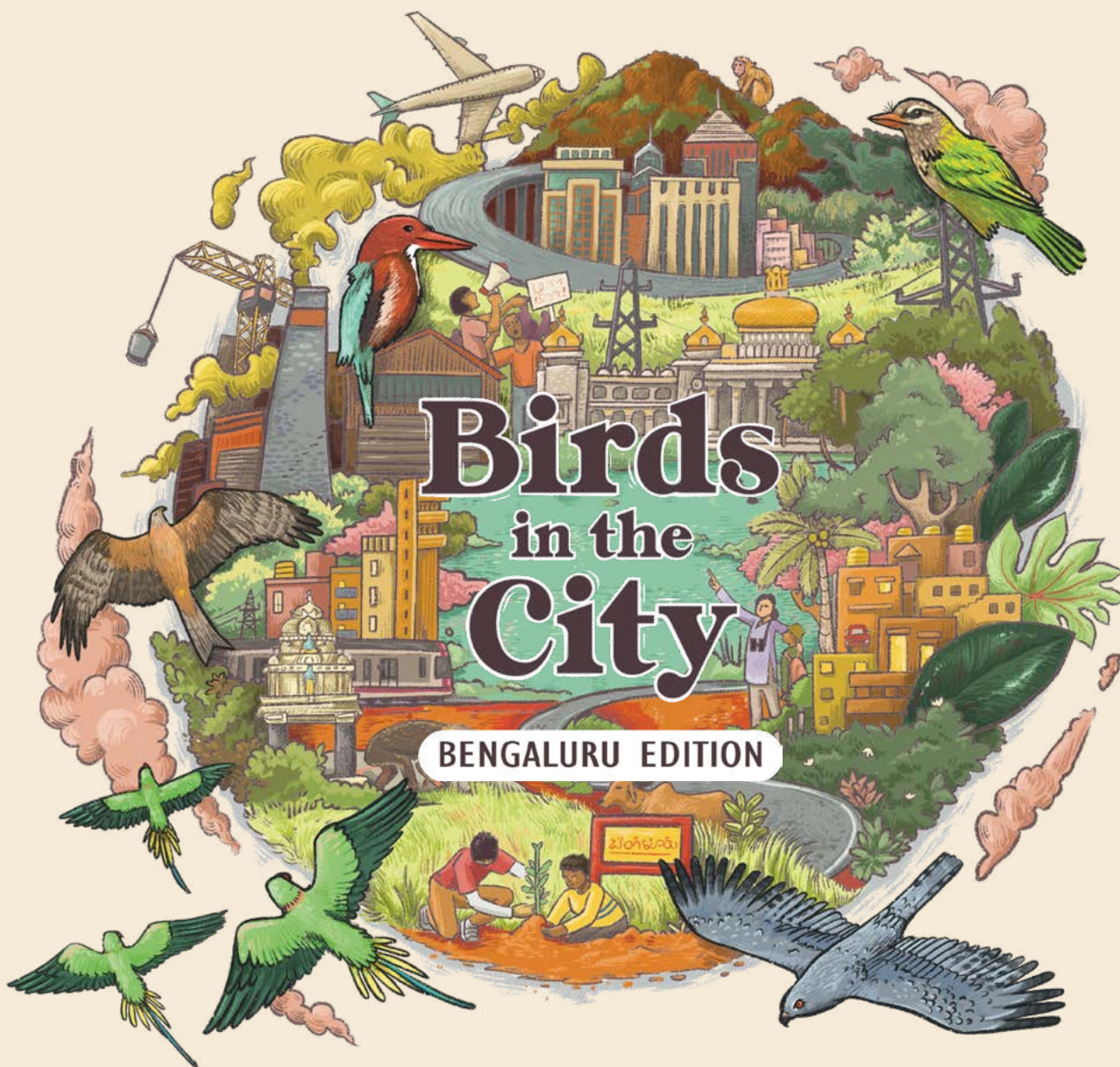


*PlayIn
Nature*



COMPANION BOOK

includes rules

Dear players,

The city of Bengaluru has been the city of dreams, a hub of activity and opportunity for many. Currently it is home to about 12 million people who have over the years migrated to the city for livelihood.

Bengaluru has grown and has experienced rapid urbanisation in the recent past. Concrete structures have replaced green spaces, tree cover and water bodies in the city while all along, its citizens have made efforts to protect and conserve these.

The green spaces and water bodies in the city are important habitats for many species of birds and other wildlife. The loss of habitats owing to rapid urban growth, affects the biodiversity around us. However, we, the citizens of Bengaluru, can take action to help preserve biodiversity, alongside urban development.

To find out more about how you can be an active citizen and take action to help birds flourish in the city, we invite you to play Birds in the City.

Birds in the City design team



CONTENTS

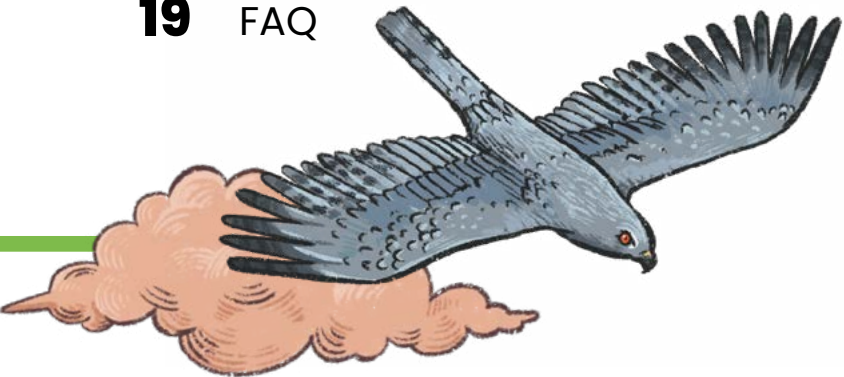
02 ABOUT THE GAME

- 03 Game Elements
- 11 Rules of the Game
- 15 Example Gameplay
- 19 FAQ

20 REFLECTION EXERCISE

21 DECODING THE GAME

28 ABOUT THE PROJECT



ABOUT THE GAME

Birds in the City: Bengaluru Edition is a cooperative game that can be played in groups of a minimum of 3 players and a maximum of 5 players.

