Balfour Community Forest

A sustainable development concept with respect to innovative forest management, appropriate recreational uses and joint awareness of a cultural landscape by means of public participation for tomorrow!

Master thesis in Landscape Architecture and Planning
Heike Kaiser| Kassel University | Winter 2009/10

Introduction

Community Forests

- Play an important role within the overall ***urban green space***
- Represent ***nature*** close to where people live
- Offer unique ***recreational settings***
- Provide special ***educational environments***

Professional objective

- To link ***recreational use and forest management*** by elaborating a sustainable and participatory development concept
- To illustrate how a better understandign of the ***interrelations between the local communities and their peri-urban*** forest is essential

  >> for improving ***forest management and use***

  >> for enhancing ***local identity***

Background

Community forest projects in Israel

- ***Jewish National Fund – Land Development Agency (JNF-KKL):*** responsible public body for managing all forest in Israel

- In 2006: Introduction of ***Community Forest program***

  >> to improve the ***conditions of peri-urban forests***

  >> to meet the *changing demands of society*

- ***Balfour Forest:*** national pilot project

  >> ***Public participation process*** limited to Migdal HaEmek started in 2008, still ongoing…

- To get involved during ***a voluntary internship*** in the JNF-KKL in 2009

  >> decision to make the project the ***subject of Master thesis***

יער קהילתי
Community Forests

Landscape analysis: Peri-urban region + planning area

Migdal HaEmek - Yafia – Ginegar //

Planning area

- Location: near Nazareth in the Jezreel Valley, Lower Galilee, Israel
- Size: 420 ha

Migdal HaEmek - Yafia – Ginegar //

Community characteristics

- Located between the following communities:

  >> Migdal HaEmek // **Jewish development town** (1953) // 24,800 inhabitants
  >> Yafia // ***old Arab town*** (ca. 1400 BC) // 17,500 inhabitants
  >> Ginegar // *Jewish kibbutz* (1922) ?? 500 inhabitants

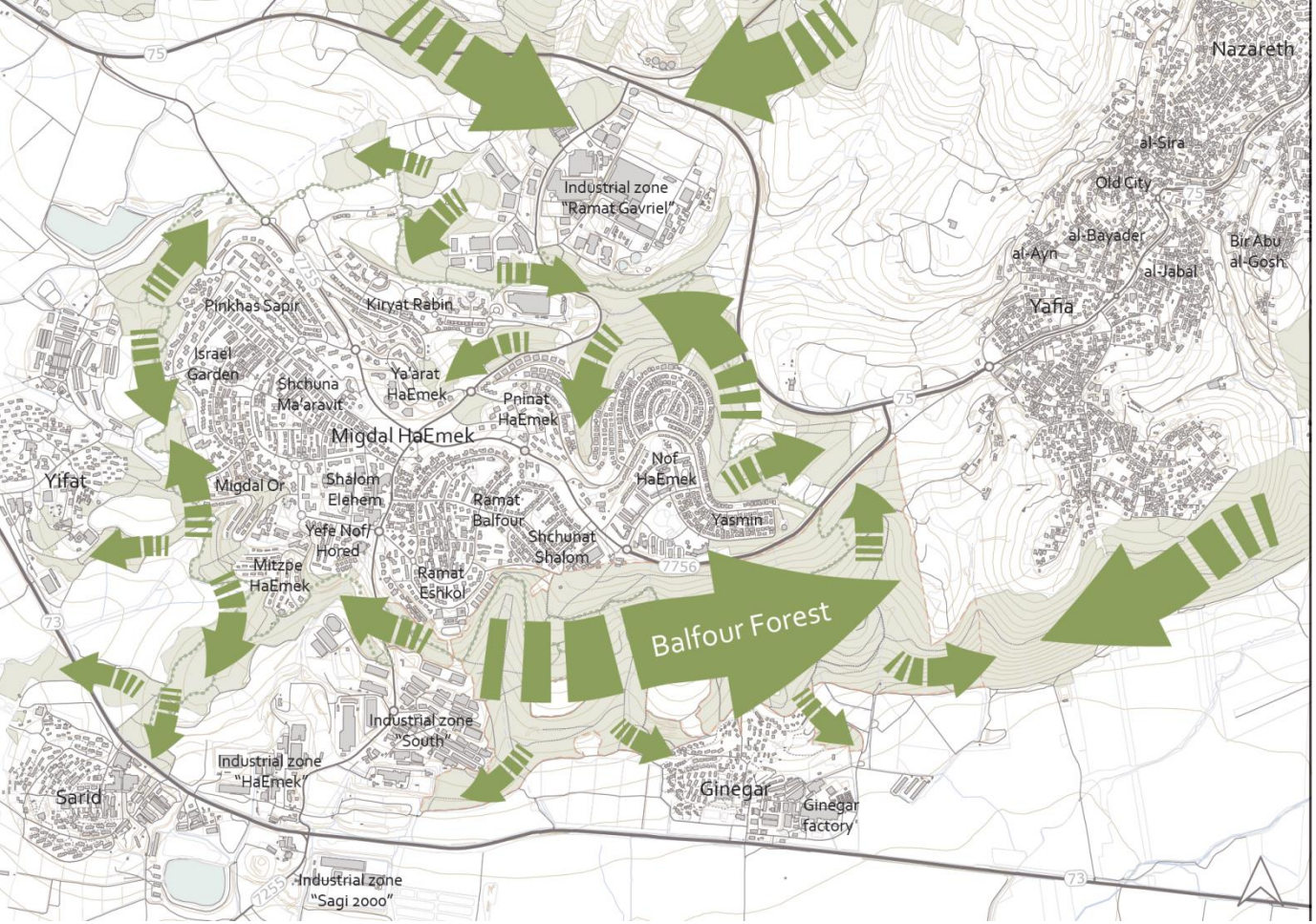
- Situated at a sociogeographic **clashing point** of multicultural societies!

- Differing opinion about Balfour Forest:

  >> Migdal HaEmek: ***"Neglected backyard of the town"***
  garbage, vandalism, insufficient infrastructre

  >> Yafia: ***"Extended Jewish territory"***
  Planted by Jewish pioneers on former Arab agricultural land

  >> Ginegar: ***"Spiritual landscape"***
  deep bonds to the forest since its establishment



Migdal HaEmek - Yafia - Ginegar region Scale: 1:20,000

Accessibility / Green belt

Accessibility of the planning area as a part of the green belt around Migdal HaEmek, with connections to the forest network of the Nazareth metropolitan region in the the north and east.

Basics
- Balfour Forest border
- Border of site, stand or field
- Conture line
- Topographical feature

Hydrology
- Water reservoir
- River
- Stream
- Intermittent stream

Land use
- Forest
- Built-up area
- Green link

Transportation
- National road
- Urban main road
- Urban side road
- Residential street
- Kibbutz main road
- Kibbutz road
- Forest main road
- Forest road

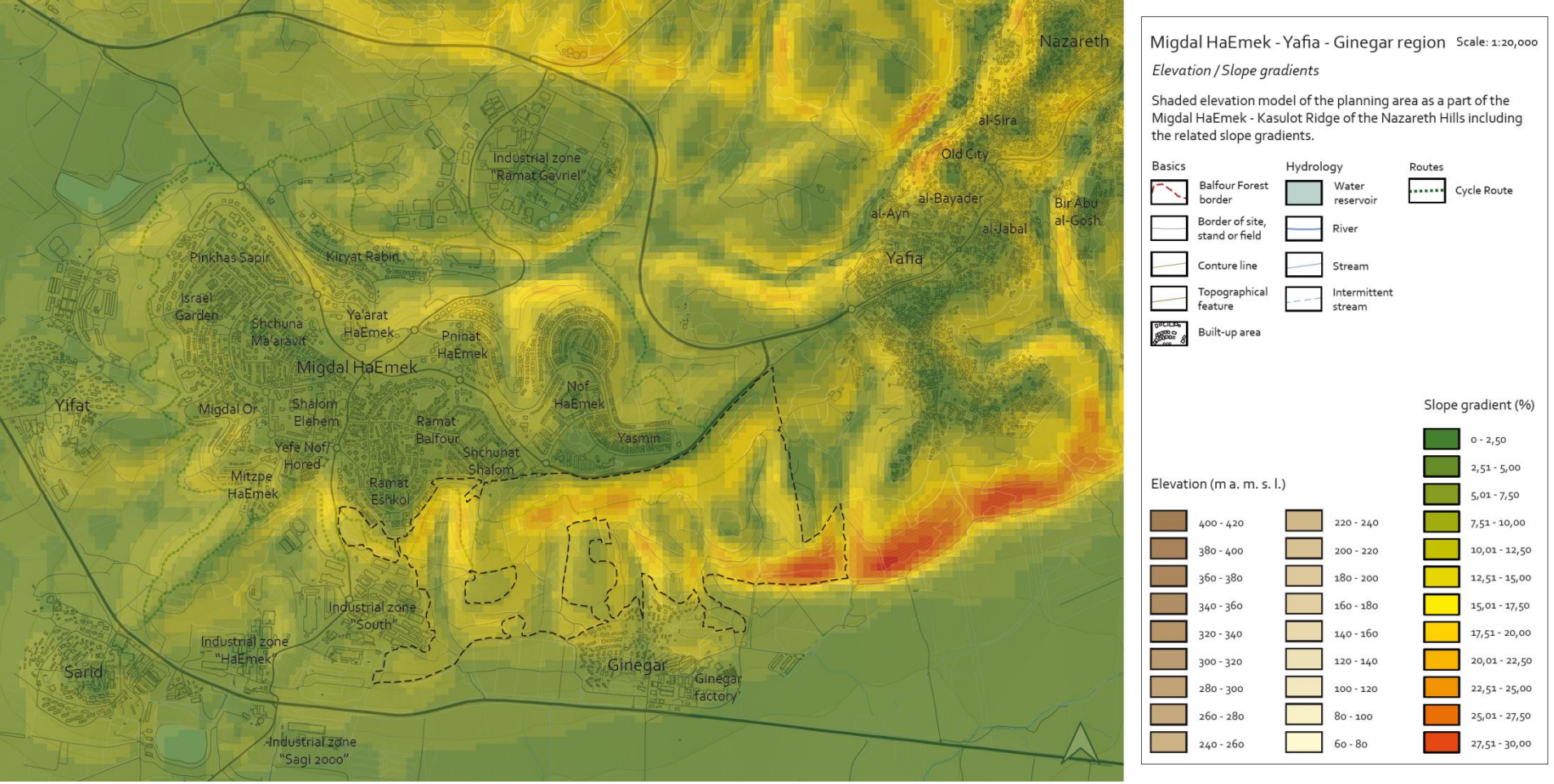
Routes
- Cycle Route

Migdal HaEmek - Yafia – Ginegar // *Green Belt*

- Largest part of a ***Green Belt*** around Migdal HaEmek on an urban scale
- ***Green Links*** for flora and fauna towards other habitats
- Part of a ***replanted forest network*** around Nazareth on a metropolitan scale

Migdal HaEmek - Yafia – Ginegar // *Accessibility*

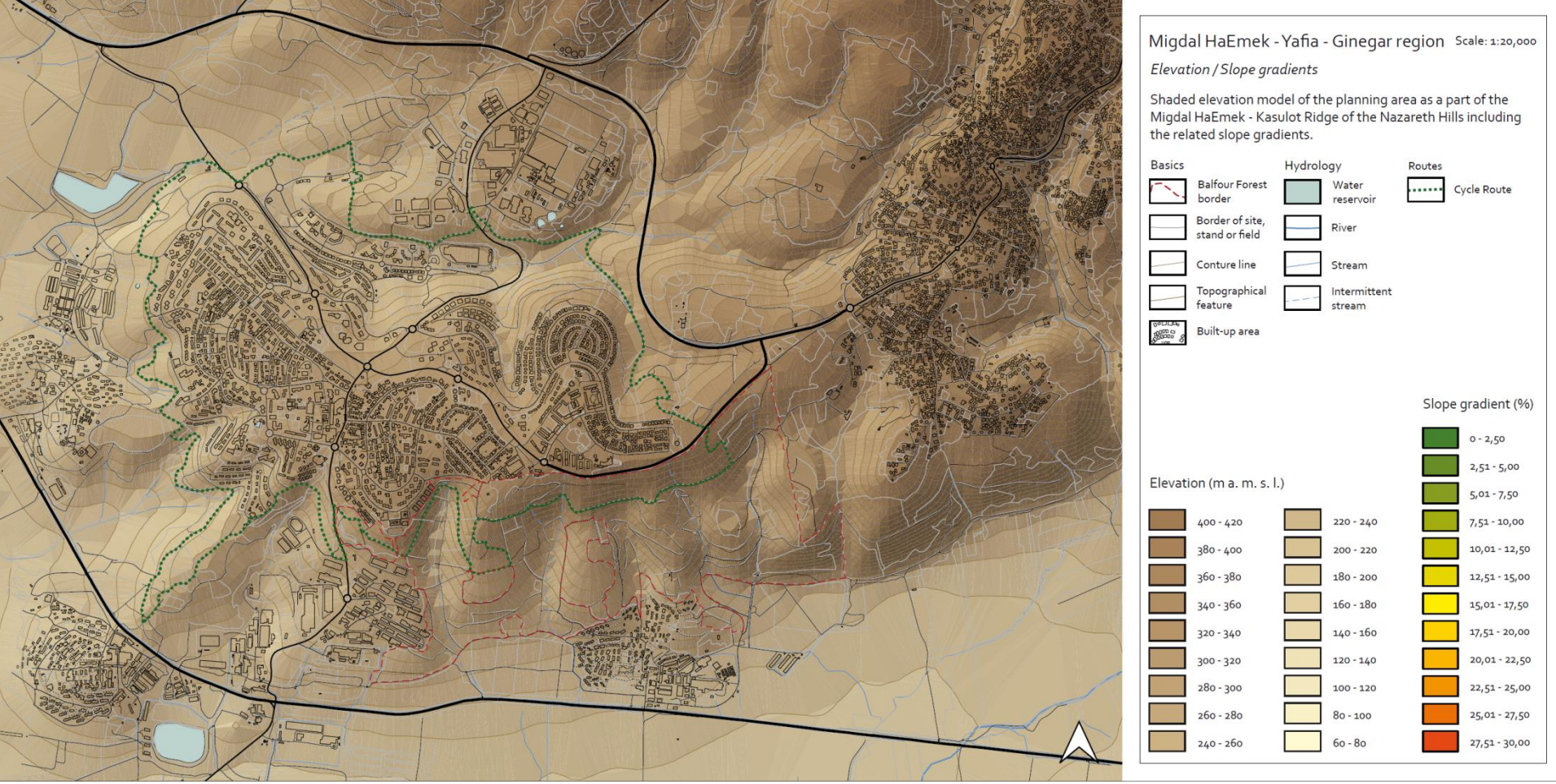
- National road No. 75 (Nazareth) in the north
- National road No. 73 (Afula)) in the south
- **Bike trail around Migdal HaEmek** going through the northern part



Migdal HaEmek - Yafia – Ginegar //

Grading scheme

- Part of the ***Migdal HaEmek – Kasulot Ridge*** of the Nazareth Hills
- Slope gradients ***up to 20%*** in the northern parts
- Slope gradients ***up to 30%*** in the south-eastern part



Migdal HaEmek - Yafia – Ginegar //

Elevation model

- Elevations between ***160 – 360 m above sea level***
- ***Five wadis*** runninng in north-south direction through the forest
- ***Another wadi*** on the eastern edge towards Yafia

Balfour Forest //

Landscape character

A peri-urban forest with mixed land uses:

>> ***Woodland*** mainly planted with conferous trees:
Aleppo pine (Pinus halepensis) 32%,
Calabrian pine (Pinus brutia) 18%,
Mediterranean cypress (Cypressus sempervirens) 9%

>> **Wadis** planted with River Red Gum (Eucalyptus camaldulensis)

>> ***Small groves*** of Olive (Olea europea) and Carob (Ceratonia siliqua)

