



Preliminary Report
**Watershed Assessment for threatened fish in
Halgurd-Sakran Park, Iraqi-Kurdistan**

CLP Project ID Number: 05285016



Host Country: Kurdistan, Iraq
Site Location: Halgurd-Sakran Park
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Section 1:

Summary

This was a joint project between Waterkeepers Iraq and Halgurd-Sakran Park staff to do a watershed assessment for threatened fish within the park, which is located in Kurdistan, northern Iraq near the borders with Iran and Turkey.

The project had three objectives: (1) Increase general knowledge and experience doing habitat surveys and watershed assessments for fish species; (2) Conduct a comprehensive watershed survey of rivers and streams within the park boundary delineating fish habitat and areas of high threat to fish and river ecosystems, and (3) Implement a Awareness Program targeting local people & decision-makers regarding the status of the rivers/streams in the Park, fish biological diversity and threats to biodiversity and river health.

Results included: (1) a survey & identification training led by project advisors Abdullah Younis and Dr. Jörg Freyhof in the fall of 2016; (2) a threat assessment of the nine rivers within the Park; (3) a fish survey, & (4) development of educational materials (including two maps (one on fish and one on threats in the watershed), brochures in Kurdish and English and a documentary video) and outreach activities about the project to over 500 students from five schools around the park.

Background

The Halgurd-Sakran Park Area includes three identified Key Biodiversity Areas but has never been assessed for fish or threats to fish habitats. Though at least three fish species listed as Vulnerable by the IUCN could potentially be found in the Park's rivers, there has been no field research in the area due to years of war and political instability. Gravel mining, garbage dumping, dam construction and pollution threaten these waterways. The goal was to train the team in habitat survey techniques, collect information on fish in the park's rivers and educate local stakeholders about the need for river conservation.

Section 2:

Summary of Objectives, Activities and Outputs

Objective 1: Increase general knowledge and experience doing habitat surveys and watershed assessments for fish species;		
Activities	Outputs	Forthcoming activities planned
Theory Training: The first part of the training was run by one of our advisors, Abdullah Younis (University of Sulaimani)	On 12 October 2016, we had a training on theory behind fish surveys On 16th October 2016 we started our field training, which lasted 9 days. After spending a	No additional activities are planned.

<p>Practice and field training. The 2nd part of the training was conducted by Dr. Jörg Freyhof (Coordinator IUCN SSC Freshwater fish Red List Authority, Chair for North Africa, Europe and the Middle East, IUCN SSC/WI Freshwater Fish Specialist Group).</p> <p>The training covered:</p> <ul style="list-style-type: none"> Fish sampling Introduction to fish identification Internal anatomy Showing us how to carry out sampling by catching fish using electrofishing, netting, hooks, and how to take fish photos. 	<p>couple of days in Sulaimaniyah searching for different types of fish and getting general information about fish, on 18th October Nabil Musa, Abdullah Younis and Dr. Jörg Freyhof started traveling to Halgurd and Sakran area to meet up with the Halgurd-Sakran Park team mates.</p>	
<p>Objective 2: Conduct a comprehensive watershed survey of rivers and streams within the park boundary delineating fish habitat and areas of high threat to fish and river ecosystems</p>		
<p>Activities</p>	<p>Outputs</p>	<p>Forthcoming activities planned</p>
<p>Threat Assessment: Before we start our fishing sampling we surveyed the nine rivers in the park to identify what threats existed in the rivers that could negatively impact fish and fish habitat.</p> <p>Fish Survey to identify the common species found in the rivers of the Park</p>	<p>We conducted a threat assessment in the nine rivers of the park on 12 September 2016 and finished 11 Jun 2017.</p> <p>We made a map indicating each threat on the map, this is what we have found as a threat to all nine rivers: Restaurants very close to the river, Agriculture farming, fish farm, oil dumping, road development, picnic and tourist area, building of houses close to the river, gas stations, gravel mining, garbage dumping and many poorly constructed bridges, posing barriers to fish passage.</p> <p>During the fish survey in the park rivers nine fish species were recorded from five different stream, belonging to three different families: Cyprinidae, Nemachilidae, and Siluridae. See Appendix 2 for the full list of fish</p>	<p>No additional activities are planned in the park but we will share the data we have collected on our website and will investigate possible publication of our findings with our advisors.</p>
<p>Objective 3: Implement a Awareness Program targeting local people & decision-makers regarding the status of the rivers/streams in the Park, fish biological diversity and threats to biodiversity and river health.</p>		
<p>Activities</p>	<p>Outputs</p>	<p>Forthcoming activities planned</p>
<p>The Awareness program activities included:</p> <p>Developing a film about the park and the project;</p> <p>Developing a flyer about the</p>	<p>We developed 2 maps of the park rivers: one showing the location of the different fish species that were found and another maps showing the location and severity of the threats we found. We also filmed and developed a short documentary video (https://www.youtube.com/watch?v=loTfiN-</p>	<p>We will continue to use the educational materials we developed in future outreach activities. These will also be available through the Halgurd-</p>