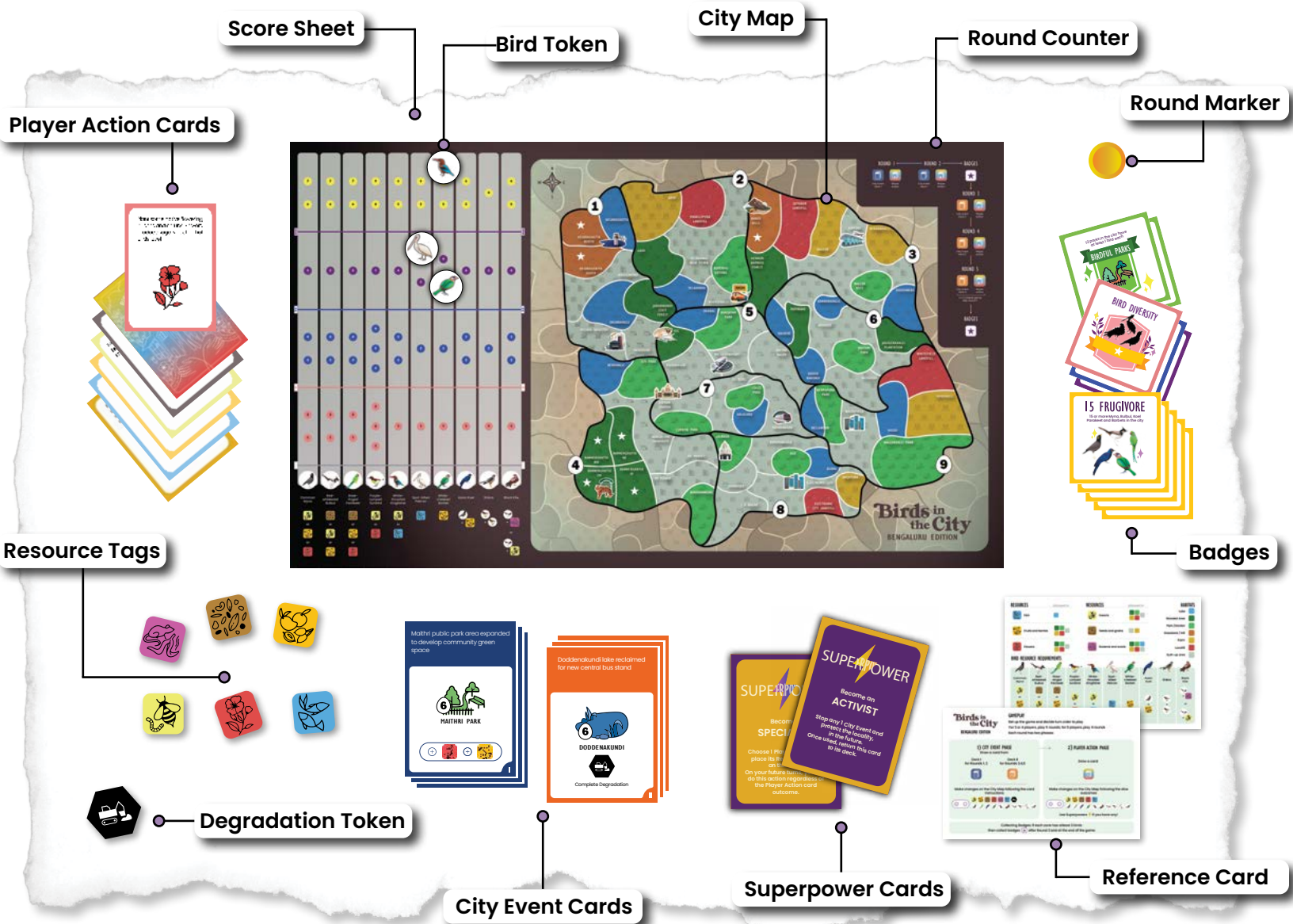
The objective of Birds in the City is to bring different bird species, through various Player Actions, onto the City Map of Bengaluru and collect as many Badges as possible. The game is played in 4 or 5 rounds depending on the number of players.

Game Tip: To ensure that everyone gets the best of this game, we suggest that you listen and understand everyone's points of views with curiosity rather than judgement. We are sure that each player has something valuable to add to the discussion.

No. of Players	Rounds	Badges
3	5	2 Bird Diversity (Level 1 and 2), All Special Badges
4	5	3 Bird Diversity (Level 1, 2 and 3), All Special Badges
5	4	3 Bird Diversity (Level 1, 2 and 3), All Special Badges

If you wish to make the game more challenging, add 'advanced' badges along with 'special' badges.

GAME ELEMENTS



1 GAME BOARD 1 BOARD

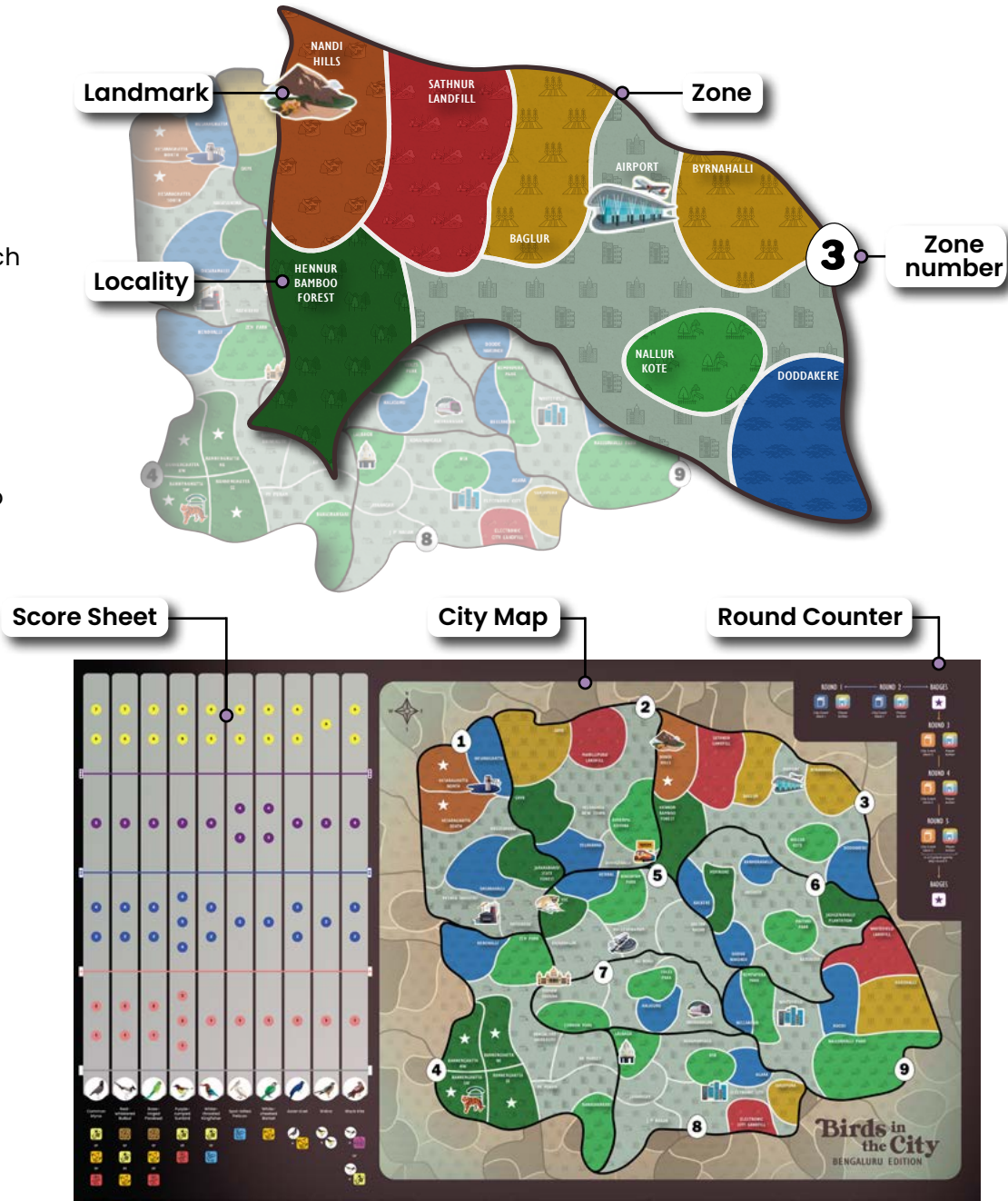
The game board has 2 sections - Bengaluru city map and bird score sheet.

The city map is divided into 9 **zones**. Each **zone** is further divided into **localities**. Each **locality** has a unique name and is assigned a colour based on the type of **habitat** it hosts.

The city map section also features the round counter. It helps keep track of the game rounds and the City Event Deck to use in each round, with a Round Marker (See '10. Round Marker').