>> ***Enclosed grasslands***

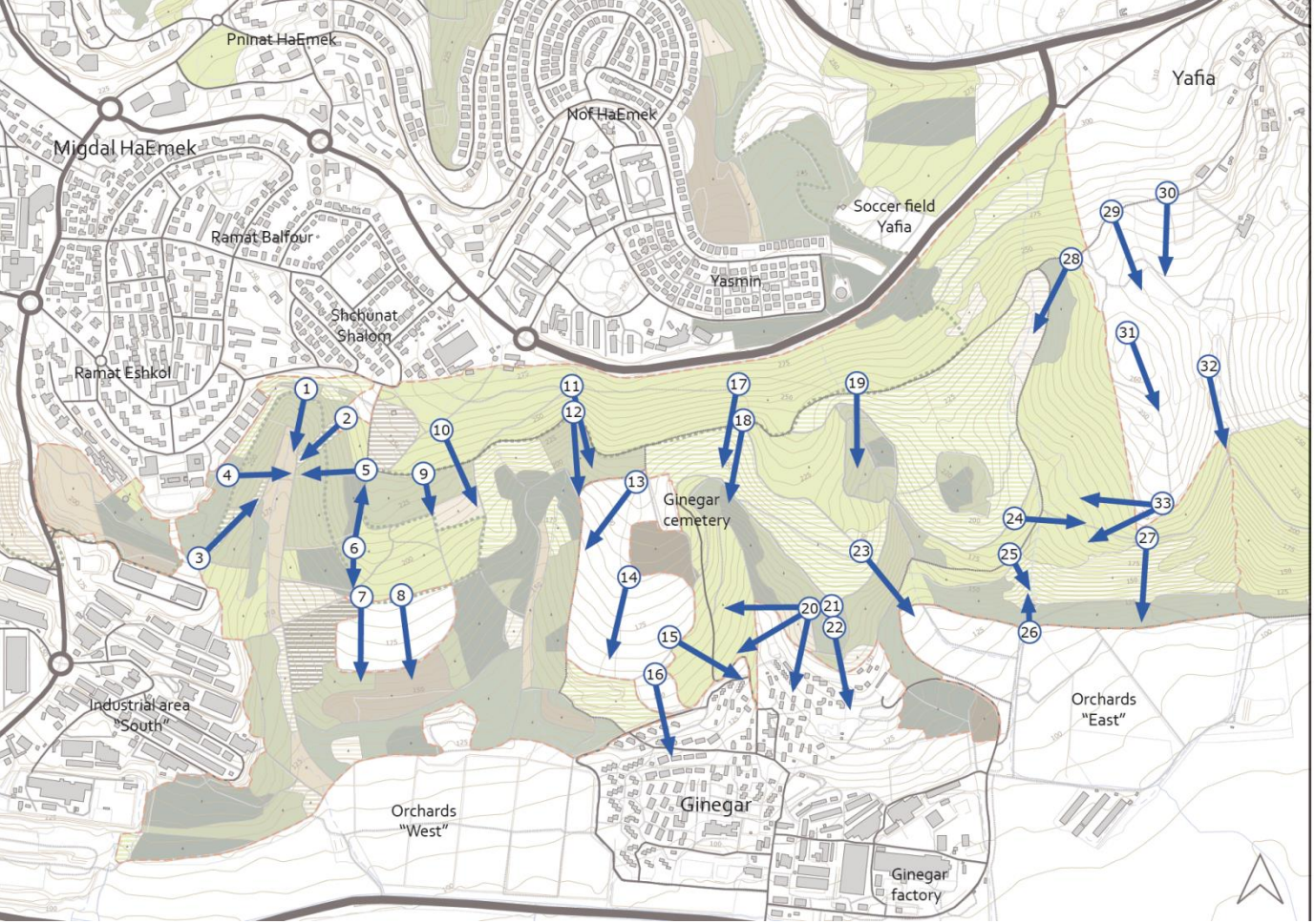
>> ***Phrygana ("batha")***

A cultural landscape:

>> representing the unique legacy of ***forestation efforts in Israel during the 20th century***

>> dating back as far as the ***British Mandate Period*** (1917-1948)

>> Bearing traces of ancient settlements from the *Bronze Age* (3300-1200 BC)



Balfour Forest

Scale: 1:10,000

Strengths: Scenic views

The varied forest topography enables beautiful views towards the Jezreel Valley as well as into wadis and onto ridgetops in relation to the experience of the rich diversity of forest stands.

Border line
- Balfour Forest
- Private plot, stand or field

Topography
- Conture line
- Topographical feature

Hydrology
- Stream
- Intermittent stream

Routes
- Cycle Route

2 photo reference with view direction

Forest stands (full / medium density)
- Aleppo-Pine (Jerusalem Pine) *Pinus halepensis*
- Calabrian Pine (Brutian Pine) *Pinus brutia*
- coniferous woodland *var. spec.*
- Mediterranean Cypress (Italian Cypress) *Cupressus sempervirens*
- mixed woodland *var. spec.*
- deciduous woodland *var. spec.*
- Red Gum Tree (River Red Gum) *Eucalyptus camaldulensis*
- Olive Tree *Olea europea* or Carob Tree *Ceratonia siliqua*

Balfour Forest // strengths:
Scenic views

- into the ***Jezreel Valley***
- across the ***grasslands*** and the ***phrygana***
- into the ***wadis***

Balfour Forest // strengths:

Forest stands

- Rich diversity of forest stands
- Mainly coniferous trees like pines and cypresses
- Also groves of olive and carob, and wadis with eucalyptus

Balfour Forest // Strengths:

View into Jezreel Valley

Balfour Forest // Strengths:

View across the grassland

Balfour Forest // Strenghs:

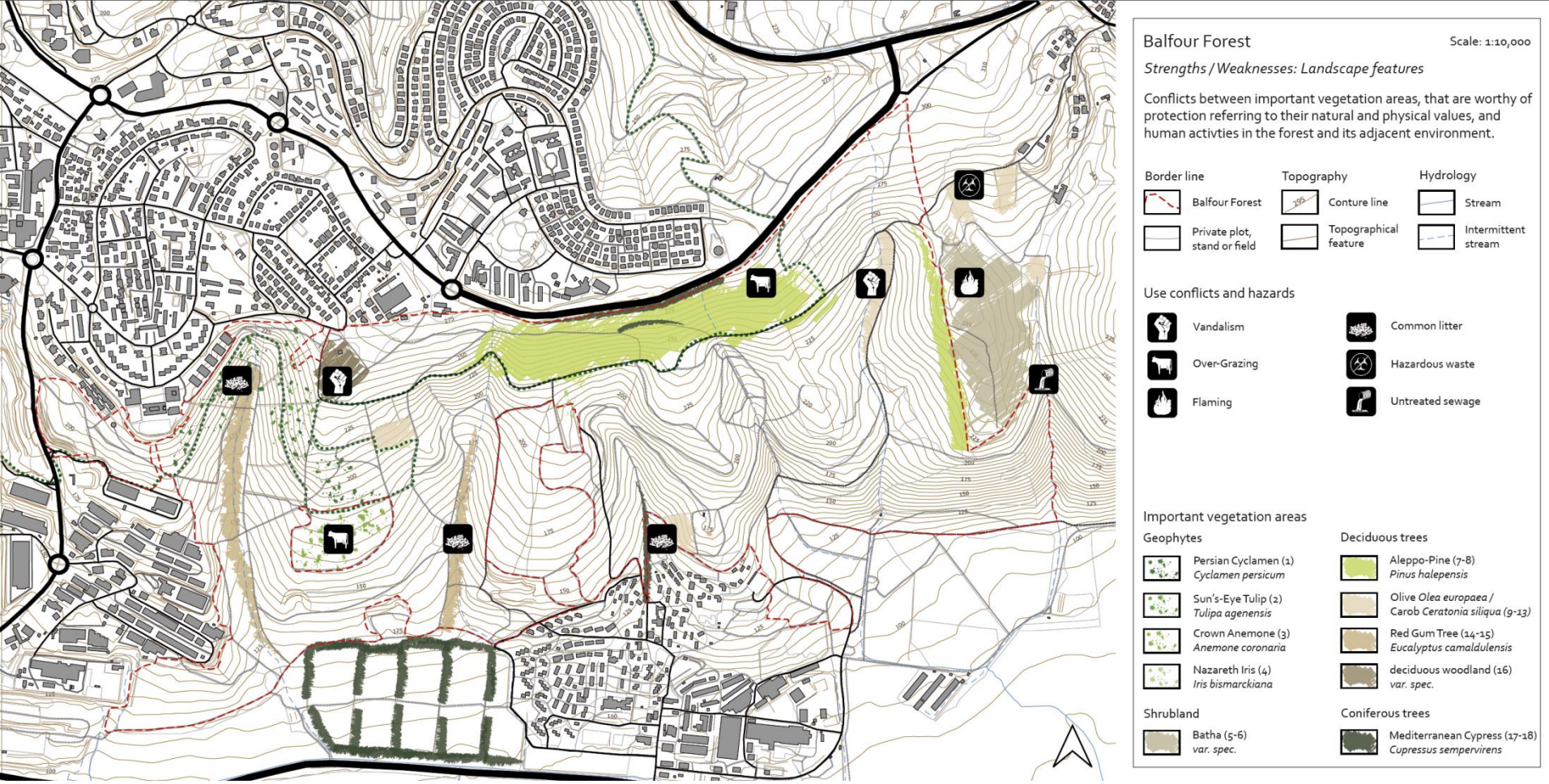
View from the batha area

Balfour Forest // Strenghts:

View from the olive grove

Balfour Forest // Strengths:

View into the eucalyptus wadi



Balfour Forest // Strengths & Weaknesses:
Landscape features

- ***Important and unique vegetation areas***
- Use conflicts and man-induced hazards: ***Vandalism, overgrazing, flaming***
- Natural hazards: ***Seasonal dryness, pests***

Balfour Forest // Strenghts:

Persian cyclamen

Balfour Forest // Strenghts:

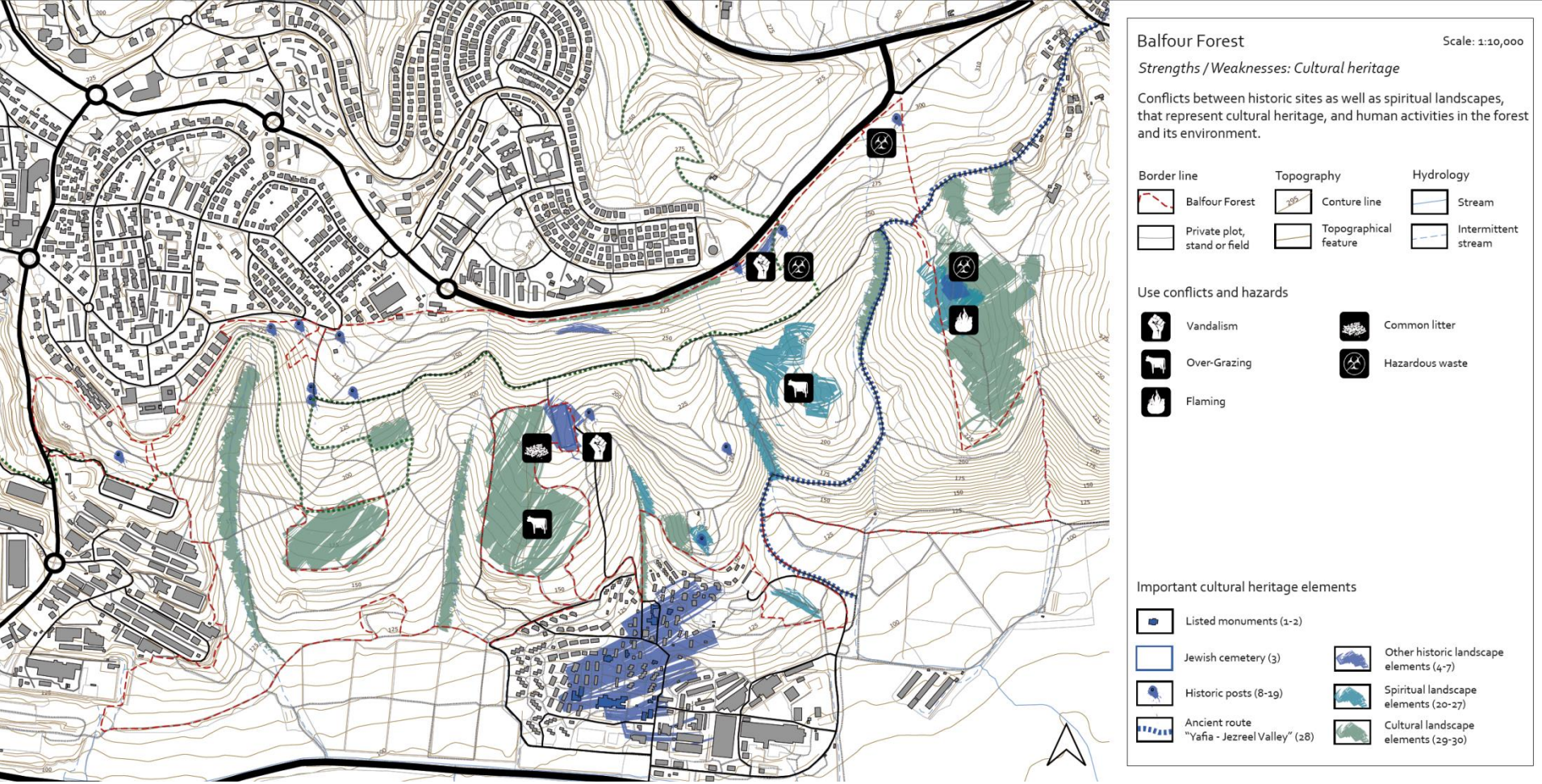
Nazareth iris

Balfour Forest // Weaknesses:

Semi-pastoral farming / Overgrazing

Balfour Forest // Weaknesses:

Man-induced fires



Balfour Forest // Strengths & Weaknesses:
Cultural heritage

- ***Antiquities*** from the Bronze Age
- ***Spiritual landscapes*** dating back to the establishment of the kibbutz
- Use conflicts and man-induced hazards: ***Vandalism, flaming, littering***

Balfour Forest // Strenghts:

Antiquities from the Bronze Age

Balfour Forest // Strenghts:

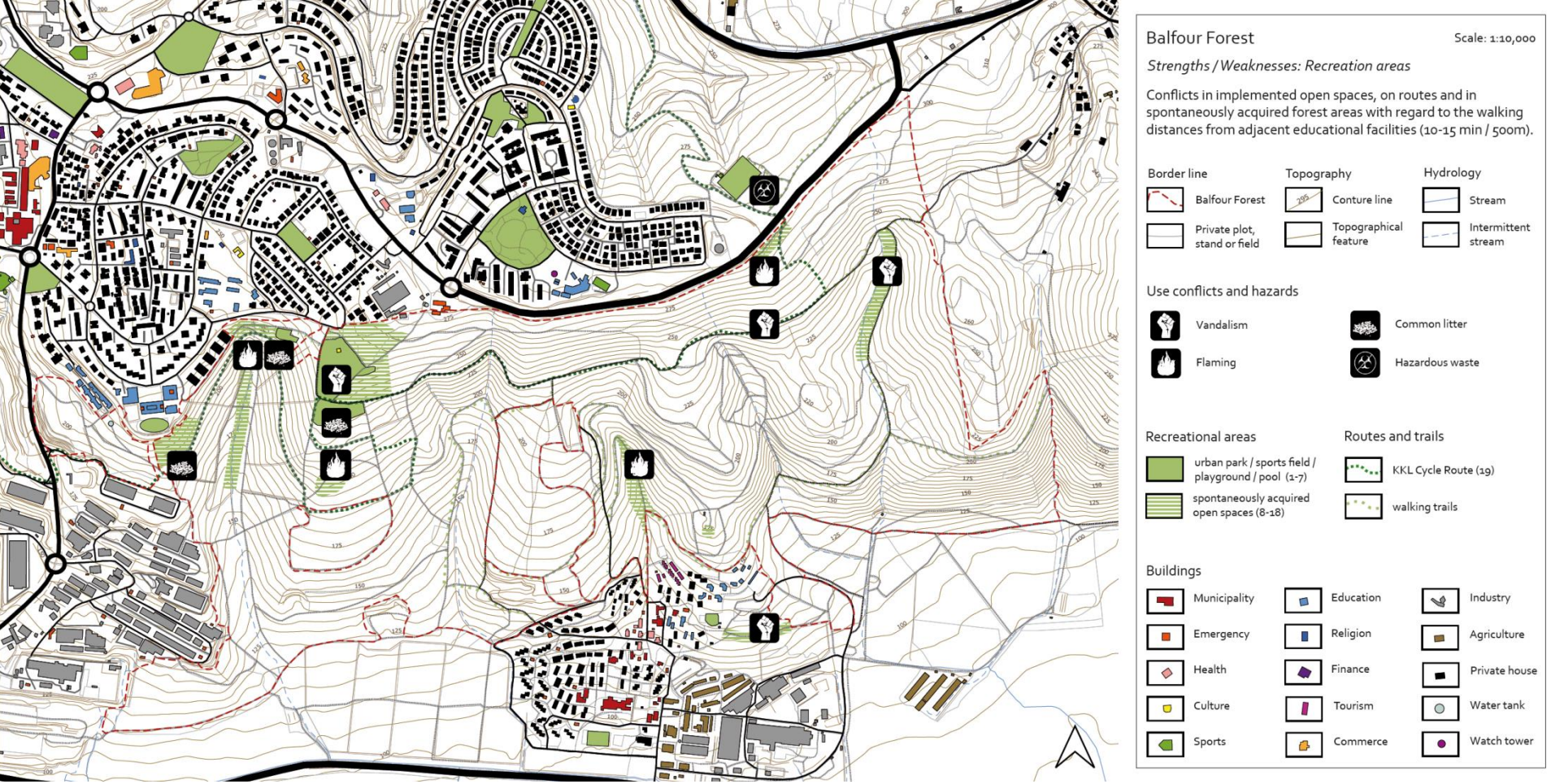
Cave near the kibbutz

Balfour Forest // Strenghts:

