

**CRITICAL ECOSYSTEM  
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Ecosystem Partnership Fund

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## Summary

Fish Conservation Zones (FCZs) have been officially established throughout the Lao People's Democratic Republic (Lao PDR) as a community fisheries management strategy over the past 25 years. However, to-date there has not been a formally reported tally of the FCZs in the country. To address this gap, we aimed to produce a status update of existing FCZs in Lao PDR based on the results of two workshops with FCZ practitioners, as well as an effort by the Lao Department of Livestock and Fisheries (DLF) to produce an FCZ inventory.

This report synthesizes the results of two government workshops on FCZs held in 2017, along with input from the Lao Department of Livestock and Fisheries. The most up-to-date tally is 1,677 FCZs in Lao PDR, which includes 1,313 FCZs that are formally recognized by the government, and 364 unofficial FCZs that are managed solely by communities. This represents a minimum number of established FCZs, as additional unofficial FCZs likely exist but have not been reported. It is important to note that not all of these FCZs may currently be functional or active, and instead may exist in name only.

Workshop participants identified several challenges to community fisheries management that can cause an FCZ to become inactive, ranging from environmental (e.g., changes to the FCZ habitat from development) to logistical (e.g., lack of budget for continued enforcement or loss of support for the FCZ through changes in village leadership). An important next step would be a broad evaluation of FCZs in Lao PDR to assess which are performing effectively, and which need support or strategies to improve their performance. The FCZ assessment guidebook currently being developed by FISHBIO with support from CEPF is one tool that could assist in this monitoring endeavor. We also recommend regularly updating the FCZ inventory (perhaps every 5 years) to maintain a current record of FCZs in Lao PDR.

# I. Introduction to Fish Conservation Zones in Lao PDR

Fisheries management is largely decentralized in Lao People’s Democratic Republic (Lao PDR), giving local communities the authority to manage freshwater fisheries in their own villages through various co-management structures. Freshwater protected areas, known as Fish Conservation Zones (FCZs), have emerged as a popular strategy for community-based fisheries management. Articles 50–54 of the Lao Fisheries Law allow for the formation of fisheries management committees at the village level, which have the authority to establish fishing regulations such as FCZs (Department of Livestock and Fisheries 2009). The Lao Community Fisheries and Dolphin Protection Project helped establish the first officially recognized FCZ in Khong District of Champasak Province in southern Lao PDR in 1993 (Baird 2006). Since then, hundreds of FCZs have been established throughout the country, often to safeguard food security and livelihoods in response to declining fish catches. Many have followed guidelines for fisheries co-management published by the World Wide Fund for Nature (WWF) and the Lao Department of Livestock and Fisheries

(Department of Livestock and Fisheries and WWF 2009). However, no formal review has been made to-date to tally and document the extent of FCZs in Lao PDR, and few efforts have been made to assess their effectiveness.

In 2015, FISHBIO received a grant from the Critical Ecosystem Partnership Fund to develop a best-practices guidebook for FCZ monitoring and evaluation (Grant No. 65817). The guidebook is intended to be a resource for civil society organizations and government counterparts to assess FCZs in Lao PDR, and includes methods for measuring biological, social, and governance indicators of FCZ effectiveness (Loury et al. 2017). As part of this project, FISHBIO sought to help the Lao Department of Livestock and Fisheries (DLF) synthesize existing information about FCZs in Lao PDR, with input from project partner WWF, and to assist DLF in an effort to inventory the FCZs established in the country. This report synthesizes the results of two government workshops held in 2017, along with input from DLF, to provide the most up-to-date summary of FCZs in Lao PDR.