The bird score sheet section is for tracking Bird Tokens. Use it to:

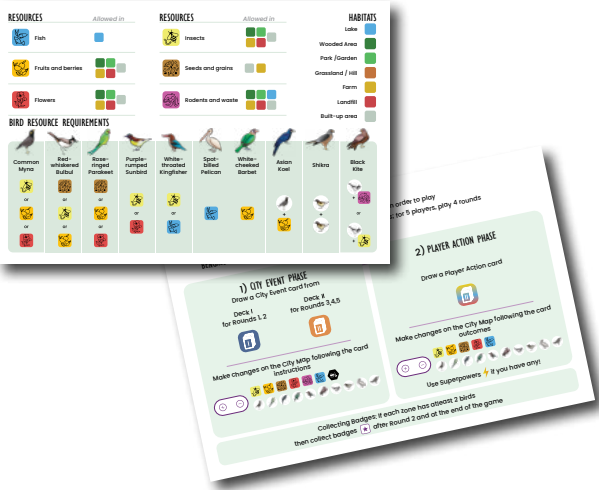
- Keep track of the number of birds on the city map.
- Refer to the Resource Token requirements of each bird.
- Review which Bird Diversity Badges (see '9. Badges') can be collected.



2 PLAYER REFERENCE CARD 4 REFERENCE CARDS

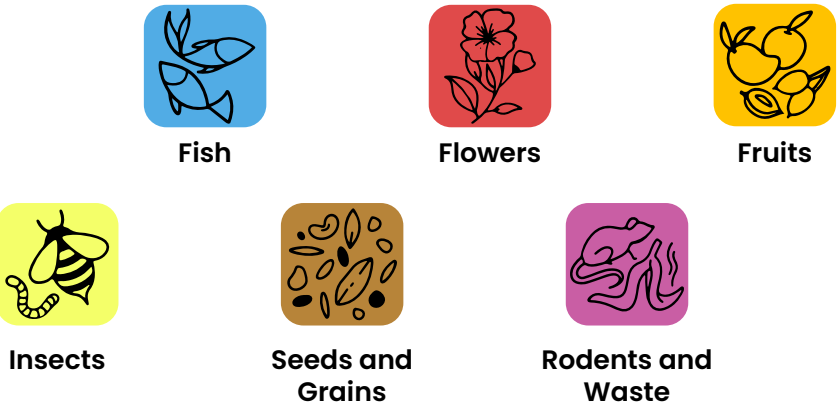
The player Reference Card gives a quick overview of how to play the game. It also has:

- Habitat colour key. For example, the locality “Yelahanka” in Zone 2 is blue, which means it is a lake habitat.
- Resource Tokens supported in each habitat.
- Bird resource requirements.



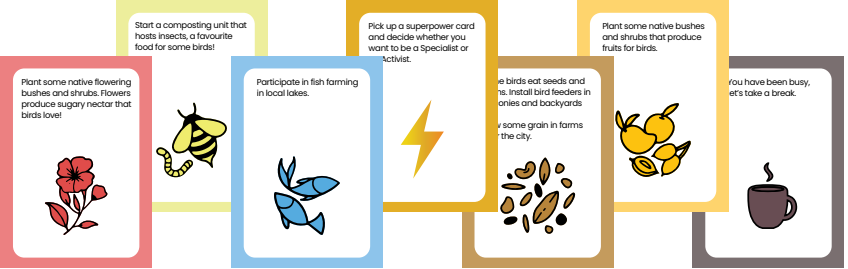
3 RESOURCE TOKENS 82 TOKENS OF 6 TYPES

Resource Tokens fulfil food requirements of birds. They get added to the city map in habitats that support them based on City Events and Player Action. They may also get removed from the map as a result of habitat degradation. Read more about what they represent in the **Iconography** section.



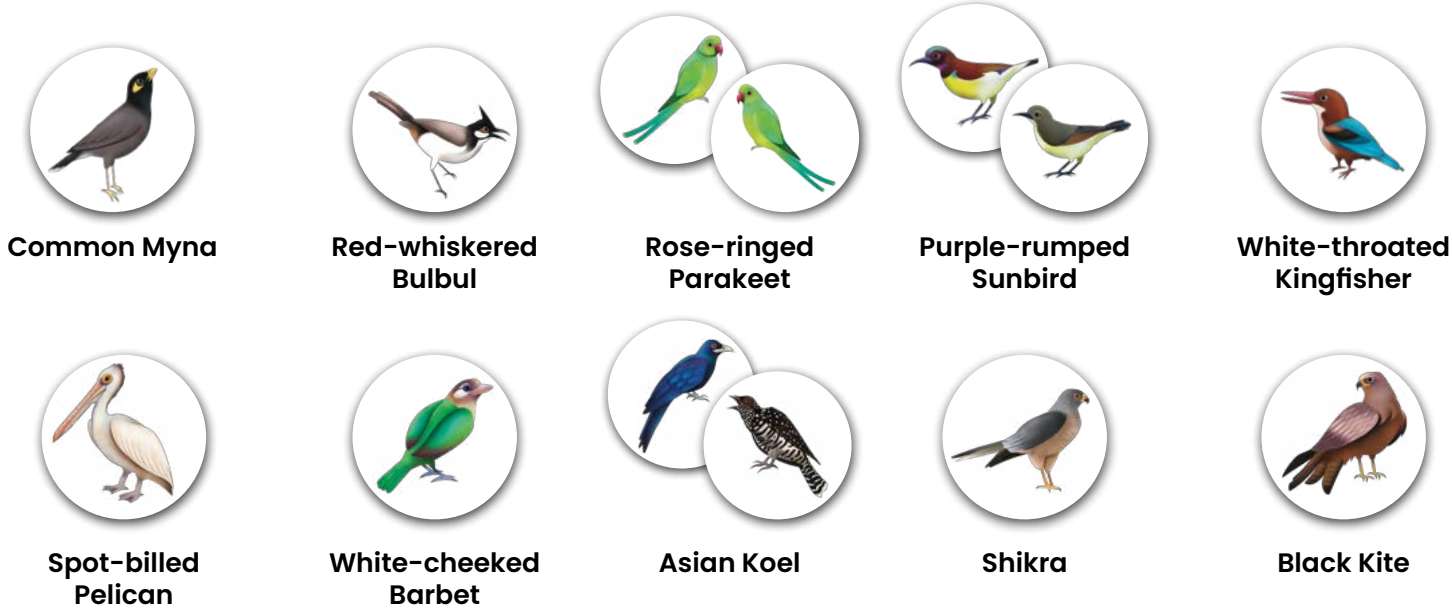
4 PLAYER ACTION CARD DECK DECK OF 12 CARDS OF 7 TYPES

This is a deck of five citizen actions that can increase bird diversity in the city - Composting, Flower Gardening, Fruit Gardening, Fish Farming, Bird Feeder Installation. The deck also includes two other cards - Superpower (see: '9. Superpower Card') and Take a break.



5 BIRD TOKENS
64 TOKENS OF 10 TYPES

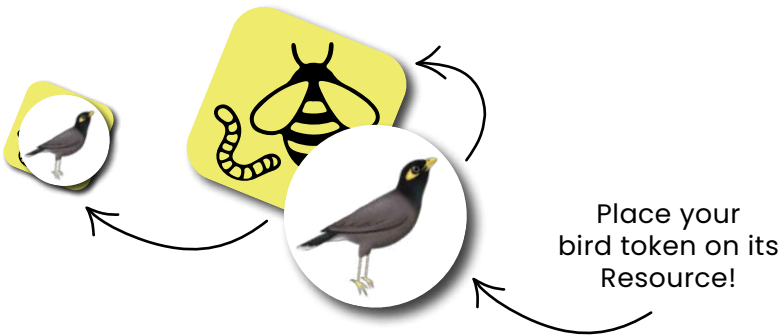
These are the birds that occupy the city as the game progresses. There are 10 types of Bird Tokens for 10 unique bird species that need to be arranged on the bird score sheet section of the Game Board during setup. Bird Tokens get added to localities on the city map when their specific resource requirements are met through Player Actions and City Events. Read more about these birds in the **Birds featured** in the game section.