Ginegar Cemetery

Balfour Forest // Weaknesses:

Vandalism of cultural sites



Balfour Forest // Strengths & Weaknesses:
Recreation areas

- Existing infrastructure, e.g. ***bicycle trail***
- Evidence of ***spontaneously acquired spaces***
- Use conflicts and man-induced hazards: ***Flaming, vandalism, littering***

Balfour Forest // Strenghts:

Spontaneously acquired places

Balfour Forest // Strenghts:

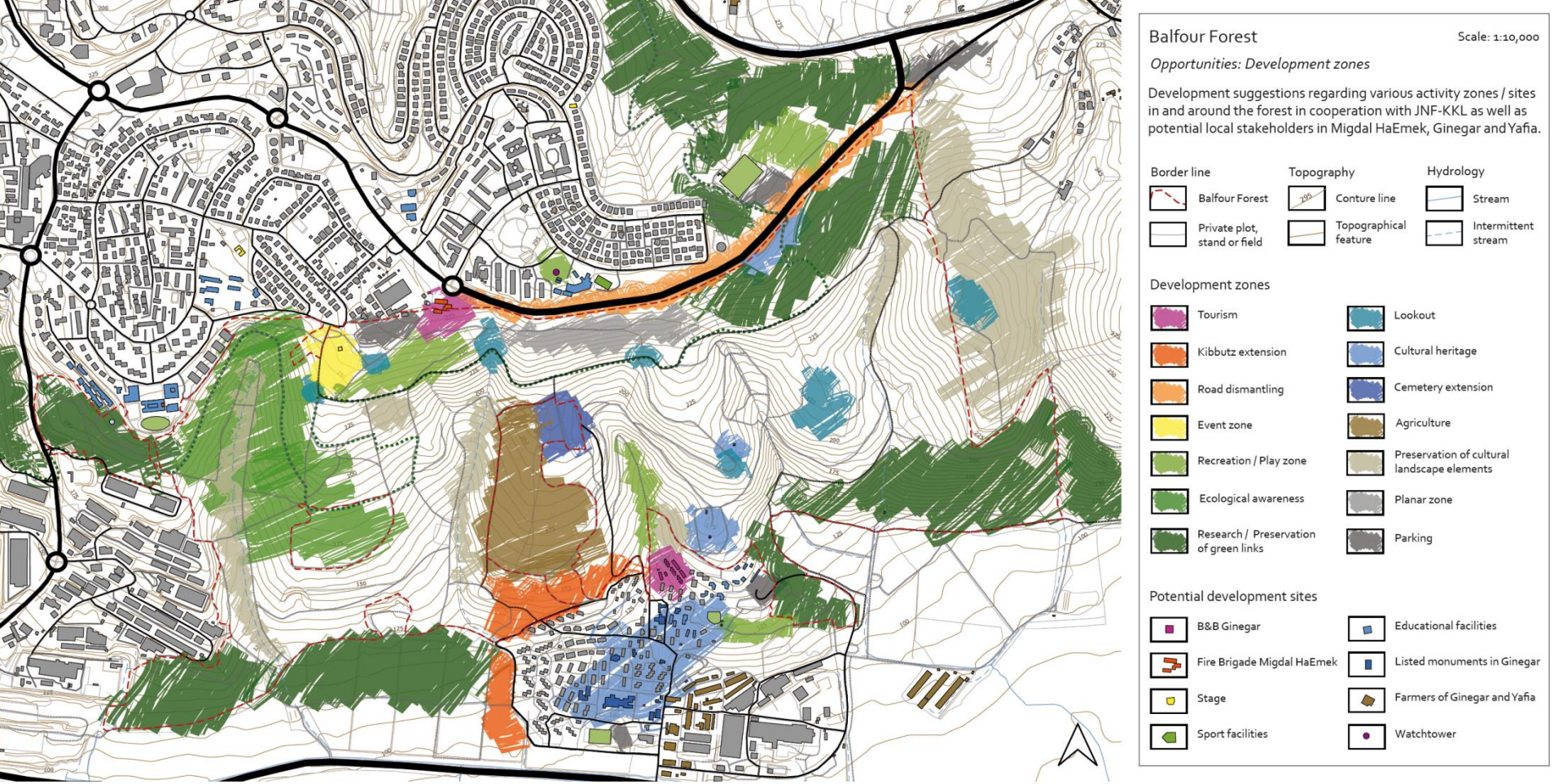
Meeting places

Balfour Forest // Weaknesses:

Leftovers after the meeting

Balfour Forest // Weaknesses:

Landscape vandalism



Balfour Forest // Opportunities:
Development zones

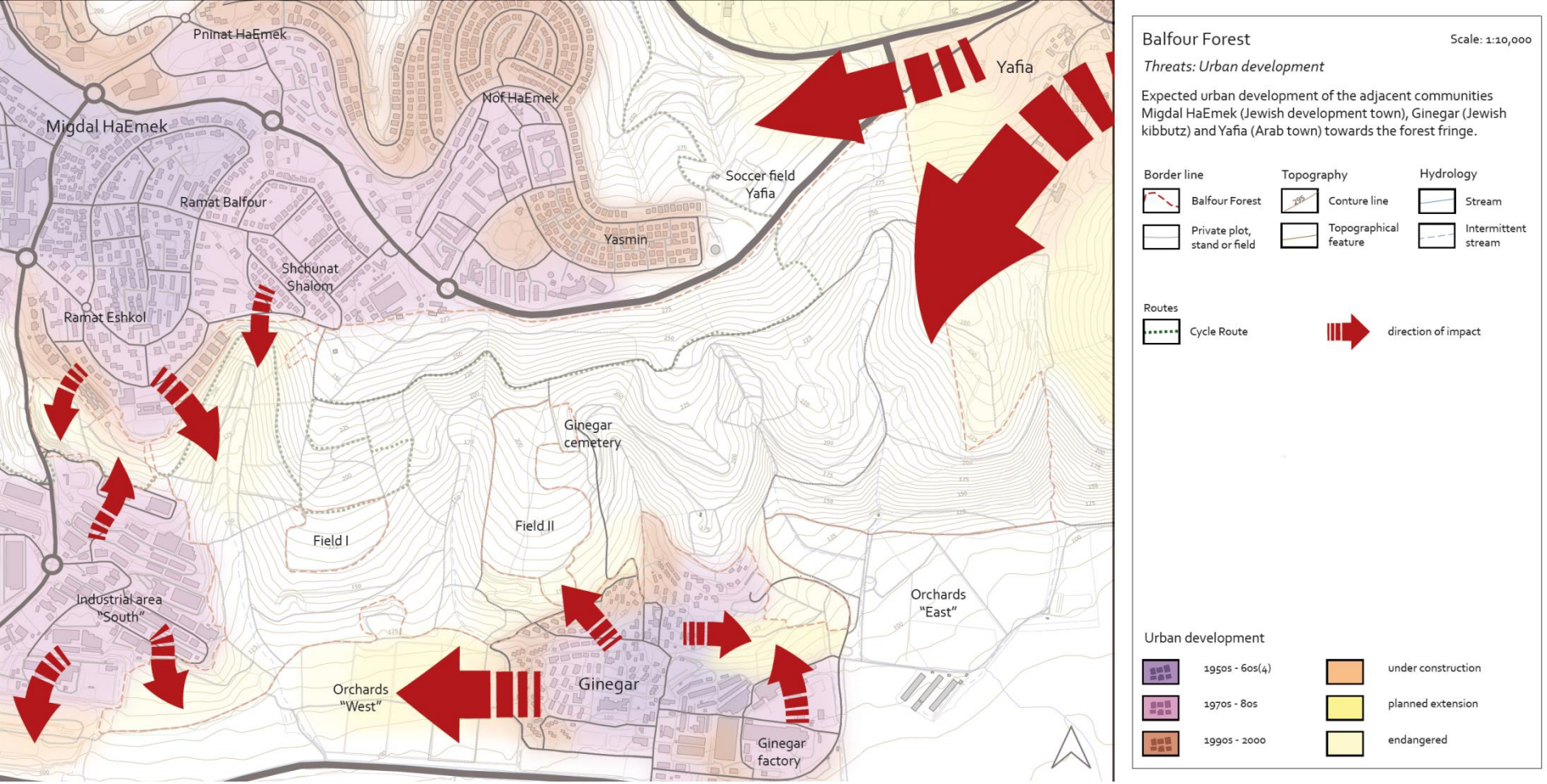
- Different ***development and activity zones***
- Various activity sites in ***cooperation with local / regional partners***
- Strengthening the forest fringe by ***buffer zones and Green Links***

Balfour Forest // Opportunities:

Picnic place at the Carob tree

Balfour Forest // Opportunities:

Forest partnerships



Balfour Forest // Threats:

Building development

- ***Expanding residential areas*** from all sides
- ***Environmental hazards:*** man induced forest fires, pollution, soil degradation and bite originating from overgrazing
- ***Weak legal policies and insufficient enforcement of nuisances***

Balfour Forest // Threats:

Building at the forest fringe

Balfour Forest // Threats:

Illegal litter dumping site

Conceptual design: Balfour Community Forest

Sustainability

- Common definition:

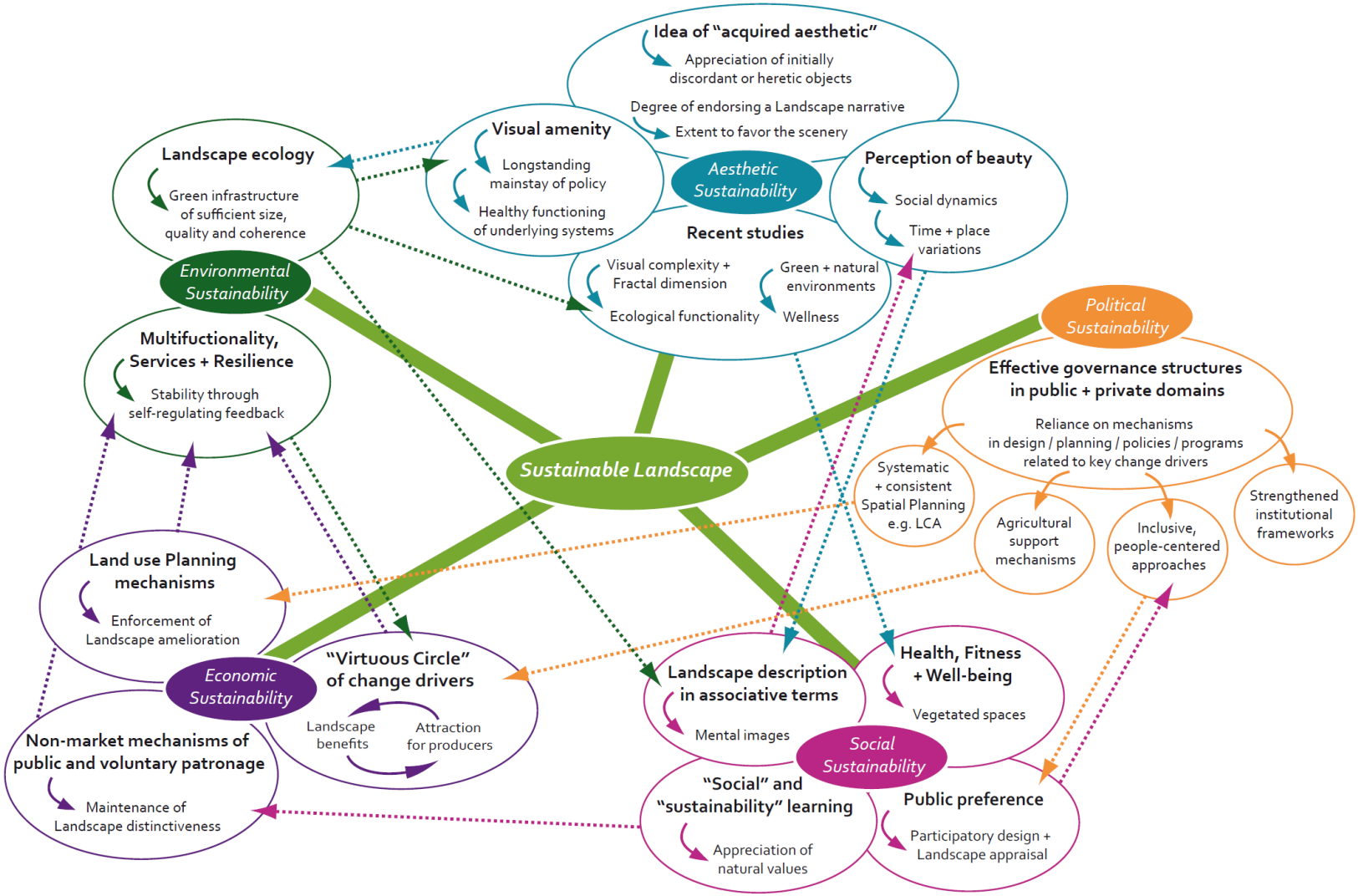
  "Meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission 1987)

- According to Paul Selman's Essay ***"What do we mean by sustainable landscape?*** (2008):

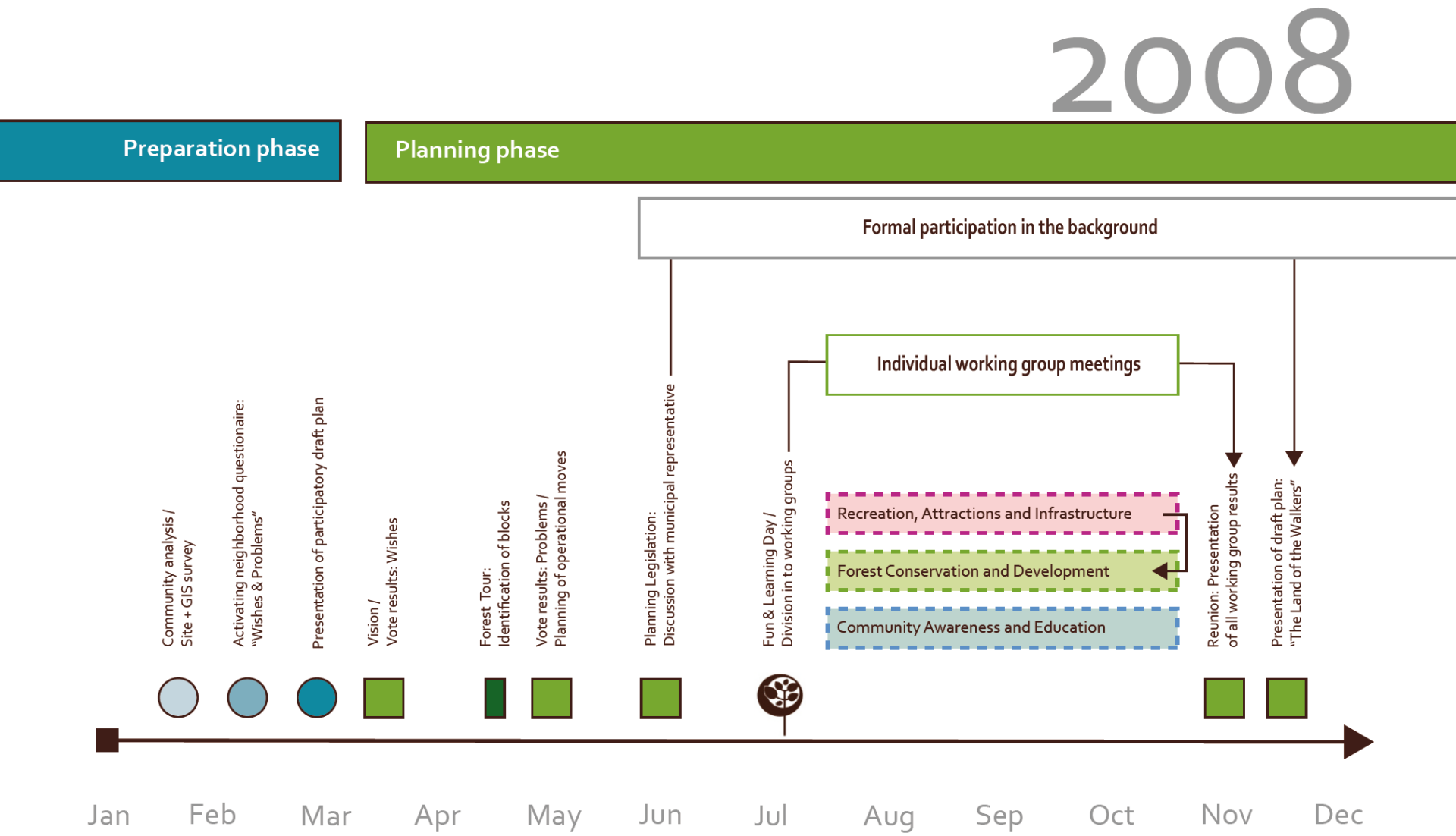
>> Environmental	**Sustainability**	e.g. landscape coherence
>> Economic		e.g. attraction for producers / users / sponsors
>> Social		e.g. appreciation of natural values
>> Political		e.g. people-centered approches
>> Aesthetic		e.g. visual beauty