## II. Summary of Workshops

The information contained in this report is synthesized from two government workshops. The first meeting was held on 27-28 February 2017, at the Luang Prabang Provincial Agriculture and Forestry Office in Luang Prabang. The meeting was organized by The Agro Biodiversity Initiative (TABI), and included 54 government officials from nine northern provinces. The event was called “Workshop to Review Information, Lessons and Methodologies for Management of Fish Conservation Zones, Northern Lao PDR.” The second meeting was held on 10-11 October 2017 in Savannakhet Province with support from TABI, and included 55 participants from nine provinces in the central and southern parts of Laos. At each meeting, representatives from the Provincial Office of Agriculture and Forestry (PAFO) and District Office of Agriculture and Forestry (DAFO) reported on the total number of officially recognized and unofficial FCZs in each province, and discussed challenges and lessons learned regarding FCZ management.

## III. Classification of FCZs

FCZs are considered a form of co-management in Lao PDR, where responsibility for management is shared between local communities and government officials (usually from DAFO). To be recognized as official, the FCZ regulations must be signed by the village committee and approved and signed by the relevant District Governor’s Office. These officially recognized FCZs represent the majority of the FCZs included in this report. Additionally, some provinces have also collected information on unofficial FCZs that have been established and managed at the community level, but have not received official government approval.

FCZs may be established for a variety of reasons, such as the prohibition of fishing to allow depleted fisheries stocks to recover or to achieve conservation objectives, such as protecting an endangered aquatic species. Depending on the FCZ’s specific objectives, it may be closed at all times or temporarily (e.g., seasonally). At the 2017 workshop in Luang Prabang, participants agreed on two terms to categorize general differences in FCZ management strategies:

- 1. Type A:** Managed-fishing FCZs: These “managed-fishing” FCZs are actively managed to allow fishing during certain times of the year, or for important events or visitors in the village. They are generally intended to enhance food security and income.
- 2. Type B:** No-take zones: These “no-take” FCZs are closed to fishing all year. They are generally intended to protect fish diversity, spawning sites, and refuges.

Only a few provinces reported their FCZs as either managed-fishing or no-take FCZs, so these distinctions are not reflected in the inventory presented below. Furthermore, participants did not define the primary objective of each FCZ at the workshop; thus, it is not possible to categorize FCZs within the inventory based on their desired outcomes.