RULES FOR BIRD TOKENS

Bird resource requirements

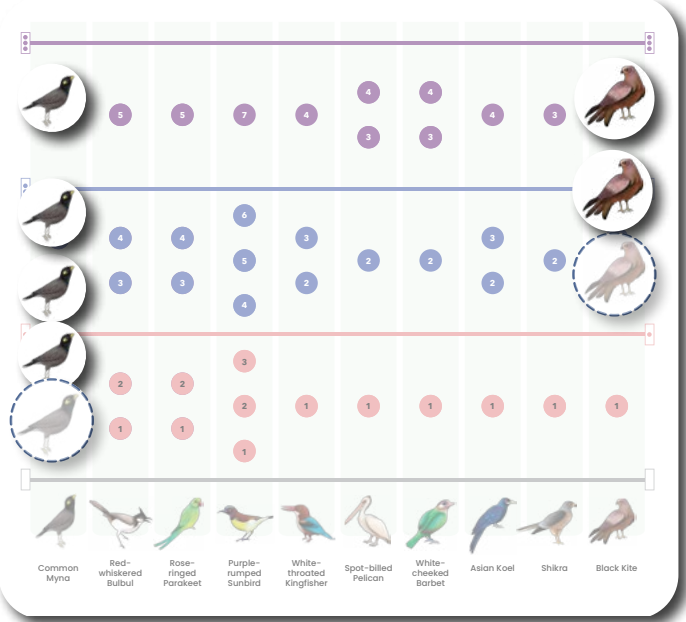
- Only ONE Resource Token can be used per Bird Token i.e Resource Tokens cannot be shared between 2 or more Bird Tokens.
- When a bird's resource requirement is fulfilled, stack the Bird Token on its Resource Token.



How to pick and place Bird Tokens

When a **Bird Token is added** to the map: Take Bird Tokens from **bottom to top**, in sequence, from the Bird Score Sheet

Take from the sheet!



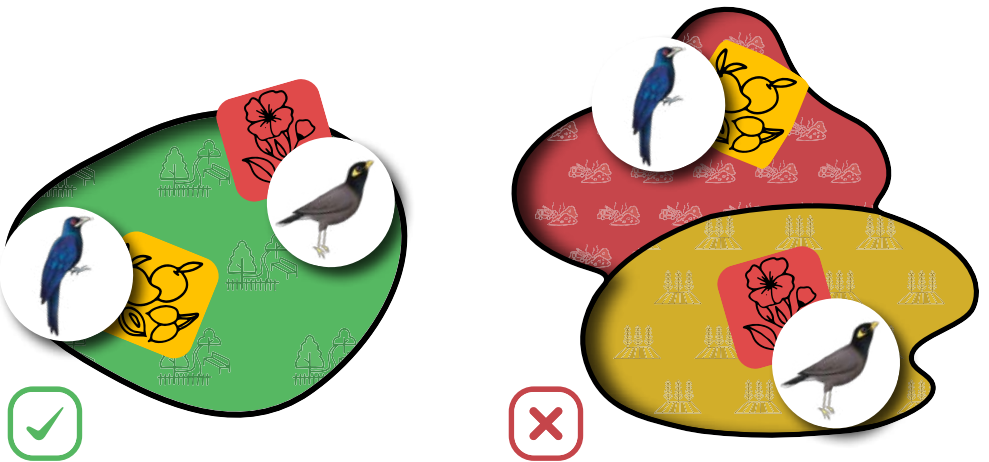
When a **Bird Token is removed** from the map: Place Bird Tokens back from **top to bottom**, in sequence - filling up the empty slots, on the Bird Score Sheet



Place on the sheet!

Some birds (**Black Kite, Asian Koel and Shikra**) have special requirements

- A Black Kite or an Asian Koel can be added to the city map **ONLY** if the combinations of Bird Tokens and Resource Tokens that they require are in the **same** locality.
- A Shikra can be added to the city map **ONLY** if there are two sunbirds in the **same** locality.



6 CITY EVENT CARDS (DECK I AND DECK II)

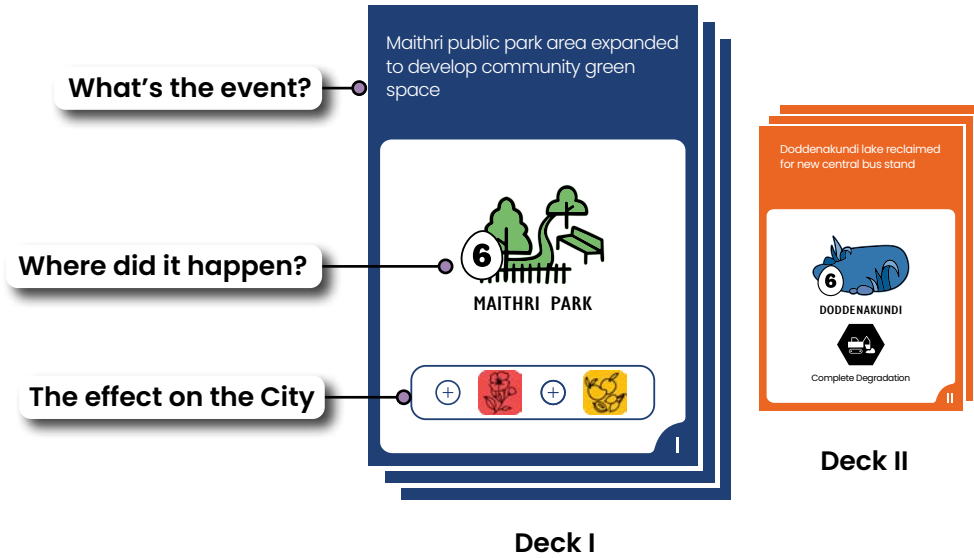
38 CARDS (15 IN DECK I, 23 IN DECK II)

These are events beyond your control that bring about changes to the city and as a result, to the habitats in the city.

There are 2 decks of City Event cards. Deck I is used in Rounds 1 and 2. Deck II is used in Rounds 3, 4 and 5.

City Event cards can bring about the following changes to the city map:

- Resource Tokens added OR removed
- Bird Tokens added OR removed
- Degradation Tokens added onto a locality **and** Resource + Bird Tokens removed from that locality



7 DEGRADATION TOKENS

18 TOKENS

These tokens represent irreparable damage to a habitat in some locality. These tokens are added onto a locality on the city map due to a City Event. When a token is added to any locality, the habitat in that locality is completely degraded and all Resource and Bird Tokens must be removed from there. Bird Tokens must be returned to their appropriate position on the bird score sheet (remember, it is top to bottom when the birds go back to the score sheet). No further actions can happen in this Habitat/Locality.



8 BADGES

10 BADGES

The objective of the game is to collect as many Badges as possible. There are 10 different Badges of 3 types in the game. However, every game is played with Badges shortlisted based on the number of players (see: 'Game Rounds and Badges to Play for'). Players can review and collect Badges after completing the **second** and the **last** round of the game (see: 'Collecting Badges'. Also, remember that the number of rounds also depends on the number of players).

Bird Diversity Badges:

Players collect these Badges if they have crossed respective levels on the bird score sheet (note that all individual Bird Tokens of all species below the level marker need to be on the city map to collect the Badge).



Level 1



Level 2



Level 3

Special Badges:

Players can collect these Badges if their criteria are met:

Frugivores: 15 or more Myna, Bulbul, Parakeet, Barbet, Koel anywhere on the City Map

Nectarivores: 15 or more Myna, Parakeet, Sunbird anywhere on the City Map

Piscivores: 10 or more Kingfishers or Pelicans anywhere on the City Map

Carnivores: 5 or more Shikras or Kites anywhere on the City Map

Koels: 4 or more Koels anywhere on the City Map



Advanced Badges:

These are optional. Players can choose to play using these Badges if they wish to increase the difficulty level of the game.