<p>project</p> <p>Developing maps showing the locations of threats and fish found in the park rivers.</p> <p>Conducting a number of outreach & educational activities that due to delays started in mid-December 2017</p>	<p>buYA) and brochure in Kurdish and English language about the project and our findings.</p> <p>Nabil Musa and Bakhtyar Bahjat showed the film, distributed the printed brochures and made presentations to a group of 120 teenage students at the Federal School for Girls, 40 3rd and 4th graders at Kewsan Basic English School, 50 7th graders at the Pirzha Basic School for Girls, and 40 8th graders at the Weza School for Boys.</p> <p>On Jan 14th, 2018 a similar presentation was made to a local hiking club led by Salar and Kamal Chomani, as well as the tourist department and some policeman from the Choman district and the Mayor of Choman attended a presentation which was held by Nabil Musa. At least 15 people attended this event.</p> <p>The same series of activities were presented in four schools located near the park on the same day for approximately 300 students, then a meeting was held with the Mayor and the Tourism director of Choman for more discussion about protecting the park, and they were provided with the documentary about the project as well as other environmental films WI has made.</p> <p>On Jan 16th & 17th 2018 the CLP and other WI films were played by a WI volunteer for 260 students at the British International School) under EU logos. They received more information about environment pollution and were asked to write short reports as feedback on the films about how pollution should be stopped.</p> <p>Jan 22th 2018, Nabil Musa was interviewed on the Khak TV Channel about the project and CLP video was shown. It was also shown to the Working Group on Water Rights (part of another project that WI is working on under an EU-funded project)</p>	<p>Sakran Park and the local tourism board.</p>
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Changes to original project plan

There were four issues that impacted the project, three of which required extensions to the project. These included the following:

1. Our trainers were not available to start the training in July and August and the training was rescheduled to start in mid-October 2016.
2. We experienced some additional problems in 2017 because of the economic and government situation in Kurdistan Iraq that stopped us from access to our bank account for two months. This delayed field and outreach work.
3. Later, we faced renewed difficulties in late summer 2017 working in our project area because of the deteriorating security situation in the border area where our project is

located. This mainly delayed our data analysis and outreach efforts but it also meant that we could not fully cover the Balayan River because the PKK did not allow us to survey the upper reaches of the river.

4. Due to some of the issues above our original team make up also changed. Dlzar Qader Smael & Mohammad Abdulla Ahmed were not always able to participate in the project activities, but Bakhtyar Bahjat, another staff from Halgurd-Sakran Park joined the team and we had assistance from a number of WI volunteers.

Section 3:

Achievements and Impacts

Dr. Freyhof, one of our scientific advisors was very proud about our achievements in the project and has circulated our project findings to experts he know and put the video on his website. Our team did not have a strong scientific background but yet we were able to collect some very useful scientific data on fish within the park boundaries and identify areas where there were the greatest threats to these species. It is preliminary and basic work and much more needs to be done, but it is an important beginning.

We had a lot of positive reaction from the students of the schools and got them to start questioning many of the problems that they took for granted ... showing them why the oil spills in the river are bad. Why are the gravel mines bad? What are the effects? What will the future look like for these rivers? This awareness raising effort has been very important.

This area has be badly neglected and affected by war and conflict. But it is also naturally rich and beautiful and the local efforts to develop it as a national park are gaining support. The greatest advocate for the Park (the former Mayor of Choman, Abdulwahid Gwany passed away in 2017) but the CLP Project has helped to keep the momentum going for the designation of this area as a park and helped build the support of local people behind this project, making people realize that this area is worth protecting.