- To be achieved by **combining professional JNF-KKL forestry skills with constructive feedback from the adjacent communities**

Sustainable landscape



Community-based forest management

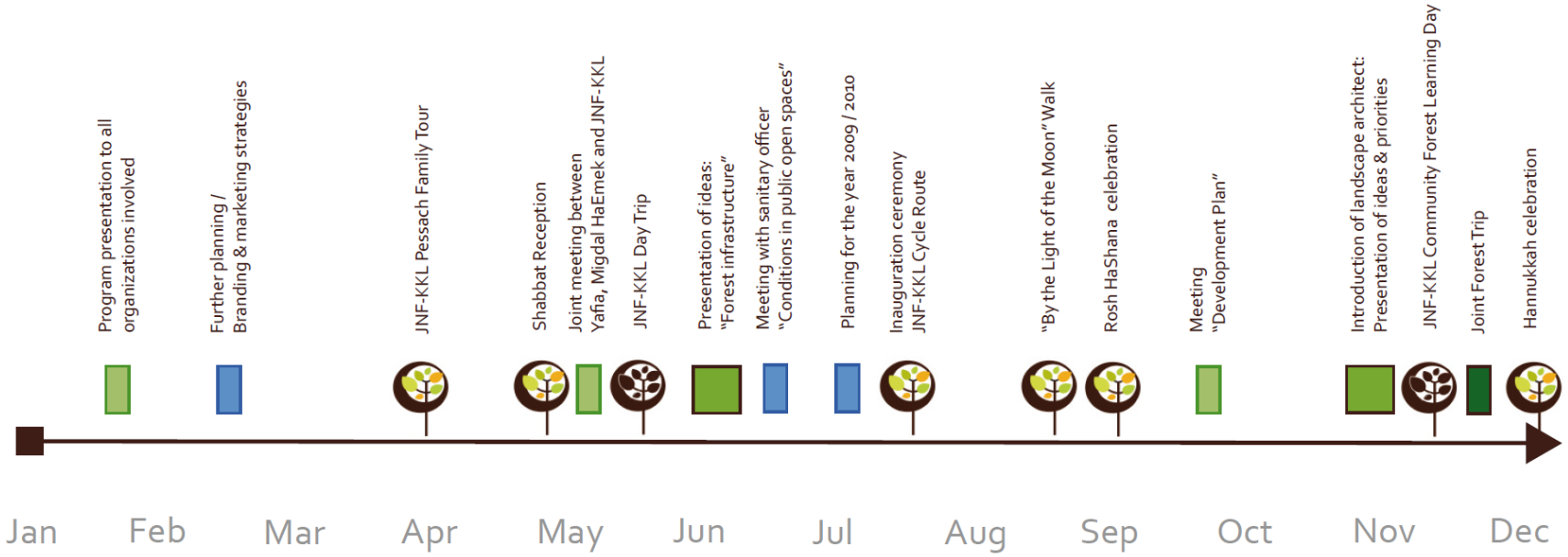


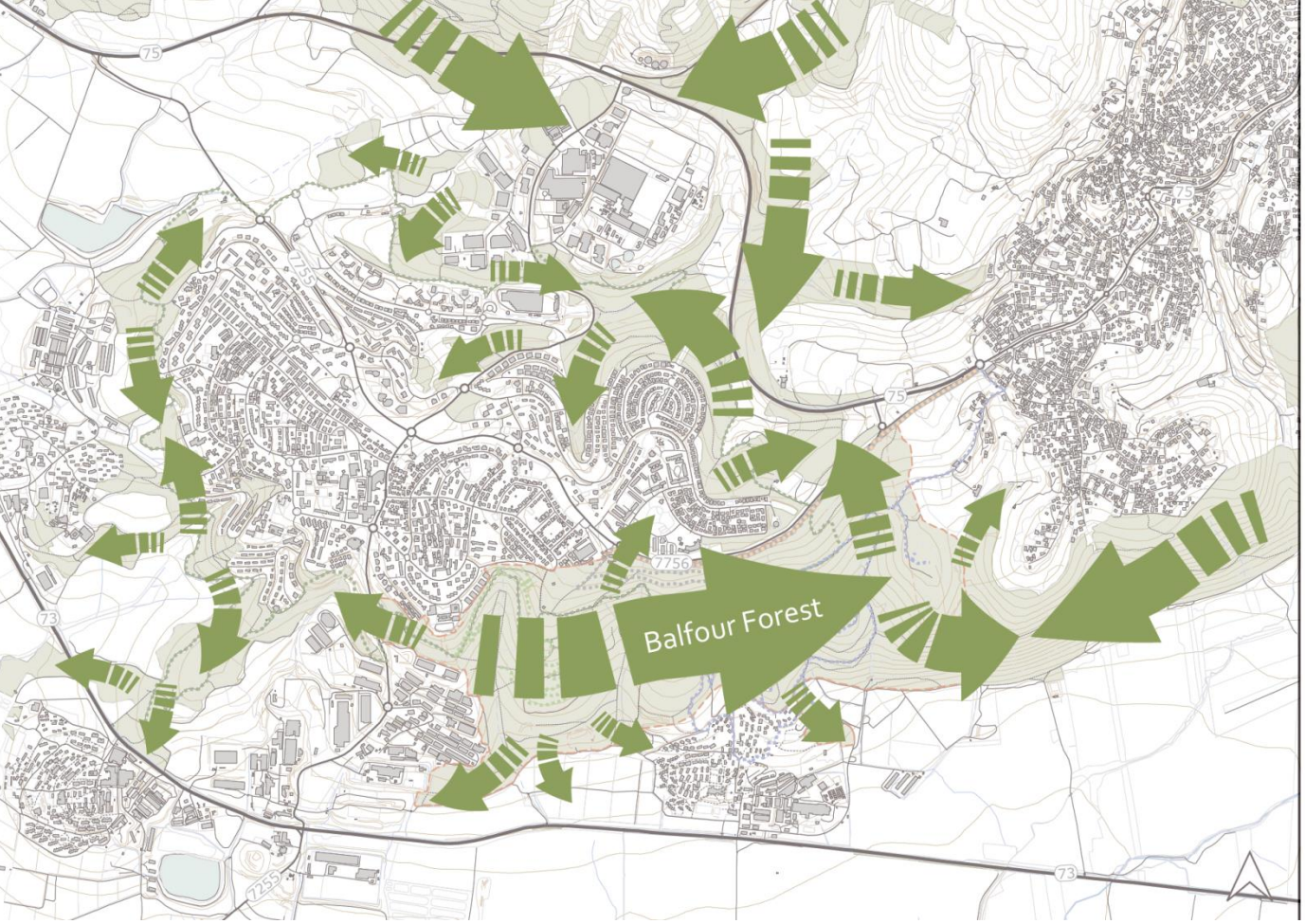
Community-based forest management

2009

Planning phase

Formal participation in the background





Migdal HaEmek - Yafia - Ginegar region Scale: 1:20,000

Concept: Preservation and extension of the green belt

A joint participatory process of all communities adjacent to the forest guarantees sustainable development regarding recreation, ecological awareness, cultural heritage and forest management.

Basics
- Balfour Forest border
- Border of site, stand or field
- Conture line
- Topographical feature

Hydrology
- Water reservoir
- River
- Stream
- Intermittent stream

Land use
- KKL Forest
- Built-up area
- Green link

Transportation
- National road
- Urban main road
- Urban side road
- Residential street
- Kibbutz main road
- Kibbutz road
- Forest main road
- Forest road

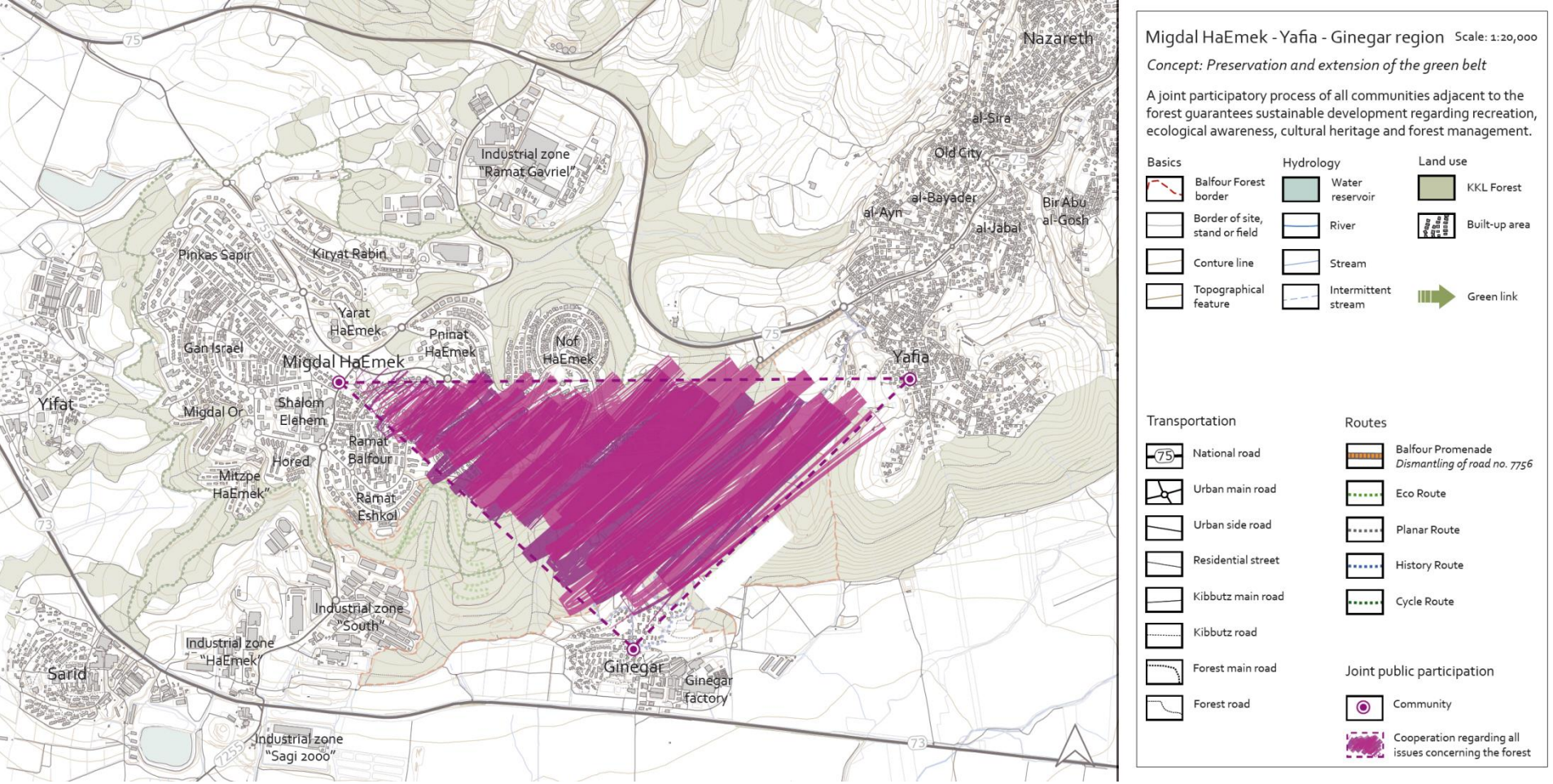
Routes
- Balfour Promenade *Dismantling of road no. 7756*
- Eco Route
- Planar Route
- History Route
- Cycle Route

Joint public participation
- Community
- Cooperation regarding all issues concerning the forest

Migdal HaEmek – Yafia - Ginegar //

Preservation & extension of the Green Belt

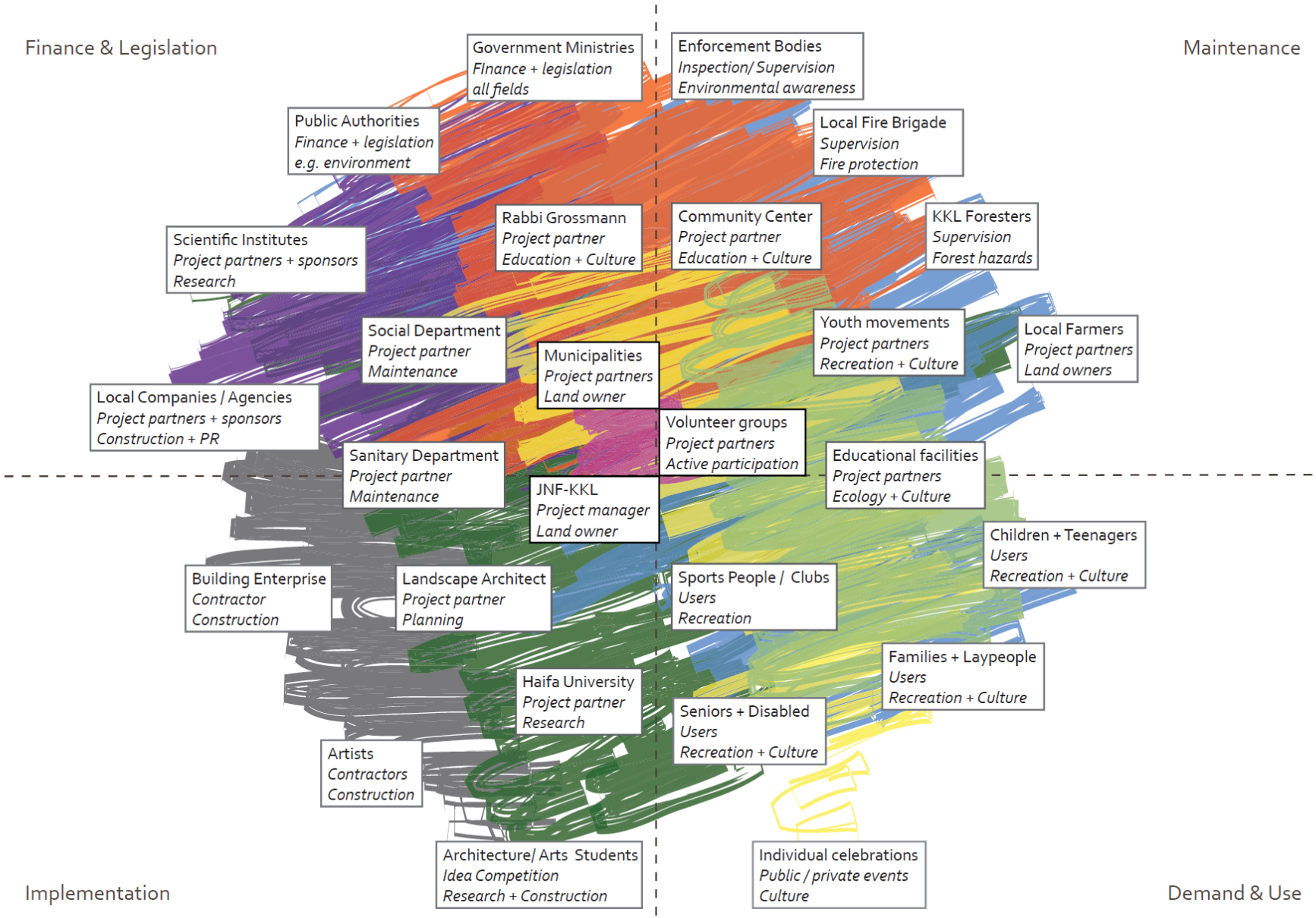
- To establish ***Green Links*** *towards urban green spaces* and into neighborhoods
- To conduct ***land changes*** regarding landscape coherence on local level
- To strengthen the ***landscape coherence*** on metropolitan level