Birdful Parks: Players collect this Badge if the 12 park habitats on the City Map have at least one Bird Token each.



Birdful Zone: Players collect this Badge if any 1 zone on the City Map has all 10 types of Bird Tokens.



Rules for Badges

- A minimum of 2 birds of any type need to be in EVERY zone on the City Map to unlock and start collecting Badges.
- To know which Badge to collect – review the information on the Badge.
- While playing the game, players must review and collect badges at the end of Round 2 and Round 4 or 5 (depending on the number of players) as guided by the collecting badges section in ‘How to Play’. If a criteria for a certain Badge that was collected after Round 2 is no longer valid at the end of the game, that Badge needs to be returned.

RULES OF THE GAME

HOW TO SET-UP

1. Open the Game Board and set up the bird score sheet section by arranging all Bird Tokens in their respective slots. Place the Round Marker on the round counter on Round 1, Phase 1.
2. Place the Resource Tokens in a few separate piles around the board such that they are accessible to all players.
3. Shuffle and place the City Event card Decks I and II face down next to the board.
4. Place the Badges you choose to play with, as suggested in the set-up layout –
 - First, place the Bird Diversity Badges (The number of these badges depends on the number of players in your game. See: ‘Game Rounds and Badges to play for’)
 - Next, decide as a group whether you will use ONLY the 5 Special Badges or if you would also like to play for the 2 Advanced Badges. (See: ‘Types of Badges’)

5. Start condition set-up: Place Resource and Bird Tokens on the city map (See: ‘Start Conditions’). These are the birds that are present in the city at the start of the game.

Game Tip: While placing the Resource Tokens on the city map, notice how one Bird Token is placed on one Resource Token when the specific bird requirements are fulfilled. (See: Rules for Bird Tokens’)

6. Decide the player turn order before starting the game and stick with this order throughout the game. **Player who has seen or heard one of the birds in the game most recently, goes first.** You are ready to begin!

9 SUPERPOWER CARDS
16 CARDS

These cards will come to use if a player draws Superpower Player Action from the Player Action card deck.

They have 2 sides – Activist and Specialist.











10 ROUND MARKER
1 MARKER

Use the Round Marker to track your progress on the round counter on the main Game Board.



Start Conditions

Resource	Zone Number and Locality	Bird
 Fish	① Hesaraghatta lake	 White-throated Kingfisher
 Fish	⑨ Bellandur lake	 Spot-billed Pelican
 Flowers	④ Bannerghatta SW	 Purple-rumped Sunbird
 Fruits	③ Nallur kote	 Common Myna
 Fruits	④ Bannerghatta NE	 White-cheeked Barbet
 Insects	⑥ Jadigenahalli plantation	 Purple-rumped Sunbird
 Seeds and grains	④ Zen park	 Red-whiskered Bulbul
 Seeds and grains	③ Nandi hills	 Rose-ringed Parakeet
 Rodents and waste	② Mavallipura landfill	
 Rodents and waste	③ Sathnur landfill	
 Rodents and waste	⑨ Whitefield landfill	
 Rodents and waste	⑧ Electronic city landfill	

HOW TO PLAY

Game Tip: The objective of the game is to bring as many Bird Tokens onto the City Map as possible, to collect the different Badges.

The game is played in 4 or 5 rounds depending on the number of players. Each round consists of 2 phases: City Events and Player Actions.

Every round begins with the City Event phase

- > First player draws a City Event card from Deck I and makes changes on the city map following the card instructions. Other players follow the turn order and do the same one by one. Use Deck I for Round 1 and 2, and Deck II for the rest of the game.
- > City Event cards may result in the following types of changes on the city map: degradation of habitats, and/or addition or removal of Resource Tokens, and/or addition or removal of Bird Tokens.
- > If a City Event has caused complete degradation in a certain locality then the player must add a Degradation Token to the locality and remove any Birds and Resource Tokens from that locality. Players cannot add any Resource Tokens to that locality for the rest of the game. This is a completely degraded habitat.

Game Tip: If a player has acquired The Activist superpower, at any point, they can stop ONE City Event that causes degradation and loss of birds from the city map.

- > If a City Event has led to **addition of Resource Token/s** on the city map, players MUST add an appropriate Bird Token (a bird whose resource requirements are met) onto it.

Game Tip: If a City Event leads to addition of Resource Token/s, then players can mutually decide which birds to bring to the specified locality.

- > Players must remove Bird Tokens if **Resource Tokens associated with them are removed** by a City Event. Bird Tokens should be returned to the bird score sheet and Resource Tokens to their pile/s.
- > Set aside the used City Event cards in a discard pile.

The City Event phase is followed by the Player Actions phase

- > First player shuffles the Player Action card deck and draws any two cards. The player adds Resource Tokens associated with the cards drawn onto the city map (*see: 'Rules for Player Actions'*). They also immediately add Bird Tokens whose requirements are fulfilled by the resource added, to these locations. Player puts the cards back into the Player Action card deck.
- > Other Players follow the turn order and repeat.

> Other Players follow the turn order and repeat.

Game Tip: In this phase, players can make more decisions together. Keep the goals in mind, and collect badges together!

> Resource Tokens can be added in all localities EXCEPT protected areas – Hesaraghatta, Nandi Hills and Bannerghatta (*marked with stars on the city map*).If you’re curious to know why, read the ‘Protected Areas’ section under *Other features and concepts*.

> If the Player Action card that is drawn is a Superpower, the player must choose whether to become an ‘Activist’ or a ‘Specialist’.

- **If a player chooses The Activist card** – then they have the power to stop ONE City Event in the future. Players CANNOT undo earlier City Events. This superpower can be used only ONCE in the game. Once this superpower has been used, the player must return the Superpower card to its deck.
- **If a player chooses The Specialist** – then they can choose to become a specialist/ expert of any one Player Action. Going forward, when they draw Player Action cards, they can choose to replace either one or both the card actions with their specialist Player Action. They can use this superpower immediately as an alternative to the Player Action cards drawn currently. HOWEVER, players cannot use this Superpower to replace “Take A Break” card from the Player Action card deck.

Players need to move the Round Marker ahead and when they complete each phase and round of the game, to track progress

Collecting badges

Players can collect Badges after Round 2 and at the end of the game.

After Round 2 –

- > Players can collect Badges at the end of Round 2, if a minimum of **2 birds of any type are in EVERY zone** on the city map.
- > To know which Badges to collect, players need to review the bird score sheet and the information on the Badges.

At the end of the game (i.e. after Round 4 or 5) –

- > Players must **remove any 2 Bird Tokens from the zone with the most number of Degradation Tokens**. If there is a tie between zones, choose any one zone to remove Bird Tokens.
- > After that, if a minimum of 2 birds of any type are present in EVERY zone on the city map, players can review the Badges and collect the ones whose criteria are met. If a criteria for a certain Badge that was collected after Round 2 is no longer valid at the end of the game, that Badge needs to be returned.

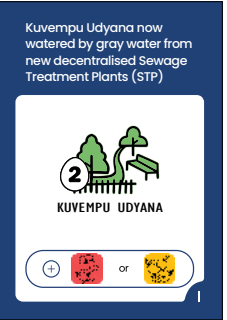
EXAMPLE GAMEPLAY

This is an example of a 4-player version of the first round in a game played by: Girish, Mala, Nicole and Suhail. You may use this to learn the rules better and/or follow-along for the first round to get used to how the game works.

