The following information was presented in Power Point form at the 2019 Public Hunt Program Meeting held on May 11, 2019. We have changed the format for a clearer explanation of information. If you have questions about the information presented here, please contact Stacy Freitas, Hunt Program Coordinator at 530-667-8308 or stacy_freitas@fws.gov.

Water and Habitat Conditions
Lower Klamath and Tule Lake NWRs

Thank You!
First, we would like to send out a huge thanks to the following people and organizations:

- The Refuge field crew for all the work they do to support wetlands and waterfowl.
- Our Refuge hunting guides; Phil, Mike, Dick, Shawn and Jim. Communication is key and they provide excellent information to the public as well as field condition information back to managers.
- Don Kirby for calling to get the most up-to-date information when questions arise and helping to mitigate the rumors that go around.
- Everyone who called or emailed to get information and provide feedback. The more accurate the information is for hunters the better experience they will have.
- CWA for supporting the Refuges with banding, disease management and advocacy in a really touch water year.
- BirdAllyX for their support and hard work with botulism rehabilitation efforts.

Setting the Stage
Our refuges are facing the greatest threats they have experienced since the 1920’s, as a result, we are seeing the lowest waterbird populations in the refuges’ history. Our goal is to increase the population of migrating waterfowl using Lower Klamath and Tule Lake NWRs. We want to increase the value of these refuges throughout the year but specifically we want to see increasing populations during the migration period. We are doing this by bringing habitat online equitably (Sanctuary/Hunt) which will provide birds habitat options as well as provide hunter opportunity, however, we need to continue to make changes to meet our goals.

Habitat and water management are based on waterbird needs first. When compatible with refuge purpose we try to provide recreational opportunities to multiple user groups: Consumptive Users such as waterfowl and pheasant hunters and Non-Consumptive Users like bird watchers, photographers, school groups and general visitors. We understand that not every decision is going to be supported by everyone and that we cannot implement every idea we receive. We hope that meetings like this help alleviate some of the anxiety and frustration and help you better understand what we are doing.

Your Input Matters
We implement ideas when and where we can. Here are some of your ideas we have implemented over the last year.
• We are modifying harvest to create fewer but larger leave strips; we have gone from cut 3 leave 1 pattern, to a cut 9 and leave 3 pattern which increases the area available to birds prior to flooding.
• We constructed a new boat ramp on the north side of Sump 1B.
• We built a new boat ramp for 7A on the west side.
• We increased accessibility in 7A.
• We increased the parking area at 4B to help with congestion at intersection A.
• We built a new ramp and better access into 8B on the northeast side.
• Work is beginning on the Frey’s Island reconstruction in order to better manage water and increase habitat.
• Invasive species control has expanded and we are making headway on several issues.

All of these have created better access for hunters as well as increasing the value of habitat in both hunt and sanctuary areas.

General Complaints Received this Year
This is a list of all of the complaints received over the last year. As you will see, there are many conflicting complaints.

• Water
  o What units we flooded.
  o What units we did not flood.
  o We flooded too fast.
  o We flooded too slowly.
  o We did not flood the right fields.
  o We flooded too many fields.
  o We did not flood enough fields.

• There was too much standing grain.

• Afternoon hunt days
  o We should get rid of PM hunt days
  o We don’t have enough PM hunt days

• Winter grain crops should not be allowed.
• Row crops, especially onions, should not be allowed.

Refuge management implements changes based on the resources available and what is best for the overall habitat or program. The decision on which units get flooded on Lower Klamath NWR is directly connected to the amount of water that is actually delivered and from where it is being delivered.
Flooding that occurs on the Tule Lake NWR is managed through the irrigation district and depends on individual leaseholders and their farming plans. The units flooded are not always the ones we planned on, but we do the best we can with what we get.

The increased amount of standing grain last year was part of a drought farming program. Farmers who were paid not plant row crops in order to save water were required to plant a cover crop to protect top soil. This crop was not allowed to be harvested so was left standing.
The afternoon hunts starting in December have been a topic of conversation for a couple years now. We have received complaints that birds are too thin and the afternoon hunt is too hard on them. We have also had feedback that we should be increasing opportunity by adding to the number of afternoon hunt days. Currently we have not made a decision on this. We have made some habitat and hunt/sanctuary changes and will continue to monitor this issue. Managers may address this topic next year.

To address onions, alfalfa and winter grain crops, this is mostly out of our control. The Kuchel Act, which mandates farming on our refuges, includes these crops. We are looking at a way of distributing crops to assist with flooding and we will be addressing that below, but for the foreseeable future these crops are here to stay.

**2018 Season Review**

Despite promises of fall water, Lower Klamath saw poor water delivery that resulted in not ideal wetland conditions. Tule Lake received normal water deliveries and provided abundant food for waterfowl, however, experienced low waterfowl numbers. Overall, last season could be defined by poor bird numbers and frustrated hunters.