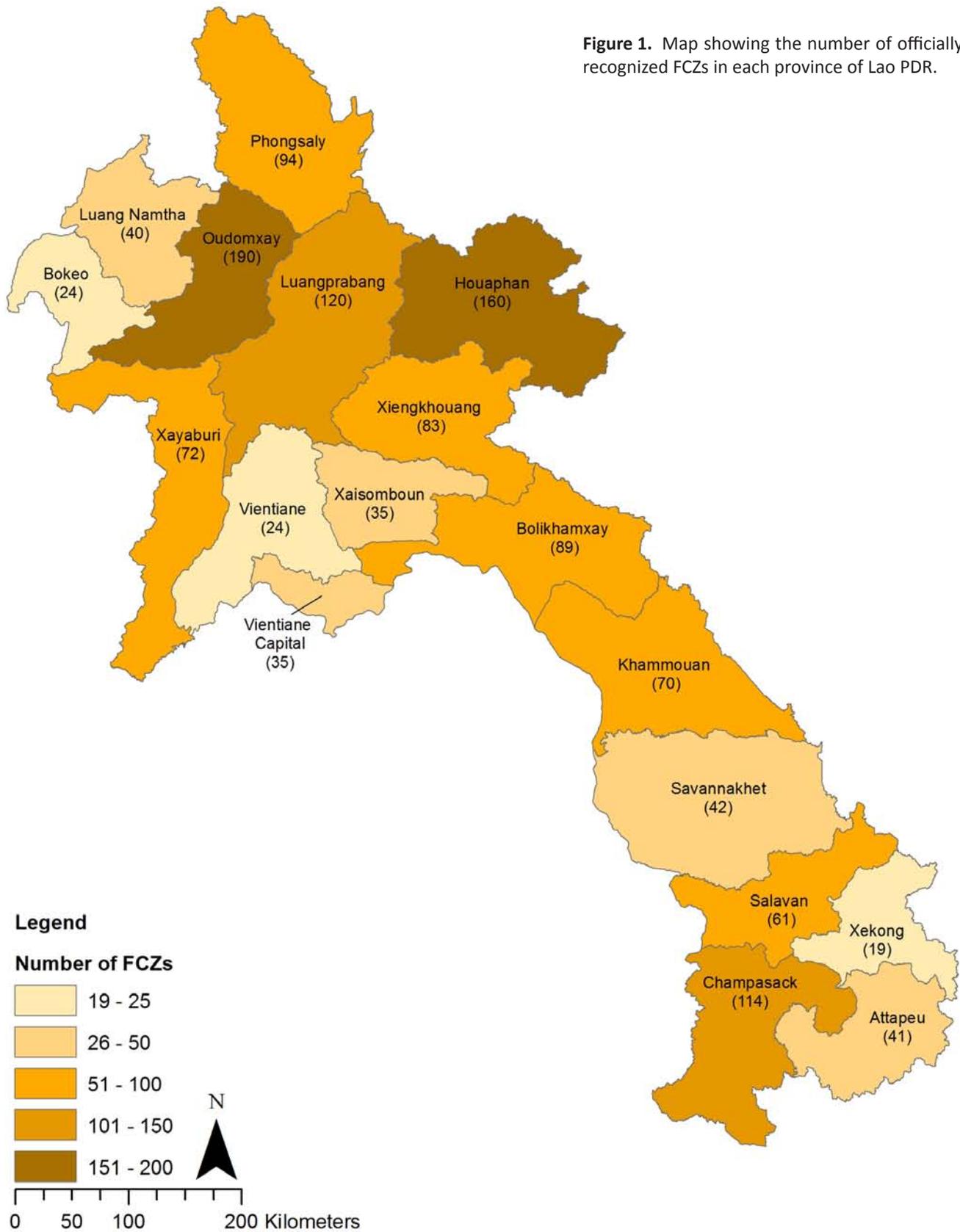
## IV. Inventory of FCZs

Following the workshops described above, staff at the Lao Department of Livestock and Fisheries (DLF) tallied the total number of FCZs from each province, which are listed in Table 1. DLF reports the total number of officially recognized FCZs to be 1,313 and the total number of unofficial FCZs to be 364, for a grand total of 1,677 FCZs. The unofficial FCZs were not reported from every province.

**Table 1.** Total official and unofficial FCZs in Lao PDR recognized by the Lao Department of Livestock and Fisheries. Obtained from the Department of Livestock and Fisheries on March 13, 2018. A dash (“–”) indicates that the data were not reported for this province. Official FCZs are those with regulations approved by district authorities, while community-based FCZs are not officially approved by district authorities.