- At the start of their game, Girish, Mala, Nicole and Suhail set up the City Map and other game elements according to the ‘How to set-up’ section.
- Together, they place the birds onto the city map by following start conditions that indicate where the initial Bird and Resource Tokens should be placed.
- Girish notices that there are 4 rodent and waste tokens left open and looks at the bird score sheet. Nicole points out that no birds can be placed on them right now because rodents and waste alone do not meet any bird’s resource requirement, it needs other resources in addition. Suhail points out that Koel, Kite or Shikra are not part of the start condition since they require more resources to be on the map before they can be brought in.
- They decide the turn order – Nicole will go first because she spotted a Shikra on her way to the game meetup, Girish second, Mala third, and Suhail fourth clockwise. This will be the turn order for all rounds.
- It’s time for the City Event Phase. All of them are curious to draw City Event cards and see what changes they bring to the city map.

Drawing from Deck I, Nicole receives the following card:

- > As luck would have it, Nicole gets a City Event that allows her to add a Resource Token to the city map, which means more birds! The group discusses.
- > Nicole decides to place the Fruit Resource Token in Kuvempu Udyana (Zone 2).
- > Nicole then chooses the White-cheeked Barbet which feeds on Fruits and places its token in Kuvempu Udyana (Zone 2) on the Resource Token.



Girish draws the City Event card next. He gets the following:

- > Girish gets a City Event that removes ALL Resource Tokens from Jadigenahalli Plantation in Zone 6 and Nallur Kote in Zone 3!



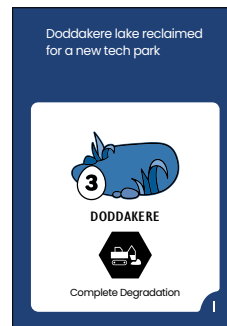
- > “This doesn’t feel so good!” he says to the others, as he removes the Fruit Resource Token from Nallur Kote and the Insect Resource Token from Jadigenahalli plantation.
- > Girish returns the Common Myna and Purple-rumped Sunbird that depended on these resources, to the bird score sheet.
- > No birds are brought onto the board in his turn.
- > With some disappointment, they move on...

It is Mala’s turn next. She draws the following card from Deck I:



- > Mala reads out loud from the card: “Dasarahalli community initiates native fish farming in the lake! This is a good City Event!”
- > Turning her attention to Zone 1, Mala adds a Fish Resource token to Dasarahalli lake and decides to bring a White-throated Kingfisher onto the City Map along with the fish.

Finally, Suhail picks a City Event. He draws the following:

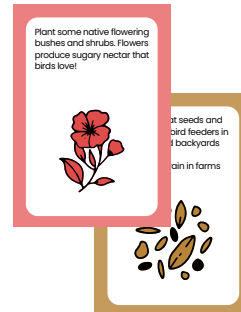


- > Suhail’s City Event card results in the degradation of Doddakere Lake! This lake gets reclaimed to build a tech park.
- > Suhail places the Degradation Token on Doddakere Lake. “This is not good... according to the rules, this means that we can’t bring any Resources and Birds to Doddakere Lake for the entire game!”, he sighs.
- > No birds are brought onto the board in his turn.

All of them have played a City Event card. It’s now time for Player Actions.

- > Next, Nicole picks up the Player Action card deck and shuffles it. She exclaims – “Phew, those changes to the city map were full of surprises! Let’s play the next phase to see what actions we get.”

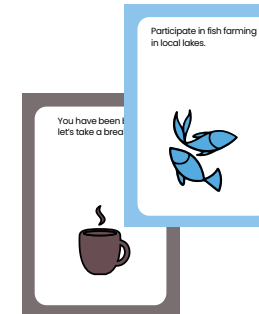
Nicole draws two cards from the shuffled Player Action deck. The cards say that she can do gardening and grow some native flowering plants and can also install a bird feeder somewhere in the city!



- > Nicole asks her friends whether she should place both Resource Tokens in the same or different localities. Others suggest that she place them in different zones. This can help them unlock the Badges for the future rounds.

- > Nicole decides to do the flower gardening action in Zone 9 Nallurhalli Park and places one Flower Token in that locality. She also installs a bird feeder in Zone 5, Malleshwaram locality by placing a Seeds and Grains Token.
- > Nicole puts a Rose-ringed Parakeet Token from the bird score sheet on the Flower Resource Token in Nallurhalli Park. She then places a Red-whiskered Bulbul Token on the Seeds and Grains token in Malleshwaram.
- > Nicole puts the Player Action cards she drew back into their deck and passes the deck on to Girish.

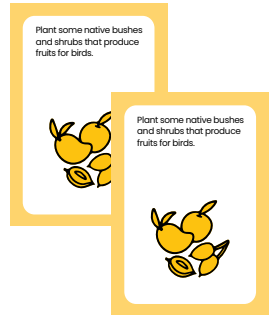
Girish shuffles the Player Action card deck and draws two cards with much enthusiasm. The first card allows him to set up a community fish farm in a city lake and the second asks him to ‘Take a Break’.



- > Girish can now set up a fish farm somewhere in the city, but can’t do anything for his second action!
- > Girish studies the city map carefully, and decides to place the Fish Resource Token in Kalkere Lake in Zone 6. Girish takes a Spot-billed Pelican Bird Token from the bird score sheet and places it on the Fish Token in Kalkere Lake.
- > Others joke that Girish is making all his own decisions, to which Girish responds “I really love Spot-billed Pelicans and want them on our city map.

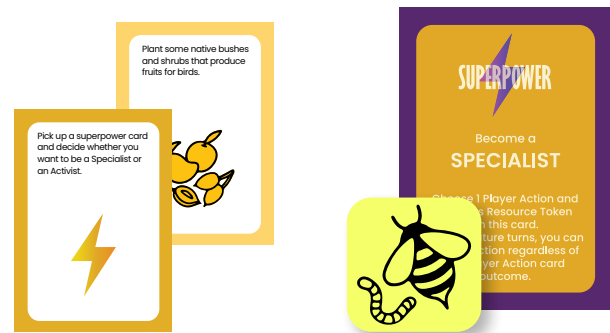
I will definitely ask everyone in the next round, promise!”. He puts his Player Action cards back into the deck and hands it over to Mala.

Mala has been eagerly waiting for her turn. She gets both cards of the same type! Two native fruit gardening action cards – Mala can now plant native fruiting trees in two localities to attract birds.



- > “What does everybody think? I can plant two native fruiting trees anywhere in the city, except in localities that have a Degradation Token or those that are protected.” Mala asks.
- > The four of them discuss an idea: the two native fruit tree planting actions can be used to bring an Asian Koel onto the city map! One Fruit Resource Token can support a Common Myna, and the Asian Koel can then be supported by the Common Myna AND the second Fruit Resource Token.
- > Mala is thrilled with this idea and decides to place both the Fruit tokens in the Kalyan Nagar locality.
- > As discussed by the group, Mala picks the Common Myna Bird Token and places it with one Fruit Token in Kalyan Nagar. Mala picks an Asian Koel Bird Token from the bird score sheet and places it on the second Fruit Token and the Common Myna in Kalyan Nagar.

Next, Suhail draws from the Player Action card deck and plays the final turn for this round. His cards show – fruit gardening and a Superpower! Suhail will plant some native fruiting trees this turn. He also has a decision to make about the superpower!



- > Suhail decides to plant the fruiting trees by placing the Fruit token in Zone 6 Whitefield Landfill.
- > For the second Player Action Suhail remarks “That’s interesting! I wonder which Superpower to choose. I could be an Activist or a Specialist. Any suggestions?”
- > The four discuss that if Suhail chooses to be a The Specialist, then he can use 1 Player Action flexibly for the rest of the game. This would be a good advantage to have, at this time in the game, as they could use it to bring more birds and collect Badges.
- > Suhail decides to be a Specialist in Composting (corresponding to the Insect Resource Token) for the rest of the game. He picks and places a Superpower card in front of him with its ‘Specialist’ side face-up. He takes an Insect token and places it on the card to remember his ‘Specialisation’.