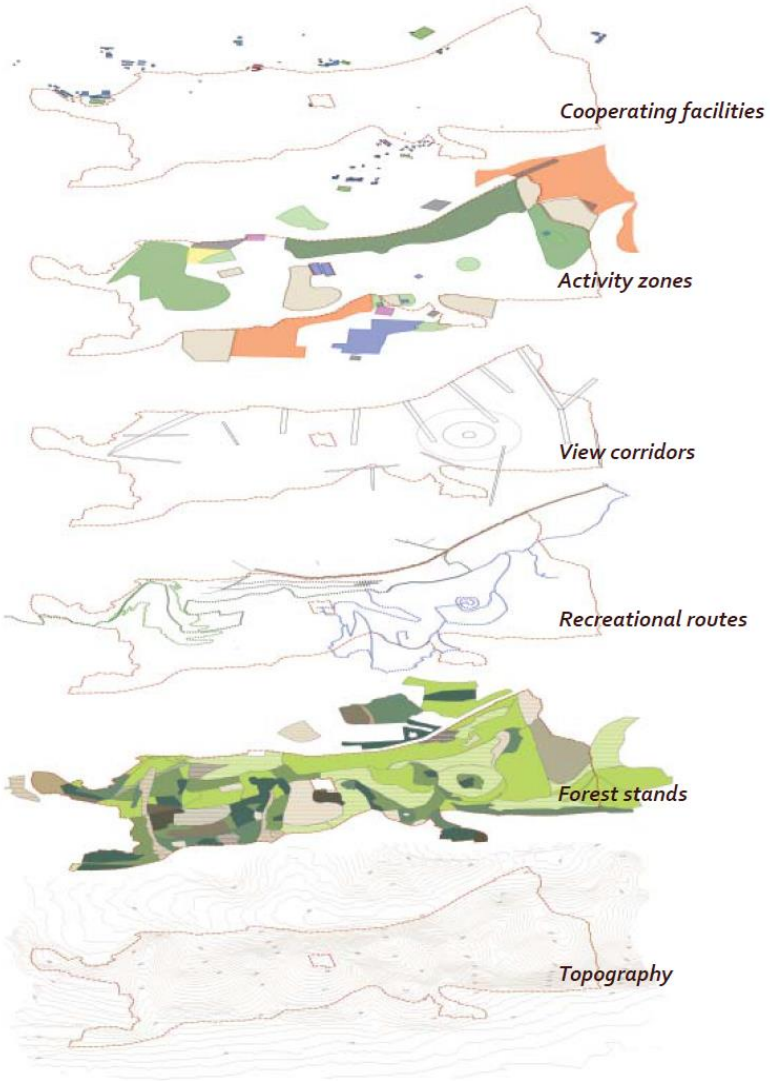
Migdal HaEmek – Yafia – Ginegar //
Public participation

- To participate in the management of their ***immediate environment***
- To offer options for ***sociocultural encounter, communication and cooperation***
- To enhance ***local conditions*** together

Community-based forest management



Components of the development plan



Balfour Community Forest //

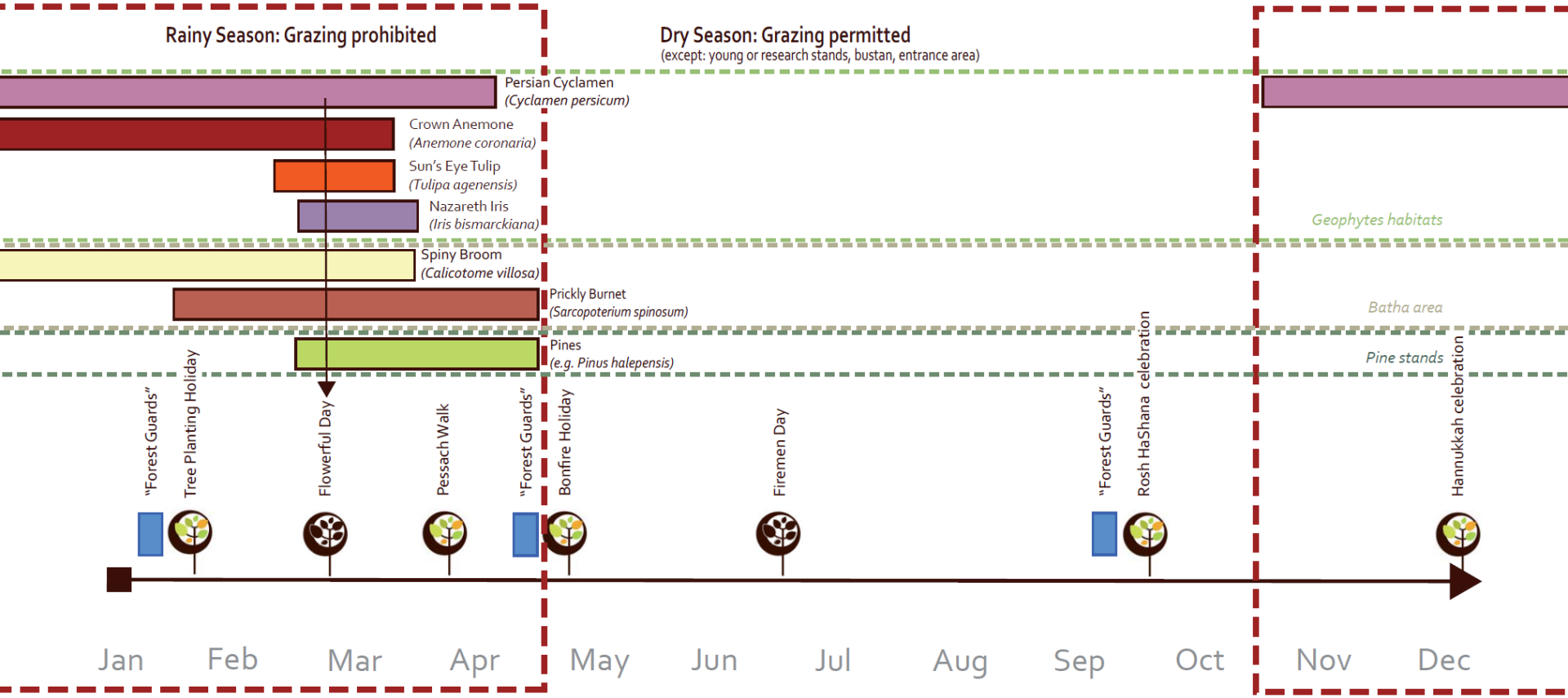
Landscape features & scenic views

- To preserve ***important and unique landscape features***
- To highlight ***remarkable scenic view axes*** and ***reduce forest fires***
- To create a ***natural mix*** of dense and medium dense forest stands
- To (re)introduce *traditional agroforestry uses*

Particular management

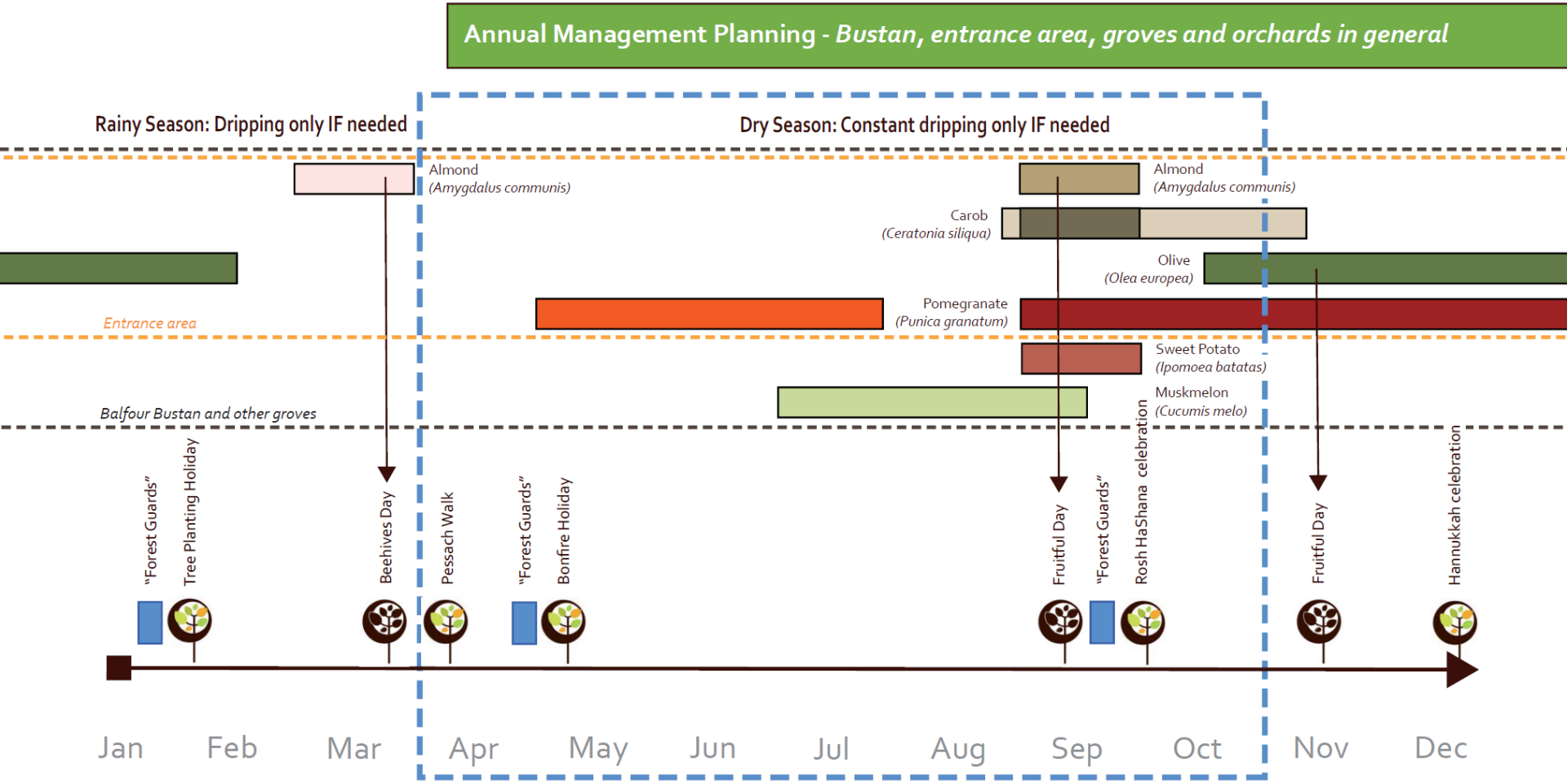
blossom

Annual Management Planning - *Geophytes habitats, batha and pine stands in general*

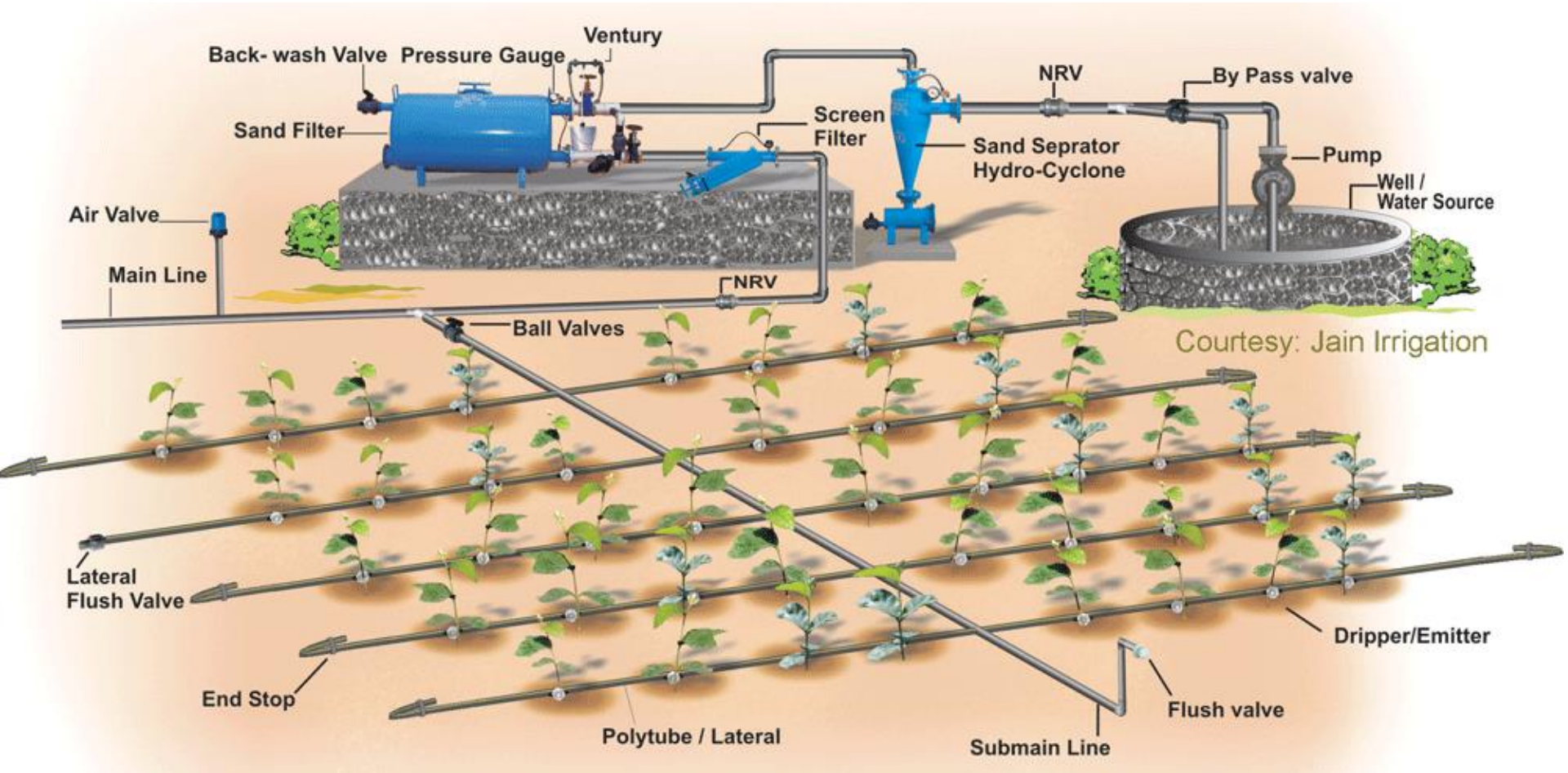


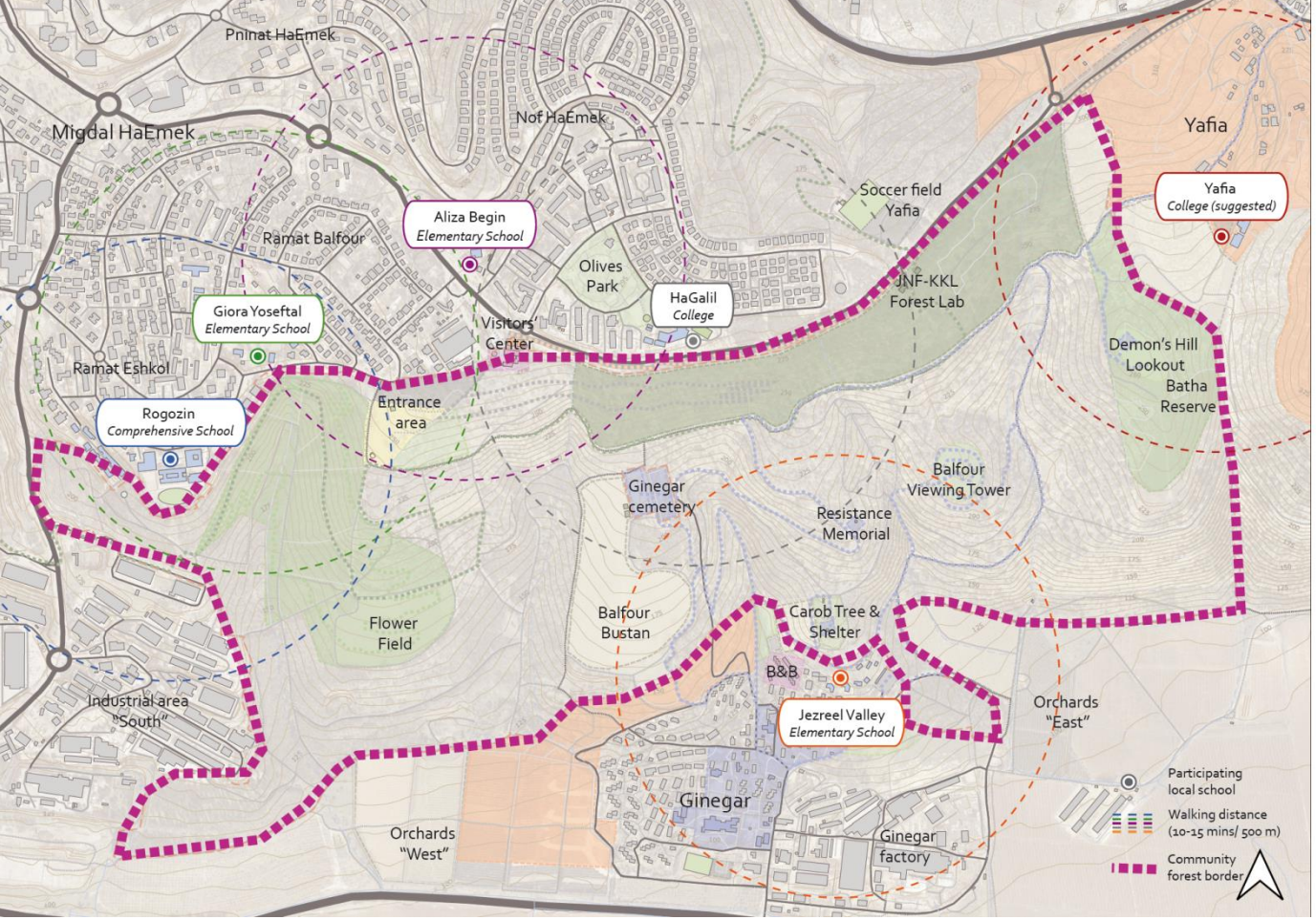
Particular management

harvest



Drip irrigation for Balfour Bustan





Balfour Forest

Scale: 1:10,000

Concept (Part II): Activity zones and cooperating facilities

Implementation of various activity and development zones along the new routes as well as suggestions for parking and residential extension areas adjacent to Balfour Community Forest.