- Concentrated Food + Concentrated Water + Heavy Hunter Pressure = Lower Numbers and Nocturnal Feeding Behavior.
- Other things outside of or control that make for difficult habitat and wildlife management
  - Large botulism outbreak
  - Government shutdown
  - Large cholera outbreak

**Lower Klamath NWR**

- **Water Delivery**
  - Unit 2 was filled primarily with the transferred water right from Upper Klamath NWR.
  - Water from ADY diversion canal did not start into hunt units until first week of October and we received just enough to fill 6A.
  - D-Plant ran from the first week of September to first week of November.
  - We ran the unit 9 well for several weeks to augment deliveries.
  - Total water received (cumulative ADY and D-Plant) was approximately 15,000 Acre Feet (down 35,000 AF from fall 2017). This equals about 5,000 acres flooded (down 13,000 acres from fall 2017).
- **Fall Population**
  - Five (5) aerial surveys were flown throughout the season.
    - Weather and the government shutdown compromised data collection January – March
  - Peak duck population was 161,304 on Nov 11, 2018 (78% lower than 2018).
  - Average population over the hunt season was 45,000.
  - Peak goose population was 61,450 on Oct 4, 2018 (58% higher than 2017).
Why did White Lake and Unit 3 not get water?
- There was only so much water. We made the choice to flood 6A instead of Unit 3 to ensure hunter opportunity – it was one or the other with ADY water.
- We had no assurance of how much D-Plant water we would get so we chose to flood where we had the highest concentration of food in both sanctuary and hunt areas.
- We received approximately 15,000 acre feet of water, combined White lake and Unit 3 require about 11,000 acre feet of water. The majority of that would have been D-Plant water, which with one pump is difficult to split and still get effective water movement.
- We would have likely had to shut down or greatly restrict waterfowl hunting for the 2018 season.

The Outlook for 2019 Season
- The transferred water right from the Barnes and Agency property should maintain Unit 2 all summer and potentially parts of Unit 6 – We are hopeful this will put us ahead in our capacity to flood other wetlands.
- Under the 2019 Biological Opinion, Lower Klamath is modelled out of all river water deliveries until December in most water scenarios – We will not know if water is available until August or September.
- Bureau of Reclamation considers remaining project supply as “Discretionary Water”, whether it is or is not used to support refuge water needs is completely up to them.
- At this time, we do not know how much area we will have flooded for waterfowl season, or what that could mean for access and opportunity.
- There is a good chance there will be no D-Plant water given the proposed Sump 1B draw down. If this is the case, White Lake will likely be dry again.
- There will be a lot of grain planted this year.
- With the carry over water from this spring, we should see good local brood production.

Tule Lake NWR
- Background Context
  - 1964 Kuchel Act dictates how much lease ground can be in specific crops.
  - 1/3 can be in row crops (the crop and location of those crops is determined by the individual producers).
- Water on Lease Lands controlled by Tulelake Irrigation District (TID) and Bureau of Reclamation (BOR), the Refuge collaborates with both parties on timing and delivery of water.
- Availability of co-op lands for row crop production supports more flooding on the lease lands so it is a balancing act.
- Currently distribution of row crops dictates when and where flooding can occur – The issue of water subbing row crops is the biggest factor influencing fall flooding on Tule Lake NWR. A possible solution is discussed below.
- Last fall, flooding was dictated by compensation payments derived from drought relief programs.

- Water Delivery
  - The Bureau of Reclamation provided incentives for producers to flood grain fields throughout Tule lake NWR lease lands, this provided flood area but put a strain on water delivery capacity.
  - Despite incentivized flooding, row crops created challenges for getting water where we wanted it.
  - We continued to build on collaboration with TID because we do not as of yet have a water manager for Tule Lake NWR – hopefully this is changing this year.
  - Preventive-plant grain crops were everywhere but provided little waterfowl benefit unless they were flooded.
  - We had 3 levee failures (lots 3, 4, and 6 along A-Dike) over the course of the waterfowl season.

- Fall Population
  - Five aerial surveys were flown this past fall.
    - Weather and the government shutdown compromised data collection January – March.
  - Peak duck population was 132,210 on November 19, 2018 (37% higher than last year, 26% below 25-year average).
  - Peak Goose Population was 16,513 on November 19, 2018 (25% higher than last year)
Outlook for 2019 Season

- The outlook for Tule Lake NWR is uncertain.
- Sumps 1A and 1B will have water during the waterfowl season.
- At this time, there is a lot of interest in flood fallow on lease lands and cooperative lands so there could be increased availability of wetlands throughout hunt area.
- How much grain we will be able to flood is uncertain at this time.
- A draw down on sump 1B is planned but not certain.
- How much, if any water will be available to move through D-Plant to Lower Klamath NWR is uncertain at this time.

Changes Coming

When looking at habitat, food availability, and hunting trends over the last 20 years and considering water availability and timing of deliveries in the future, changes need to be made in order to sustain healthy bird populations and a successful hunting program. In short, the availability of food during peak demand (when the highest bird numbers occur) and sanctuary areas free from disturbance is imperative.