In this round, he decides to set up a composting unit in Zone 6 Harohalli locality and puts an Insect Resource Token there.

- > Suhail then turns his attention to the bird score sheet. He picks a White-cheeked Barbet Token and places it with the Fruit Token in Whitefield Landfill. He then picks a Purple-rumped Sunbird Token and places it on the Insect Token in Harohalli Locality.

With Suhail’s turn, Round 1 has come to an end and they start Round 2. Their goal is to bring at least 2 birds in all zones so as to unlock and collect some badges by the end of Round 2.

FAQ

Can the birds that are dependent on multiple resources; i.e. the Shikra, Black Kite and Asian Koel be played in the same round?

Yes, ofcourse. Players can discuss and strategize to bring in birds that depend on multiple resources in the same round such that their resource requirements are met in a single round.

Help me understand how to use the Superpower card as the Specialist.

If you decide to use your superpower card to become a Specialist then you can choose any one Player Action that you want to become specialist of. Place the Resource Token associated with it on the ‘Specialist’ side of the Superpower card you take. Keep this card with you throughout the game. On each turn going forward, when you draw Player Action cards, you can choose to replace either one or both the card actions with your specialist Player Action.

Can more than one resource of the same type be added in the same locality?

Yes! In fact, players will need to do this in order to bring more birds onto the map. Remember, birds cannot share resource tokens – only 1 Bird Token per 1 Resource Token.

Can I become a Specialist of more than one Player Actions?

Sure! If you are already a Specialist of one Player Action and you get another Superpower card, you can choose to be a Specialist again or an Activist. Even if you are a Specialist of more than 1 Player Actions, during the Player Action phase, you can still only take 2 actions i.e. you will have to choose 2 actions to do from the card actions you draw and your ‘specialisations’.

Is there a maximum number of birds that players can add to one locality?

There is no restriction on how many birds can be added to one locality. If a particular locality gets overcrowded with birds, players can decide how to place the Tokens. It is completely fine if there is a spillover of birds from the outline of one locality into the other – as long as you can keep track of which zone the birds are in.

Can a Sunbird be used by more than one Shikra?

No, each Shikra Token will need an exclusive pair of Sunbird Tokens at the same locality.

REFLECTION EXERCISE

After playing the game, we encourage you to spend some time reflecting with your fellow players. Here are a few starting points:

Discuss with each other...

- What did you feel about the Player Action phase in the game?
- Were there any interesting comments from the players about the state of the city/ city map during the game?
- What would you like to take forward from this experience into your lives?
- What do you think are the effects of urbanisation on the bird diversity of Bengaluru?

Try by yourself or with your friends...

- **Observe** the green spaces in the city and the birds that inhabit them. What kinds of birds do you see in specific habitats? Do you see different birds in your backyard, parks, gardens and wooded areas, and other birds around lakes and ponds?
- **Identify** the birds in your neighbourhood by making quick sketches, or noting down their defining characteristics like their size, shape or size of beak/ wings, colours, etc.
- **Listen** to bird calls. What calls can you hear at dawn? What do you hear at dusk? What do you hear at night?
- **Learn** about how cities can be designed to be more bird and wildlife-friendly. How is the city being shaped currently? How can urban planning and design support birds and other plants and animals?
- **Do:** Take small steps to create a bird-supportive habitat in your home backyards and balconies – put out a water bath in the summer months, plant some native flowering plants, refrain from using inorganic pesticides.
- **Feel:** Think about how you feel when you are outdoors observing something in nature or when you shape your home into a space that attracts birds and insects.
- **Share:** Has this game sparked a new idea or thought about the birds in your city? Share your thoughts and ideas with your friends and family. If you develop your hobbies and learn more about how to create a bird-friendly environment in your own backyards, neighbourhoods, or city – share your learnings and plant ideas in others' minds! Positive environmental behaviours can be contagious!

BIRDS FEATURED

The game has 10 bird species, selected to showcase a mix of diets and habitats. In reality, there are several other bird species that coexist with humans in Bengaluru. Keep an eye out for them as well!

1 COMMON MYNA (*Acridotheres tristis*)



Habitat: Open and dry woodlands, cultivated lands, urban areas

Diet: Omnivorous, including insects like crickets and moths, grasshoppers

Did you know that the Common Myna is the most common bird across India according to the State of India's Birds 2020 report?

2 RED-WHISKERED BULBUL (*Pycnonotus jocosus*)



Habitat: Wooded areas, urban parks, gardens and orchards

Diet: Mainly fruits and flowers, occasionally in the mood for insects and spiders

These birds that have an otherwise talkative friendly musical whistling call are known to aggressively mob threats like snakes and owls if they are around.

DECODING THE GAME

3 SPOT-BILLED PELICAN (*Pelecanus philippensis*)



Habitat: Large lakes, rivers and other similar water bodies

Diet: Fish, caught in their bill pouch

Have you made a weekend trip to Ranganathittu to see large colonies of breeding Pelicans and other waterbirds?

4 WHITE-THROATED KINGFISHER (*Halcyon smyrnensis*)



Habitat: Ponds, canals, bamboo forests, trees lining roads, wooded areas

Diet: Wide assortment of fish, insects like grasshoppers, crickets, cockroaches, winged ants, scorpions, centipedes and reptiles like lizards

You may have seen a kingfisher by a local waterbody but have you noticed the call it makes? How does it sound? Try to listen next time you spot one!

5 ROSE-RINGED PARAKEET (*Psittacula krameri*)

Habitat: Open areas and woodlands, cultivated agricultural land, gardens, orchards and even crowded human settlements

Diet: Guava, dates and mangoes, and seeds of millet and maize and nuts



Have you noticed that only some Rose-ringed Parakeets have the rose-coloured ring around their neck? These are the males. The female birds do not have this distinct rose-ring which gives the species its name. They typically nest in holes/cavities in trees.

6 WHITE-CHEEKED BARBET (*Psilopogon virindis*)

Habitat: Woodlands and human-dominated areas, plantations and parks

Diet: Fruits (like figs) and flowers



A quintessential part of the Bengaluru soundscape – while these birds are otherwise found in wooded areas alone, they seem to have taken to the city and are common across all parts of Bengaluru. Have you noticed its ‘kutroo’ call sometimes in the middle of the day?

7 SHIKRA (*Accipiter badius*)

Habitat: Well-wooded residential areas, woodlands, gardens and park

Diet: Small reptiles like lizards and geckos, small birds, rodents, squirrels and some insects



Top predators in the city, Shikras have powerful talons that help them hunt. Have you spotted a Shikra pair in your neighbourhood? Next time you do, notice the colour of their eyes to find something interesting!

8 ASIAN KOEL (*Eudynamys scolopaceus*)

Habitat: Open woodlands like orchards and parks, residential areas

Diet: Fruits like figs, some insects and caterpillars

Heard more often than seen. Female Koels lay eggs in nests of other birds, including crows. Now can you guess why the Koel in the game needs a Common Myna next to it?



9 PURPLE-RUMPED SUNBIRD (*Leptocoma zeylonica*)

Habitat: Backyard gardens solitary flowering trees, parks and wooded areas

Diet: Nectar from flowers, insects and spiders, fruits

They are NOT hummingbirds! Purple-rumped Sunbirds are tiny, at less than 10 cm each. Females build intricate suspended nests made from fine plant fibres, cobwebs, and studded with pieces of bark and seed.



10 BLACK KITE (*Milvus migrans*)

Habitat: Grasslands, woodlands. Often found near water bodies as well as, human-dominated spaces like villages and urban areas, common around landfills

Diet: Small rodents, bats, small birds, lizards, amphibians, insects and fish



Black Kites are often seen gliding and soaring in the skies, changing direction with ease. Next time you spot one, notice their fork shaped tails.