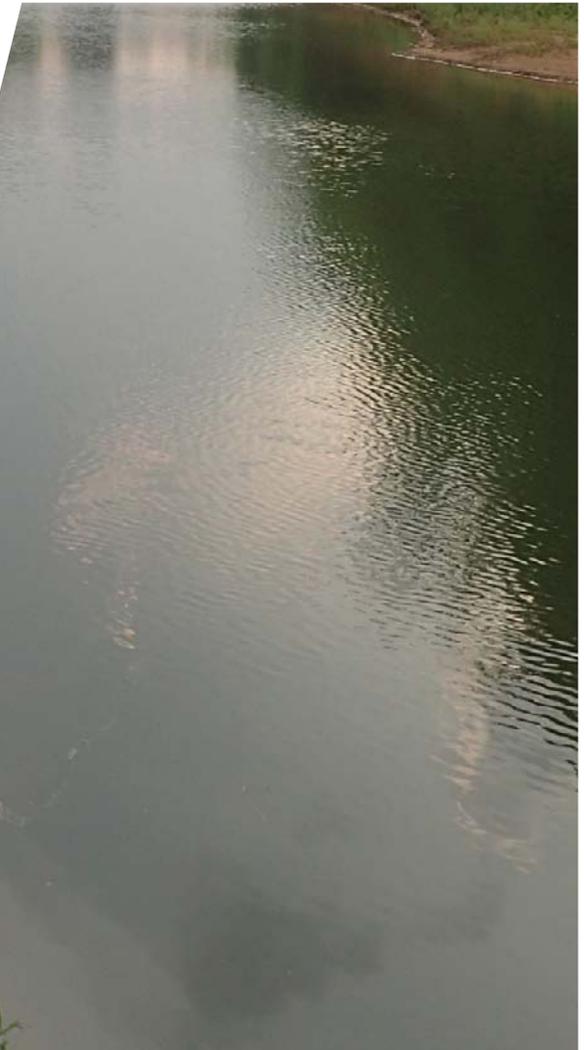
Province	Official FCZs	Villages and Districts Represented	Total FCZ area (ha)	Community-based FCZs
Phongsaly	94	84 villages, 7 districts	71.23	0
Luang Namtha	40	40 villages, 5 districts	197.33	47
Oudomxay	190	190 villages, 6 districts	107.41	0
Bokeo	24	24 villages, 5 districts	971.70	22
Luang Prabang	120	106 villages, 9 districts	–	167
Houaphan	160	155 villages, 10 districts	–	128
Xayaburi	72	–	–	–
Xiengkhouang	83	72 villages, 7 districts	154.40	–
Xaisomboun	35	35 villages, 4 districts	21.35	–
Vientiane	24	24 villages, 6 districts	11.82	–
Vientiane Capital	35	26 villages, 4 districts	–	–
Bolikhamxay	89	84 villages, 7 districts	156.48	–
Khammouane	70	71 villages, 8 districts	247.00	–
Savannakhet	42	41 villages, 9 districts	58.00	–
Salavan	61	58 villages, 8 districts	140.78	–
Xekong	19	16 villages, 3 districts	107.84	–
Champasack	114	101 villages, 10 districts	409.40	–
Attapeu	41	35 villages, 5 districts	319.56	–
<b>Total</b>	<b>1,313</b>		<b>2974.30</b>	<b>364</b>

**Figure 1.** Map showing the number of officially recognized FCZs in each province of Lao PDR.



## V. Case Study from WWF

The World Wide Fund for Nature, Laos (WWF Laos) has been supporting fisheries co-management initiatives in Lao PDR since 2002, including the development of co-management guidelines in 2009 (Department of Livestock and Fisheries and World Wildlife Fund 2009). WWF Laos has collaborated on programs with DLF in seven provinces. Altogether, WWF Laos has supported the creation of more than 250 fisheries co-management structures. Table 2 summarizes 241 FCZs that WWF helped establish between 2006 and 2015. WWF Laos is a trusted partner of the DLF, its provincial and district offices, and local communities for the effective development of fisheries co-management structures, and is able to draw on extensive experience from working all over the country, on both the mainstem Mekong River and its tributaries.



**Table 2.** Summary of Fish Conservation Zones established by World Wide Fund for Nature, Laos in Lao PDR (2006–2015)

Province and Districts	Number of FCZs established	Total FCZ area (ha)
<b>Bokeo</b>	<b>Total: 22</b>	<b>121.66</b>
Houayxai	11	94.67
Meung	2	3.60
Paktha	2	1.70
Phaoudom	4	15.46
Thonpeung	3	6.23
<b>Bolikhamxay</b>	<b>Total: 56</b>	<b>1141.93</b>
Bolikhan	3	780.00
Khamkeut	9	44.95
Pakkading	8	41.54
Paksan	7	218.31
Vienthong	29	57.13
<b>Khammouane</b>	<b>Total: 33</b>	<b>492.46</b>
Boualapha	7	12.34
Gnommalath	11	29.00
Hinboune	4	6.30
Khoun Kham	5	437.10
Mahaxay	4	4.63
Thakhek	2	3.10
<b>Savannakhet</b>	<b>Total: 31</b>	<b>461.87</b>
Atsaphone	4	2.00
Champhone	3	218.75
Nong	3	19.50
Phin	2	11.94
Songkhone	8	153.24
Xayphouthong	3	80.40
Xepon	2	22.45