Border line
- Balfour Forest
- Private plot, stand or field

Topography
- Conture line
- Topographical feature

Hydrology
- Stream
- Intermittent stream

Routes
- Balfour Promenade *Dismantling of road no. 7756*
- Eco Route
- History Route
- Planar Route
- Cycle Route

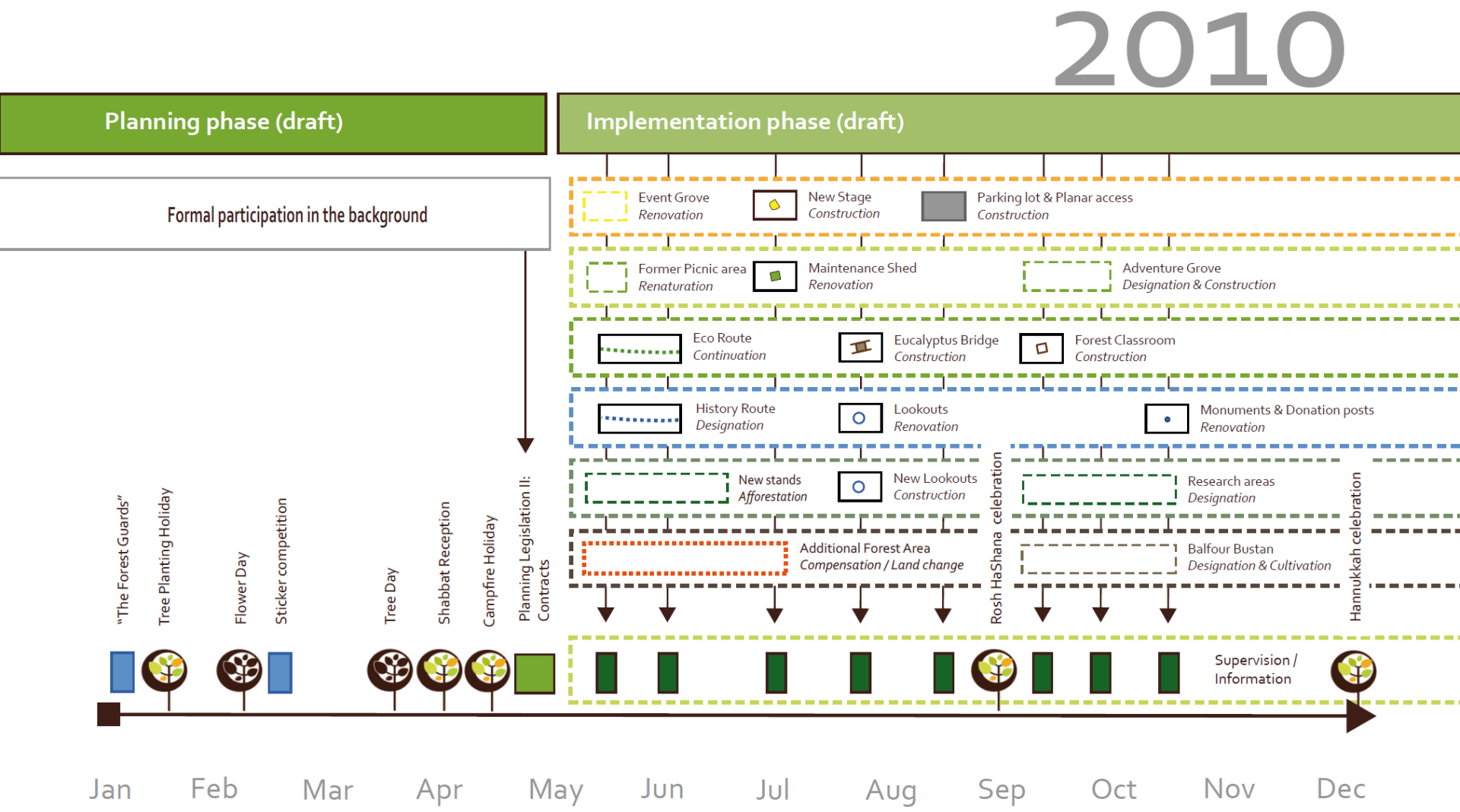
Activity zones
- Tourism
- Awareness raising / Research
- Residential extension
- Cultural heritage
- Events
- Agroforestry / Intercropping
- Recreation
- Parking

Cooperating public / private facilities
- Visitors' center / B&B
- Forestry & Research
- Fire brigade
- Education
- Stage
- Listed monuments
- Recreation
- Beehives

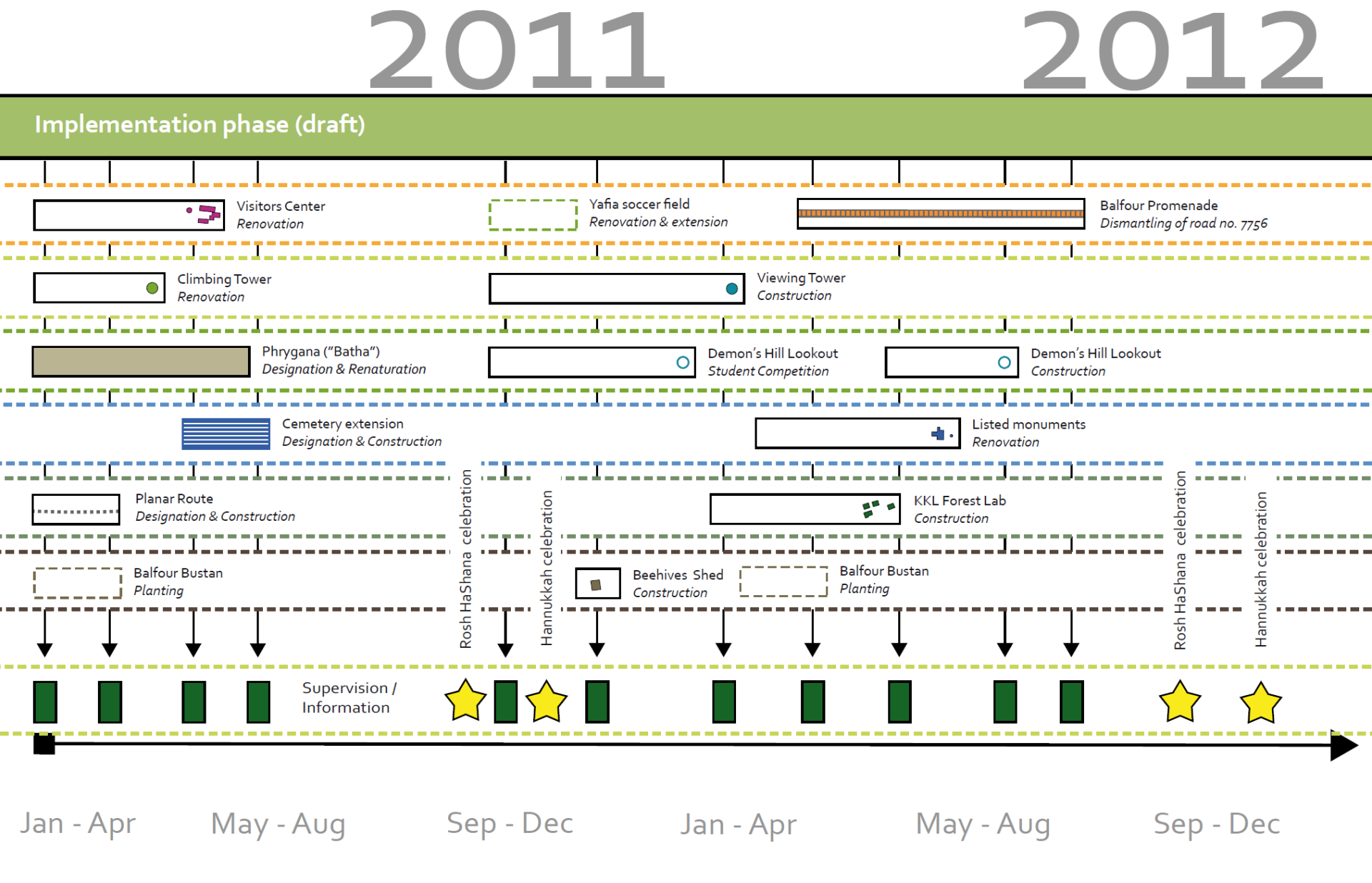
Balfour Community Forest //
Activity zones & cooperations

- To propose suitable areas for ***parking and residential extension***
- To preserve ***cultural heritage sites***
- To suggest reuse or redevelopment of ***existing infrastructure***
- To involve ***local schools*** into the project and long term maintenance