To learn more about these birds, visit the Play in Nature website

CITY EVENTS IN THE GAME



Read more about how Bengaluru has changed over the years here



Or access the repository of references used here

ICONOGRAPHY

There are some interesting details hidden behind the simple visuals used in the game.

RESOURCE TOKENS

Each Resource Token represents a category of a food source for birds.



- Fish Token stands for all kinds of aquatic creatures that support bird diet.



- Flower Token symbolises diverse flowering shrubs, trees or plants.



- Fruit Token represents native plants and trees that bear fruits that are useful for birds.



- Insect Token represents insects and other invertebrates that thrive on decomposing organic matter and flowering plants in backyards.



- Seeds and Grains Token represents seeds and grains in bird feeders as well as grains from the crops in farmland.



- Rodents and Waste Token represents human-disposed refuse and waste that breeds rodents and other creatures that can support some birds.

HABITATS IN THE LOCALITIES ON THE CITY MAP



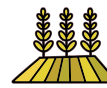
- Dark Green: Wooded areas with trees and shrubs creating natural spaces suitable for hikes, birdwatching and such-like outdoor activities.



- Light Green: Urban city parks and gardens including not only the iconic Lalbagh and Cubbon Park but also green spaces that are maintained within small communities all over the city.



- Blue: Natural and artificially constructed lakes in Bengaluru city.



- Ochre: Agricultural farms seen on the outskirts of Bengaluru city.



- Red: Landfill/ dump yards are representative of waste processing and recycling units that function in different parts of the city, mostly around the periphery.



- Grey: 3 key types of built-up areas – commercial, industrial and residential – that hold the potential to support urban wildlife in different ways.

LANDMARKS AND WILDLIFE ON THE CITY MAP

The map of Bengaluru features visual elements that are a mix of iconic landmarks, ongoing urban development and unique wildlife of the city:

- Lalbagh Glass House – glass structure in the Botanical garden famous for its flower shows
- Nandi hills and Hesaraghatta grasslands – unique natural habitats around the city
- Tiger in Bannerghatta, and Slender Loris in IISc – other-than-bird wildlife in the city
- Vidhana Soudha and Majestic bus stand – landmarks known for their unique architecture
- Industry, skyscrapers, airport and metro – symbols of urban public infrastructure



SIGNIFICANCE OF PLAYER ACTIONS

Let's understand how actions from the game can help make the city conducive for birds and other biodiversity.

COMPOSTING

Composting your organic kitchen waste can support a thriving ecosystem of insects that help decompose this waste and turn it into a natural fertiliser. Insects are also a great resource for birds. By composting, you can ensure proper waste segregation practices and also support birds in your backyard!

FLOWER GARDENING

Birds like sunbirds and parakeets, feed on the nectar from flowers. You can plant native flowering bushes and trees around your house and neighbourhood to support both insects and birds.

BIRD FEEDER INSTALLATION

You may install bird feeders in your backyard or balcony. Be careful that you do not add any food that is harmful for birds. Clean them out regularly and replace the unfinished food to prevent disease-spread among birds. Bird feeders help people connect with birds in their backyard and can be a great way of learning more about birds as a beginner. However, using artificial bird feeders is a debated topic and you can learn more about this by going through some resources that we have compiled on our website.

FISH FARMING

While this might require more effort, citizens have shown and continue to contribute to lake rejuvenation. The shallow and natural banks of lakes or fish farms (if designed thoughtfully) are perfect for some shore and water birds.

FRUIT GARDENING

Native fruiting trees act as a major sources of food for fruit-eating birds such as bulbuls and barbets. By planting native fruiting trees, you are playing your role in supporting birds in Bengaluru! To know more about the native trees and plants of Bengaluru, visit the resources page on our website.

OTHER FEATURES AND CONCEPTS

Let's understand how actions from the game can help make the city conducive for birds and other biodiversity.

SIGNIFICANCE OF BIRD MOVEMENT

Birds move across different localities in the city in search of resources they need - food, nesting material, roost sites, etc. This behaviour of birds is reflected through the game, when players pick a city event card or take a player action that affects the resources and birds get added to or removed from the map. Although this is played over a short timeline in the game, in reality most of these things take much longer.

EFFECTS OF SMALL URBAN GREENING PROJECTS

Small wild areas in the city are extremely important. Studies have shown how planting native indigenous plants can support a thriving insect life which in turn, can be a source of food for birds and reptiles!

PROTECTED AREAS

Particular areas in and around Bengaluru city like the Hesaraghatta grasslands, Nandi hills and Bannerghatta, are unique habitats that support biodiversity in the city. These areas are Protected Areas, often under the jurisdiction of the State Forest Department. Any development activities in these areas are restricted.

SEWAGE TREATMENT AND BENGALURU'S LAKES

Currently, many lakes in Bengaluru are being used as dumping grounds for treated wastewater and raw sewage - a major reason for water pollution. This lowers the lake water quality and affects the fish population. It is the need of the hour to manage wastewater at the household level- reusing grey water for gardening, construction and landscaping, etc and enforcing strict regulation on factories and industries for their wastewater management.

PURPOSE OF THE DEGRADATION TOKEN

A city event (like a lake being reclaimed for a development project) causes habitat degradation. It destroys natural habitat and may force birds out of the habitat. Therefore, in the game, placing a degradation token on a locality means that no birds or resources can be added here, that point onwards - it is irreversible damage in the game (and sometimes in reality!). However, in the event of a thunderstorm that may cause treefall, the damage is temporary and that leaves the possibility for the habitat to recover, and for birds to return to the locality.

ABOUT THE PROJECT

Birds in the City: Bengaluru Edition board game is designed by the Play in Nature team. The project is funded by Bengaluru Sustainability Forum's Small Grants Programme and supported by Nature Conservation Foundation.

PlayIn
Nature

We create games and play-based resources that bring people closer to nature.

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The Nature Conservation Foundation is a research, education, and conservation action organisation, established as a public charitable trust in 1996. Our work focuses on bringing innovative research and imaginative solutions to the conservation of India's unique wildlife heritage. We use science to generate new knowledge about India's wild species and ecosystems, and implement conservation solutions together with local communities, governments and other stakeholders. As part of this, NCF also works with the public on matters of nature and wildlife; engaging children and adults in ecological observation; and developing and distributing nature education material widely.

🌐 www.ncf-india.org



The Bengaluru Sustainability Forum (BSF) is a multi-institutional initiative focusing on issues of urban and peri-urban sustainability in Bengaluru. With an aim to foster a holistic understanding of sustainability issues and innovative solutions in the city, BSF curates interdisciplinary conversations and collaborations involving various stakeholders – from academics, researchers and practitioners to social advocates and citizens. The wide range of engagements facilitated by BSF include retreats, workshops, panel discussions, webinars, film festivals, exhibitions, podcasts and a Small Grants Programme.

The BSF Small Grants Programme is an effort to enable and support local, innovative, cross-disciplinary, collaborative projects to start off and grow into a sustainable future. Initially established to provide seed funding for projects and ideas conceived at the BSF Retreats, it has evolved since 2018–19 into a well-recognised grant programme in Bengaluru. The 40 projects supported till date have contributed significantly to addressing varied aspects of sustainability in the city. The Small Grants Programme is a platform for innovative, collaborative approaches that address issues in a holistic manner.

🌐 www.bengalurusustainabilityforum.org

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ENDNOTE

We hope you enjoyed the game experience and learnt as much as we did while making the game. This game is meant to spark curiosity and conversations on what it takes to make a city more friendly for birds. If you think you have explored all aspects of the game to the fullest, then we recommend that you share your copy with friends, family and colleagues and spread the joy of birds in our city!

ATTRIBUTION

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