Province and Districts	Number of FCZs established	Total FCZ area (ha)
Xonnabuly	6	33.99
<b>Xekong</b>	<b>Total: 21</b>	<b>110.64</b>
Dakcheung	3	1.02
Kareum	9	55.15
Lamam	9	54.47
<b>Champasack</b>	<b>Total: 37</b>	<b>212.08</b>
Khong	14	96.09
Kong	6	14.22
Mounlapamok	17	101.77
<b>Attapeu</b>	<b>Total: 41</b>	<b>314.39</b>
Phouvong	6	18.54
Samakhixay	7	62.81
Sanamxay	13	138.91
Xansai	3	1.55
Xaysettha	12	92.58
<b>Grand Total</b>	<b>241</b>	<b>2,935.42</b>



## VI. Challenges and Reasons for Inactive FCZs

It is important to note that while an FCZ may be reported or officially recognized, it may not be actively managed or enforced at present (essentially existing in name only). Participants at the 2017 FCZ workshop in Luang Prabang provided several reasons why an FCZ may become inactive or not perform as desired, including the environmental and logistical challenges listed below.

### Environmental Challenges:

- Impacts from infrastructure development, such as building hydropower dams, roads, and bridges
- Mis-identification of FCZ habitat during the site selection (establishing an FCZ in a habitat that was not important for fish) or changes to habitat, including shallow water in the dry season, lots of sediment/nutrients flowing down and filling in the deep pools, or a lack of complex refuges habitat for fish to stay
- The use of chemical pesticides in agriculture that harm fishes
- Land clearance and soil erosion near FCZs
- Sand and gravel mining in or upstream of the FCZ sites

### Logistical Challenges:

- Lack of budget to support long-term FCZ monitoring and enforcement
- Lack of technical and ecological background in the community for aquatic resource management
- The FCZ site is located too far from the village center, or the FCZ length is too long to provide enforcement coverage
- The FCZ regulations have not been revised or improved to address changes in the environment or other logistical challenges
- Old or broken FCZ signs; not having budget to replace or repair them
- Changes in the village leadership, resulting in decreased support for the FCZ
- Changes in the FCZ's regulation policies from one approach to another, such as a change in fisheries management from "no-take" to "managed fishing," or changing to private concession
- Lack of coordination and communication between villagers and government staff in implementing the FCZ (e.g., not reporting to each other)
- No enforcement against the sale of illegal fishing gear such as electrical devices, which still appear in many shops or markets

From conversations with villagers, FISHBIO has also learned that sometimes village enforcement team members do not feel like they have the authority to confront people fishing illegally inside the FCZ, especially if the people conducting the illegal fishing belong to the army, police, government, or village committee.

## VII. Next Steps

Documenting the extent of FCZ establishment in Laos is an important step in understanding how resources and effort have been distributed to implement this fisheries co-management strategy. We recommend regularly updating the FCZ inventory (perhaps every 5 years) to maintain a current record of FCZs in Lao PDR. An important next step would be evaluating these FCZs in Lao PDR to understand which are functioning effectively and which are underperforming or inactive, as well as to understand the constraints, challenges, and conducive conditions for effective FCZ management. Strategies can then be developed to improve the management and performance of these FCZs in achieving their desired outcomes. The guidebook currently being developed by FISHBIO is a tool and resource that can aid in regular assessment and evaluation of FCZs in Lao PDR (Loury et al. 2017).



## Citations

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