Community-based forest management



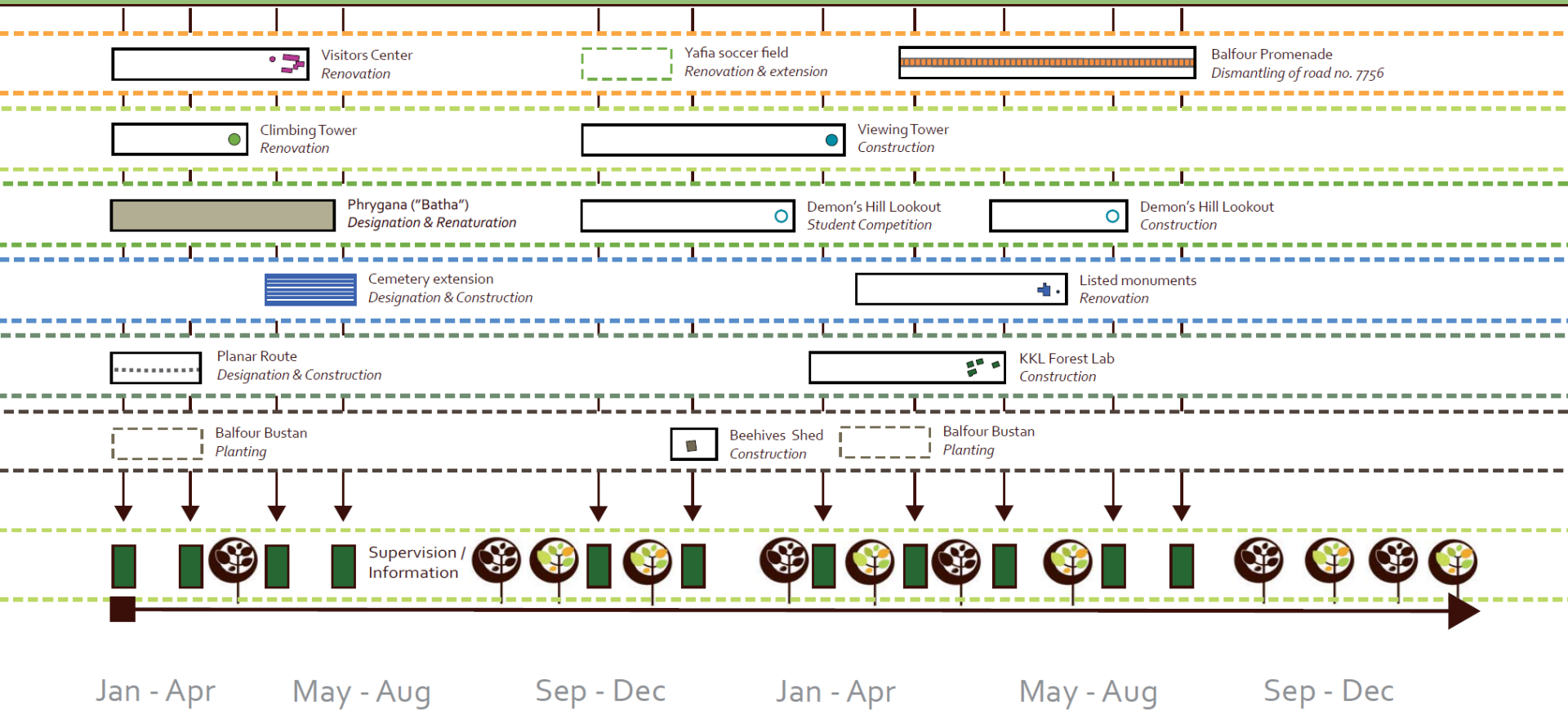
Community-based forest management



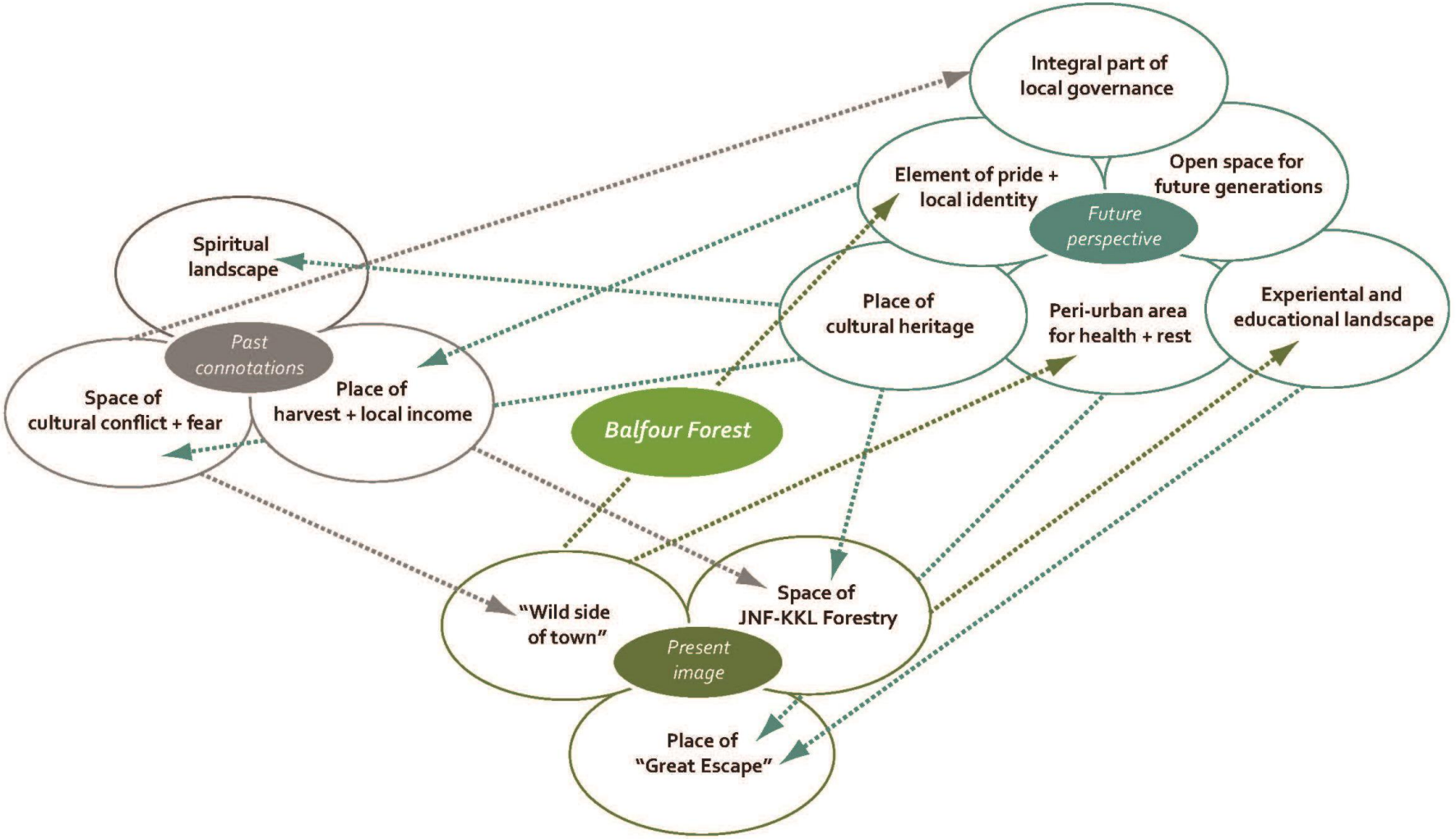
Community-based forest management

...2015

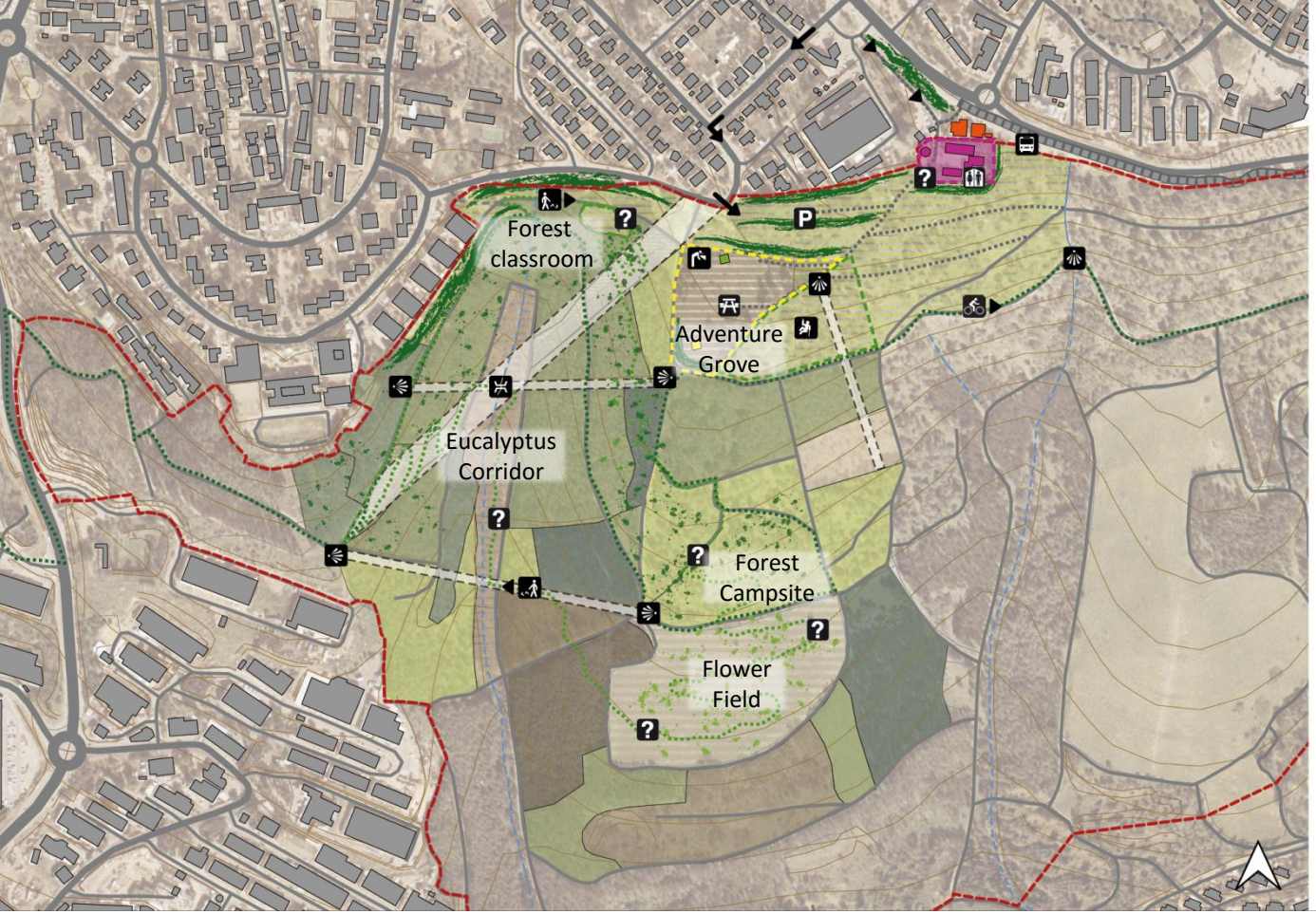
Implementation phase (draft)



Project result expectations



Design proposals for specific forest areas



Balfour Forest

Scale: 1:5,000

"Eco Route" and entrance area

Implementation of a medium-size educational walking route through various landscapes in the western part of the forest, partly on existing roads, partly on new footpaths.

Basics
- Balfour Forest border
- Intermittent stream
- Conture line
- Topographical feature

Zones
- Entrance
- Event
- Recreation
- View corridors

Public facilities
- Visitor center
- Stage
- Maintenance
- Fire Brigade

Access
- Existing road
- Planar access

Routes
- Eco Route
- Cycle Route

Specific actions
- Protection of geophytes
- Planting of shrubs

Activity infrastructure
- Educational Route *here: Eco Route*
- Viewpoint
- Forest Classroom
- Eucalyptus Bridge
- Cycle Route
- Picnic Grove
- Adventure Grove
- Drinking Tab
- Toilets
- Parking
- Bus stop

Forest stands
- Aleppo-Pine *Pinus halepensis*
- Calabrian Pine *Pinus brutia*
- coniferous woodland *var. spec.*
- Mediterranean Cypress *Cupressus sempervirens*
- mixed woodland *var. spec.*
- deciduous woodland *var. spec.*
- Red Gum Tree *Eucalyptus camaldulensis*
- Carob *Ceratonia siliqua*

Balfour Community Forest // Detail area

Eco Route

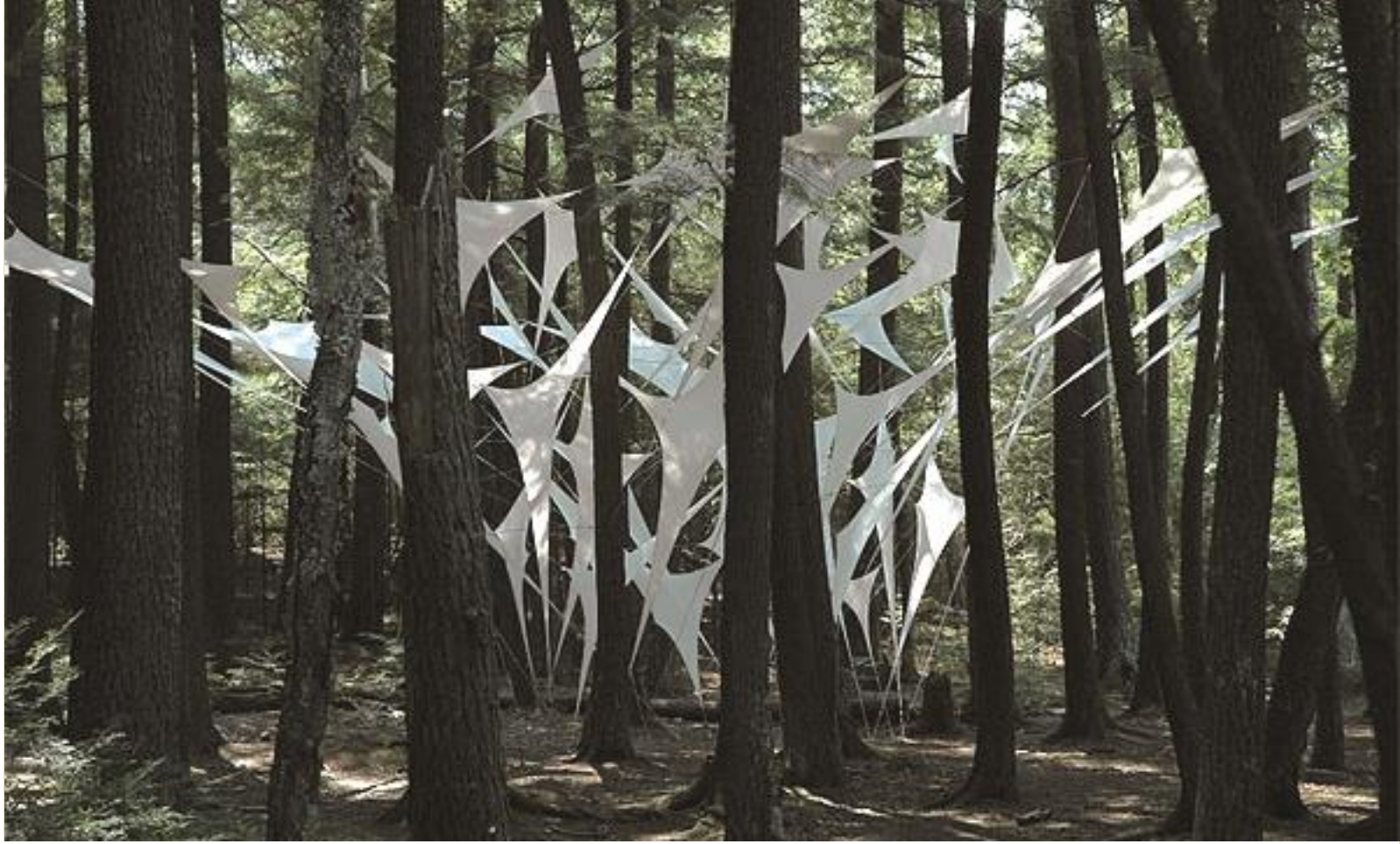
- To emphasize ***protected geophytes*** in different forest stands
- To raise ***ecological awareness***
- To establish ***public partnerships for maintenance*** with nearby schools

Balfour Community Forest // Detail

Eco Route

Balfour Community Forest // Detail

Signs



Balfour Community Forest // Detail

Forest Art

Balfour Community Forest // Detail

Forest classroom

Balfour Community Forest // Detail

Eucalyptus Corridor

Balfour Community Forest // Detail

Adventure Grove

Balfour Community Forest // Detail

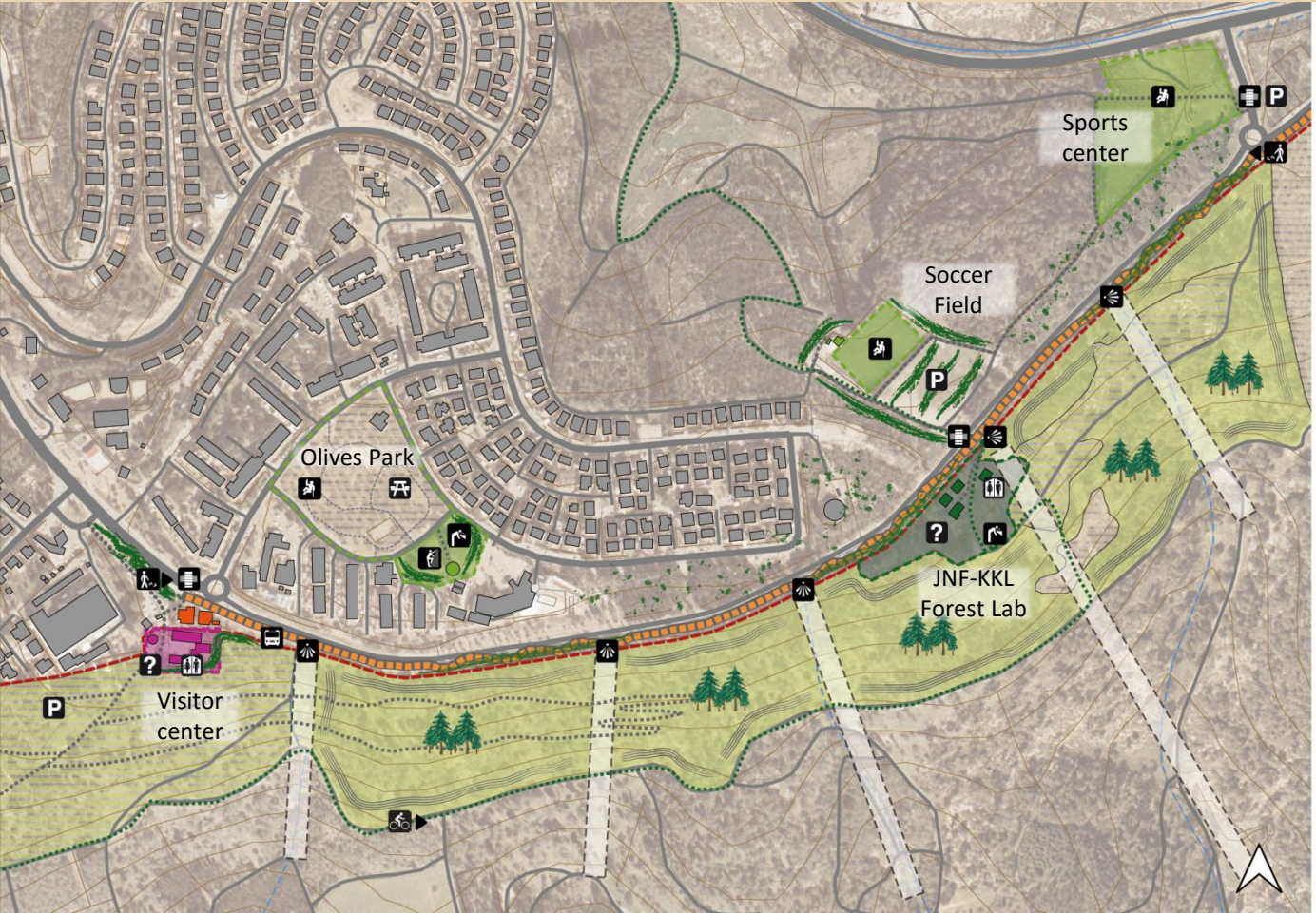
Campsite

Balfour Community Forest // Detail

Picnic tables

Balfour Community Forest // Detail

Forest stage



Balfour Forest

Scale: 1:5,000

"Balfour Promenade" and KKL Forest Lab

Implementation of a planar scenic and educational route between Yafia and Migdal HaEmek along main road no. 7756, and reactivation of the tree nursery site as a forest laboratory.

Basics
- Balfour Forest border
- Intermittent stream
- Conture line
- Topographical feature

Zones
- Research
- Recreation
- View corridors
- Tourism

Public facilities
- KKL Forest Lab
- Climbing Tower
- Soccer team Yafia
- Visitor center
- Fire Brigade

Access
- Existing road
- Planar access

Routes
- Balfour Promenade / Dismantling of road no. 7756
- Cycle Route

Activity infrastructure
- Educational Route *here: Balfour Promenade*
- Forest Classroom
- Viewpoint
- Road crossing
- Cycle Route
- Climbing Tower
- Playground
- Drinking Tab
- Picnic area
- Toilets
- Parking
- Bus stop

Specific actions
- Research open-air
- Protection of sensitive areas
- Protection of geophytes
- Planting of shrubs

Forest stands
- Aleppo-Pine *Pinus halepensis*
- Mediterranean Cypress *Cupressus sempervirens*
- Carob *Ceratonia siliqua* / Olive *Olea Europea*

Balfour Community Forest // Detail area

Balfour Promenade

- To implement a ***safe pedestrian and bike route*** between Migdal HaEmek and Yafia
- To offer opportunities for ***social encounter "on the way"***
- To enable several ***view corridors towards Jezreel Valley***

Balfour Community Forest // Detail

Promenade design

Balfour Community Forest // Detail

Sitting walls

Balfour Community Forest // Detail

Viewpoint

Balfour Community Forest // Detail

Scenic view map

Balfour Community Forest // Detail

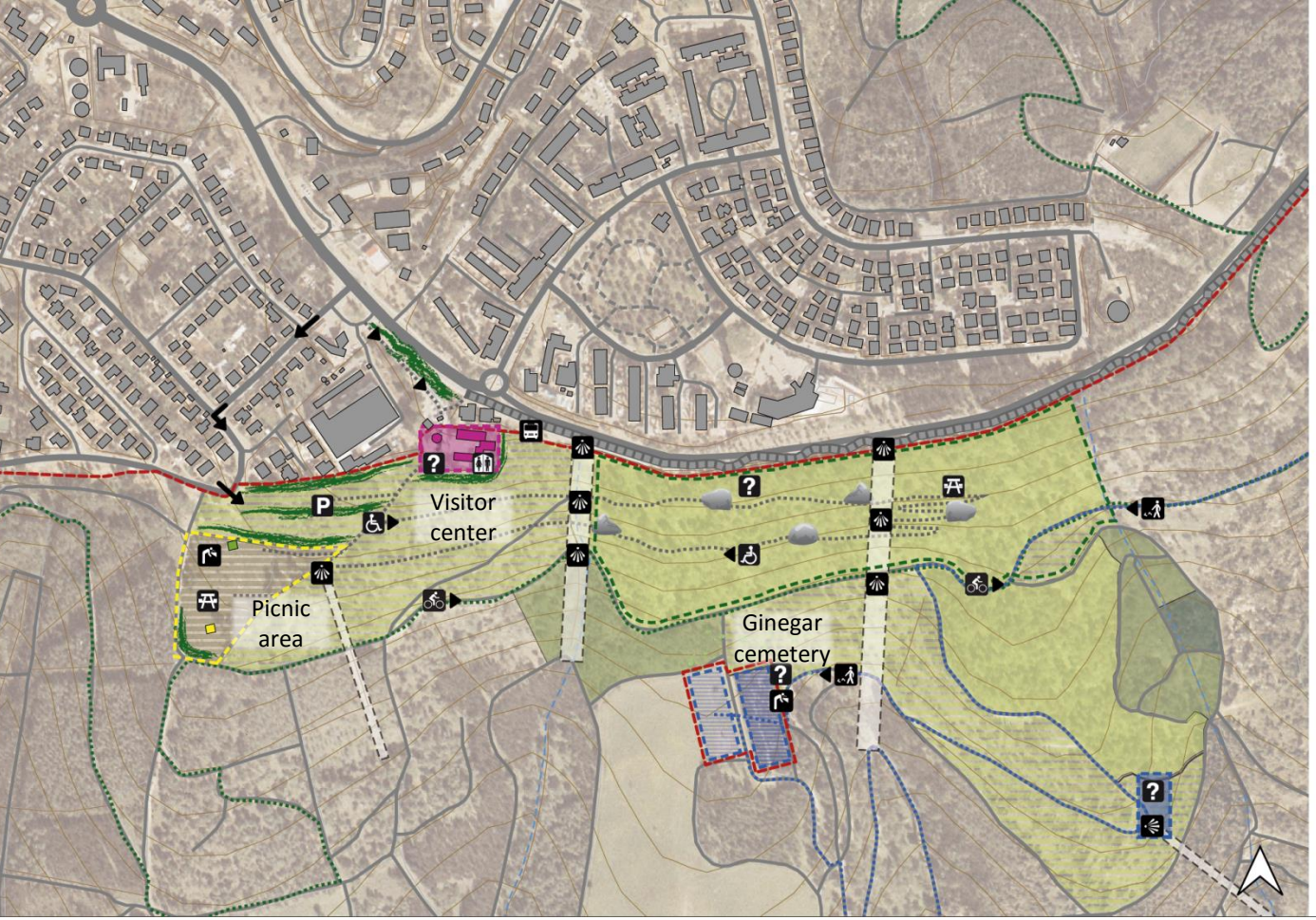
JNF-KKL Forest Lab

Balfour Community Forest // Detail

JNF-KKL Plant Nursery site

Balfour Community Forest // Detail

Road crossing



Balfour Forest

Scale: 1:5,000

"Planar Route" and Ginegar cemetery area

Implementation of a small-size planar educational route through the upper slope side in the northern part of the forest, and a large-size educational route along historical sites.

