
Chinook Salmon

- **Affected by:**
  - Flow reductions during summer (irrigation diversions) and winter (irrigation storage)
  - Return flows
Sockeye Salmon

- Distribution on the Covered Lands (current and potential)
  - Deschutes River (upstream to Big Falls)
  - Whychus Creek (upstream to RM 2.4)
  - Crooked River (upstream to Opal Springs)
Sockeye Salmon

- **Affected by:**
  - Flow reductions during summer (irrigation diversions) and winter (irrigation storage)