Problems encountered and lessons learnt

- ***Which project activities and outcomes went well and why?***
With the training and assistance from our advisors we were able to identify all the fish found in the survey and this was very interesting information to share with local peoples who don't know very much about the ecology of the rivers. We found that people were relatively unaware of these nine beautiful rivers in this area, or about the pollution and other threats they face, so it was a very positive experience to be able to share this information.
The making of the documentary added an important dimension to the project ... it got shown in all the local media channels and even a journalist from National Geographic got to see the film and find out about the CLP project and the park (we recently learned that this journalist is pursuing a story about the park for the magazine).
The maps were also very helpful in showing people where the park is located.

- ***Which project activities and outcomes have been problematic and in what way, and how has this been overcome?***

Because this area is closest to the Iranian border and also to Qandil Mountain, which is where the PKK freedom fighters are located, it made movement in and getting to certain areas difficult. Both Iran and Turkey often bomb the area. This also made staying in the area for very long difficult. There are also a lot of minefields in the area, we needed to ask a lot of people about how to reach areas safely, particularly on rivers like Azady that come from Iran.

We also had some unexpected changes and expenses in the project, the timing of its activities, etc. due to the economic and political situation.

Future planned activities

The local KNN radio station on every Tuesday, hosts Nabil Musa of WI in a morning talk show about different water issues and we have spoken already on 6 February 2018 and 13 February 2018 about CLP project and plan to continue talking about the project in general in the future. We also showed the CLP video and did a presentation about the data we collected at a big event on 9 February 2018 as part of a large community event. We plan to continue to do such activities in the future as well. On the 1st of March Nabil Musa will go to Soran, the largest town near the park area to do a presentation about the project to a group of local environmental activists in conjunction with the Working Group on Water Rights (We have a plan to do the same in Qaladze, Halabja and Garmeyan area of Sulaymaniyah Governorate).

Also in March, Nabil Musa and Bakhtyar Bahjat will do outreach events at three schools around the Choman area close to the park, and Bakhtyar will continue to do these events at the other schools in the district on his own (his goal is to do one such event every week)

Because of the political situation and the state of the Kurdistan Regional Government in Erbil, the regional Park Board is not active but Dlzar Qader Smael will try and organize an event there with Nabil sometime within the next 4-5 months.

Acknowledgements

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Section 4:

Appendix 1: Field Methods

1. Threat Assessment Method

Our method was to walk and in many cases where riverside roads were available, drive along the river to look for common threats that may impact fish and/or fish habitat. We GPS located each type of threat and mapped them on a high-resolution map of threats, see Appendix 4).

The common threats identified were:

- Restaurant sewage
- Agriculture
- Fish farms
- Oil spills/dumps
- Road (presence &/or construction)
- Picnic and Tourist areas
- Housing developments/Villages
- Petrol Stations
- Gravel Mining & related cement shops
- Garbage dumping
- Bridges (that may pose problems for fish passage)

We also identified areas where no threats were found.

2. Fish Survey Method

This survey was a presence-absence survey with the goal of identifying what species could be found in each river. Two people conducted the survey using the following equipment:

GPS, Camera, Electro-fishing device, nets, a bucket, a fish tank and a notebook for writing down field notes.

The teammate would move up the river from a starting GPS point, operating the electro-fishing device in the water and focus primarily on sampling in moving water to a pre-determined stopping point. The second teammate would follow downstream with a net to catch any fish that were missed by the first person. Fish that were caught were placed in a bucket and then relocated to the fish tank to be photographed in front of a black background.

Some smaller rivers or seasonal streams had only two sample locations; other rivers such as Azady river had many sample locations (These locations were all placed on a high resolution map, see Appendix 4).

Appendix 2: Fish List

Scientific names	English common name	Arabic Common names	Kurdish Common names
<i>Alburnoides diclensis</i>		-	-
<i>Alburnus mossulensis</i>	<i>Mossul bleak</i>	طويل سمنان	سەر او پل كە
<i>Barbus lacerta</i>	<i>Kura barbell</i>	مړقات ش بوط	شلة
<i>Capoeta trutta</i>	<i>Trout barb</i>	مړقات تي لة	مشارە
<i>Capoeta umbla</i>	<i>Tigris scraper</i>	اعت يادي تي لة	زەر دة
<i>Garra rufa</i>	<i>Red garra</i>	احمر كركور	خوت كە
<i>Glyptothorax</i> sp.		صقن قور	طاد تە
<i>Paracobitis zabgawraensis</i>	<i>Western crested loach</i>	-	طقورة زابي ماسي
<i>Turcinoemacheilus kosswigi</i>	<i>Kosswig's loach</i>	-	تورك ي ماسي