Basics
- Balfour Forest border
- Intermittent stream
- Conture line
- Topographical feature

Zones
- Entrance
- Event
- Research / Preservation
- Cultural heritage

Public facilities
- Visitor center
- Stage
- Maintenance
- Ginegar cemetery (extension)

Access
- Existing road
- Planar access

Routes
- Planar Route
- Cycle Route
- History Route

Activity infrastructure
- Planar Route
- Educational Route *here: History Route*
- Forest Classroom
- Viewpoint
- Cycle Route
- Picnic Grove
- Drinking Tab
- Toilets
- Parking
- Bus stop

Specific actions
- Protection of geophytes
- Planting of shrubs
- Placement of local rocks

Forest stands
- Aleppo-Pine *Pinus halepensis*
- Calabrian Pine *Pinus brutia*
- Mediterranean Cypress *Cupressus sempervirens*
- deciduous woodland *var. spec.*

Balfour Community Forest // Detail area

Planar Route

- To ensure ***comfortable moving on level ground*** for people with special needs
- To create ***accessible connections*** to the entrance area
- To enhance attraction and safety by offering ***special equipment***

Balfour Community Forest // Detail

Bollards

Balfour Community Forest // Detail

Entrance area

Balfour Community Forest // Detail area

Route design

Balfour Community Forest // Detail area

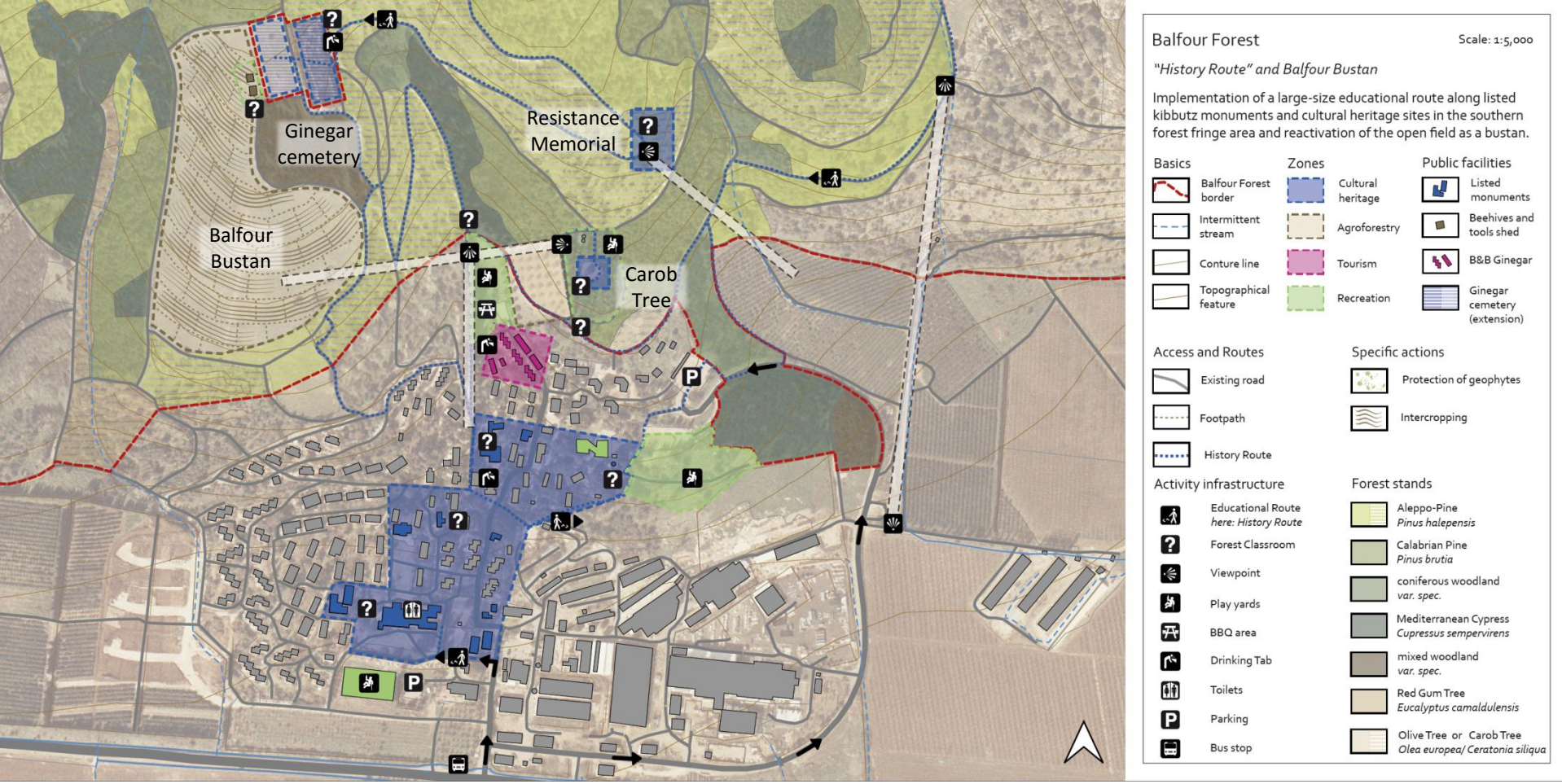
Curve design

Balfour Community Forest // Detail

Picnic tables

Balfour Community Forest // Detail area

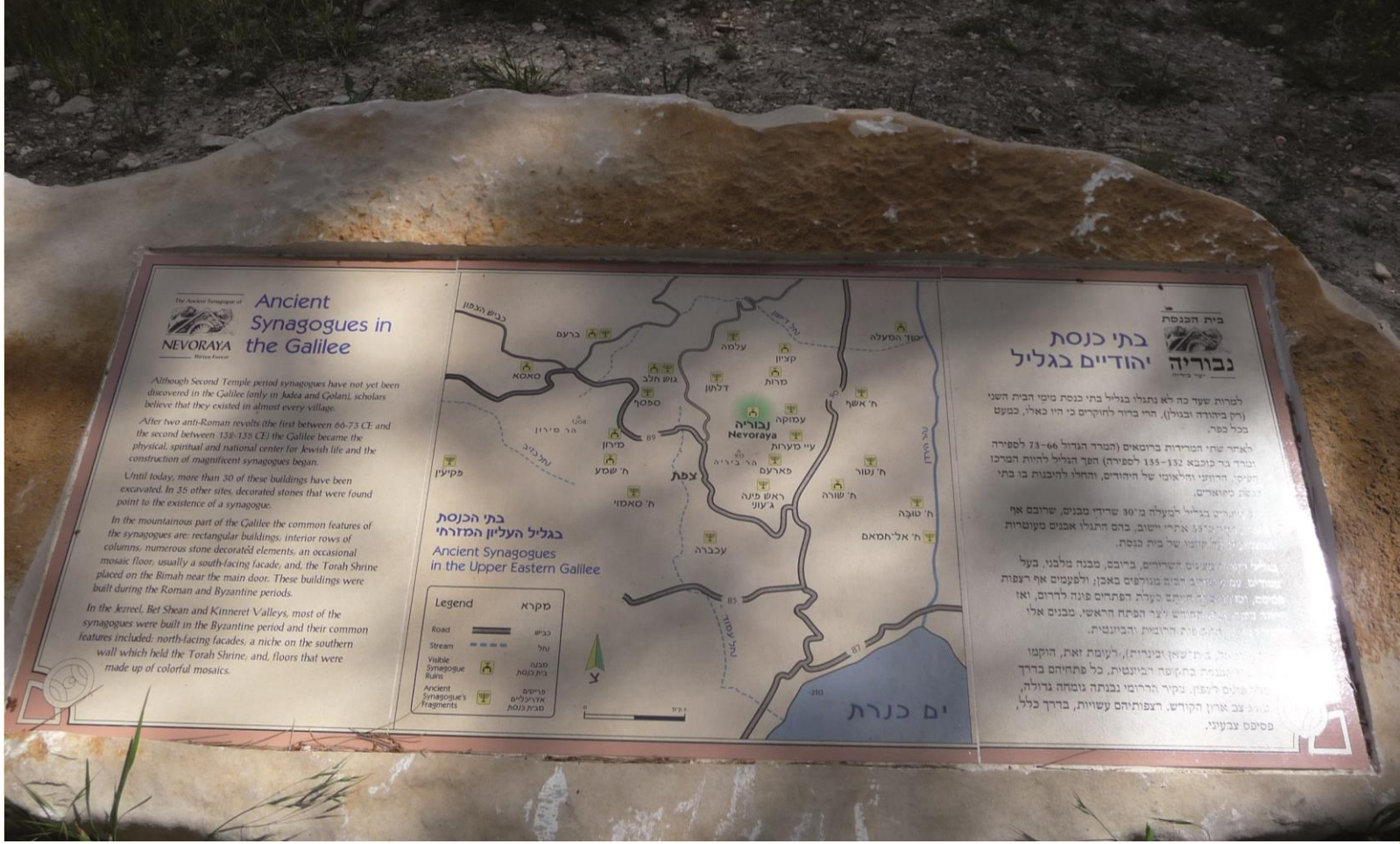
Planar decks



Balfour Community Forest // Detail area

History Route

- To explore the kibbutz and its ***traditional land uses: intercropping and beekeeping***
- To offer ***view corridors*** from/towards elements of cultural heritage
- To inform about ***local Arab and Jewish history*** objectively



Balfour Community Forest // Detail

Sign

Balfour Community Forest // Detail

Magical corner

Balfour Community Forest // Detail

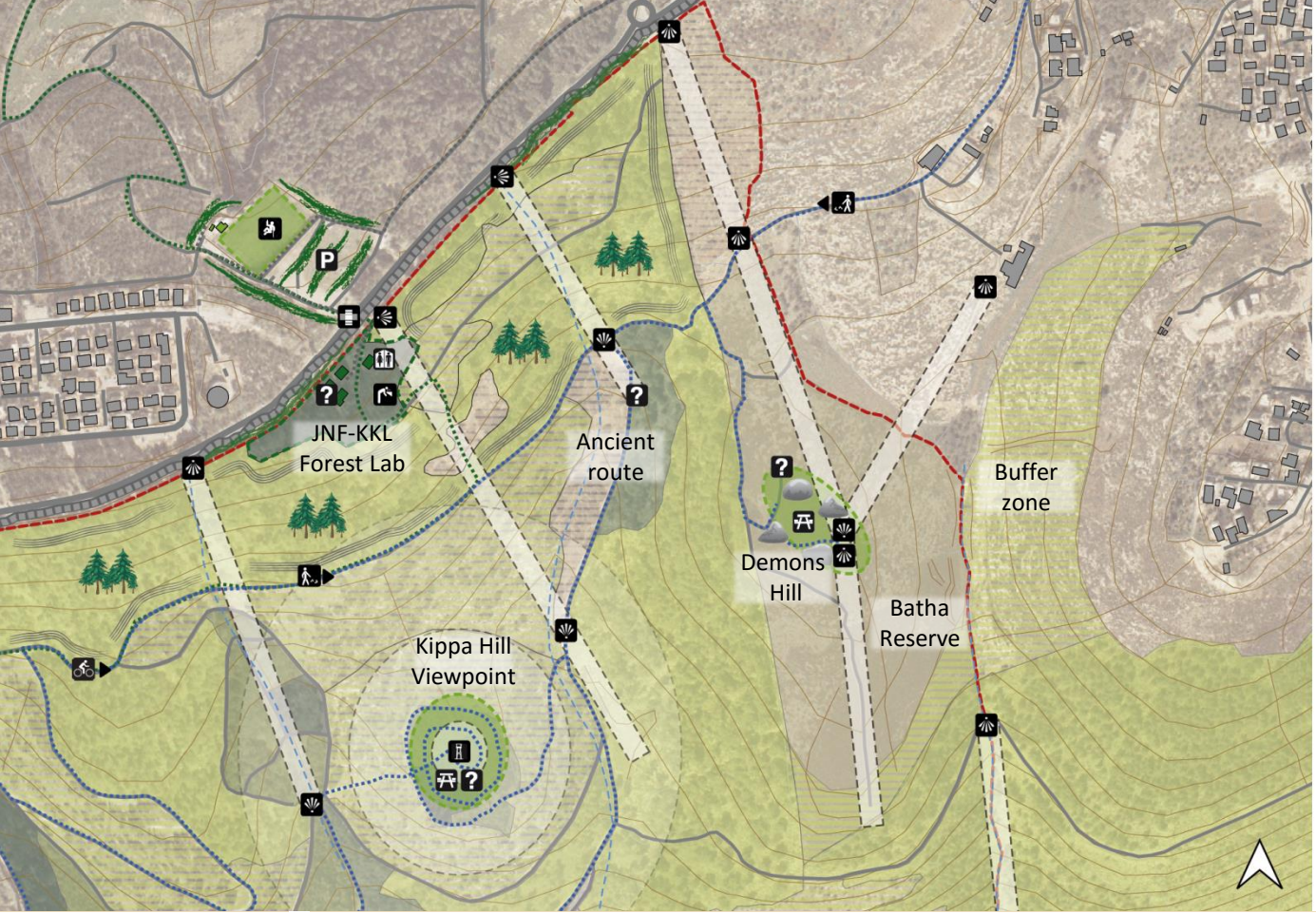
Carob tree meeting area

Balfour Community Forest // Detail

Beekeeping station

Balfour Community Forest // Detail

Balfour Bustan



Balfour Forest

Scale: 1:5,000

"Balfour Viewing Tower" and "Demon's Hill Lookout"

Implementation of a 360° viewing tower and a lookout platform on two ridgetops in the eastern forest part along a large-size educational route through local cultural and spiritual landscapes.

Basics
- Balfour Forest border
- Intermittent stream
- Conture line
- Topographical feature

Zones
- Research
- Recreation
- View corridors

Public facilities
- KKL Forest Lab
- Soccer team Yafia

Specific actions
- Research open-air
- Protection of sensitive areas
- Planting of shrubs
- Placement of local rocks

Access
- Existing road
- Planar access

Routes
- History Route
- Cycle Route

Activity infrastructure
- Educational Route *here: History Route*
- Forest Classroom
- Viewing Tower
- Viewpoint
- Road crossing
- Cycle Route
- Drinking Tab
- Picnic area
- Toilets
- Parking

Forest stands
- Aleppo-Pine *Pinus halepensis*
- Calabrian Pine *Pinus brutia*
- coniferous woodland *var. spec.*
- Mediterranean Cypress *Cupressus sempervirens*
- Carob *Ceratonia siliqua* / Olive *Olea Europea*
- Garrigue / Phrygana *var. spec.*

Balfour Community Forest // Detail area

Kippa Hill & Demons Hill

- To explore ***traces of ancient settlements*** and traditional land uses: ***olive grove***
- To implement a view tower as a ***landmark for the Jezreel Valley***
- To create a ***lookout and picnic area*** in the batha reserve for Yafia residents

Balfour Community Forest // Detail

Route design

Balfour Community Forest // Detail

Play structure

Balfour Community Forest // Detail

Picnic tables

Balfour Community Forest // Detail

Spiritual forest art

Balfour Community Forest // Detail

Batha Reserve

Balfour Community Forest // Detail

Demons Hill lookout

Balfour Community Forest // Detail

Orientation field