With the lack of water deliveries noted earlier, the Refuge is looking at restructuring farming lands and reconfiguring hunt and sanctuary areas on Tule Lake NWR as well as developing an allocation system for water on Lower Klamath. We are hopeful the cumulative impact of these changes is higher peak populations, prolonged period of use by birds, better body condition while birds are here, and ultimately a higher quality hunting experience.

The Challenges

- The refuges need flexibility to reliably start flooding fields beginning in mid-September and then bring on additional fields throughout the fall to support fall migratory waterbird energetic demand.
  - We are working with producers to build in more assurances of fall-flooded grain.
- Regardless of the historic use of dry grain, waterfowl use of grain at TLNWR and LKNWR is driven by flooding.
  - Currently subbing of water into row crops from neighboring fields, delivery ditches and drains are dictating where flooding can happen on Tule Lake NWR
  - We will begin transitioning away from 1/3 row crop in fields to larger fields in row crop to provide flooding flexibility in grain fields.
    - This will include Cooperative lands but farmers will trade leave grain throughout the lease lands that can be flooded.
    - Eliminating 1/3 sections of row crops within fields will isolate grain and row crops and create hydrologic independence where possible to facilitate flooding and prevent subbing issues.
    - Two of three years, early flooding will be possible.
Like it or not disturbance of any sort impacts how waterfowl use these refuges, in order to hold more birds and keep them here longer we need to provide sanctuary that is free from disturbance.

- Changes to the Hunt Program

  **Tule Lake NWR**
  - We are implementing new hunt area configurations to ensure birds have access to flooded fields without disturbance.
    - This will give us enforceable sanctuary boundaries, better distribution of habitat for bird use and new hunting opportunities.
  - Below are the previous configurations and the new configuration for you to compare as well as a draft hunt map with acres.
    - Actual distribution of spaced blinds and public hunting areas may change for the upcoming season depending on crop placement.
Recent 2018/2019 Hunt Configuration
(All hunting activity combined)

Total Refuge Acres: 29,732
Total Sanctuary Acres: 7,962
Waterfowl Hunting Only Acres: 13,977
Pheasant Hunting Only Acres: 7,635
Waterfowl/Pheasant Hunting: 158
Total Hunting Acres: 21,770

Sanctuary : Hunt = 26:74
Red = Sanctuary  Green = Hunt

- Little contiguous sanctuary
- Roads are open around sanctuary area
- Lots of edge on sanctuary area (lease/coop lands)
- Most of the sanctuary is in poor or lower quality habitat

2019/20 Hunt Configuration
(All hunting activity combined)

Total Refuge Acres: 29,732
Total Sanctuary Acres: 11,701
Total Hunting Acres: 18,031

Sanctuary : Hunt = 39:61
Red = Sanctuary  Green = Hunt

- Limited loss of huntable acres
- Increased opportunity in new huntable areas (waterfowl and pheasant)
- Contiguous sanctuary with potential floodable ground
- Birds must pass over hunt area to move between sanctuary areas
- Hardened boundaries with easily recognizable roads and features
- Limited edge area (lease/coop lands)
- Habitat distribution more equitable between hunt and sanctuary
Lower Klamath NWR

With the uncertainty in annual water allocation from year to year, it is challenging to plan for public use. This is not as big of an issue in good water years, but a huge challenge in poor water years like 2018/2019. The reality is we cannot handle the public pressure we see when habitat conditions are limiting. Due to this uncertainty, we are not looking at any configuration changes for this season. We are however, planning to implement a 60:40 split in water delivery between sanctuary and hunt acres once unit 2 is at 80% capacity. We will also continue to bring hunt and sanctuary acres on line at the same time as we have been.

Example of how many acres we can flood based on the amount of water delivered: If 10,000 acre feet (af) of water is delivered through the ADY Canal (and unit 2 is at 80%), 6,000 af will be sent to sanctuary acres and 4,000 af will be sent to hunt acres. To help with the conversion to actual acres flooded, typically it takes 3 af to flood 1 acre of land to 1 foot deep. Using these numbers, this means 10,000 af will flood 2,000 acres of sanctuary and 1,300 acres of hunt. If our total deliveries for the season reach 50,000 acre feet, this will give us 16,666 acres flooded; 10,000 acres of sanctuary and 6,666 acres of hunt area.
**Wrap Up Note**

With the lack of water not only in the Basin but also across the west, many land managers have had to come up with new ways to manage habitats and hunting programs. Of course, not all of the water issues in the Basin are drought related but we are adapting and finding find new ways to manage your lands the best we can. We understand that changes to our favorite hunting areas are hard to see but guaranteed our Refuge managers have not taken these decisions lightly; better habitat, more birds and great hunting is what we are after. Not every change will be successful or turn out how we hope, but we will keep moving forward and do our best to meet the ever-changing challenges.

We understand we have presented a lot of information and you may need to read this a few times to absorb everything covered. If you have questions, comments or would like clarification on anything presented here, please feel free to contact us. Contact information is listed at the top of the page.